FLOOD FORECASTING AND WARNING NETWORK PERFORMANCE APPRAISAL 2005 - 07

GOVERNMENT OF INDIA
CENTRAL WATER COMMISSION
FLOOD FORECAST MONITORING DIRECTORATE

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PREFACE

Flood Forecasting is recognized as an important non-structural measure of mitigating impacts of floods. Central Water Commission started flood forecasting way back in 1958 for the Old Delhi Railway Bridge on the river Yamuna. The flood forecasting network of CWC presently consists of 175 Flood Forecasting Stations; which include 147 Level Forecasting Stations and 28 Inflow Forecast Stations. The network is spread over 9 major inter-state flood prone river basins and 71 sub basins in 15 States besides NCT Delhi and UT of Dadra & Nagar Haveli.

The flood forecasting activities are being performed by the Commission every year from May to October through its 21 field divisions which issue flood forecasts and warnings to the civil authorities of the states as well as to other organizations of the Central & State Governments for use by them in planning appropriate administrative measures including evacuation of people.

Central Water Commission issued 5618 flood forecasts (4323 Level Forecasts +1295 Inflow Forecasts) during flood season 2005, 6663 Flood Forecasts (5070 Level Forecasts + 1593 Inflow Forecasts) during flood season 2006, 8223 Flood Forecasts (6516 Level Forecasts +1707 Inflow Forecasts) during flood season of 2007. On an average, 96.26% of Level Forecasts and 97.13% of Inflow Forecasts were within the permissible limits of accuracy. Besides the flood forecasts issued by the field Divisions, a Central Flood Control Room at New Delhi was also kept operative during aforementioned period and flood related information was disseminated though flood bulletins and information provide on web site.

The officers and staff of Central Water Commission engaged in the activity of data collection and flood forecasting deserve appreciation for their dedication and sincere efforts. The earnest efforts made by the officers and staff of FFM Directorate in successful operation of the Central Flood Control Room of CWC at New Delhi during flood seasons of 2005, 2006 and 2007 deserve appreciation. I place on record my appreciation of the dedicated efforts made by Shri G.S. Purba, Chief Engineer (FM), Shri Chhotey Lal, Director, G.S. Tyagi Deputy Director, Shri S. Venkataraman , AD (HM), Shri Krishna Kumar, EAD (HM), Shri R. Jayachandran, Sr. PA(HM) and Shri S.N. Biswas, Sr. PA (HM) in preparing this Appraisal Report.

It is hoped that momentum gained in improving performance, innovations in evaluation, modernization as well as computerization, year after year, will be further accelerated to achieve greater accuracy of each and every forecast especially in high and unprecedented flood situations. Suggestions/comments of the Users of this report with a view to further enhance its usefulness are welcome and will be incorporated in the next edition.

New Delhi
March 31,2009

(R.C. JHA)
MEMBER (RM)

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EXECUTIVE SUMMARY

1 GENERAL

The Flood Forecasting and Warning Network of the Central Water Commission comprised of 145 level forecasting and 28 inflow forecasting sites during the flood season 2005. There were 173 flood forecasting sites and all of them were operational i.e. hydrological and hydro meteorological data were duly observed and collected. However, no forecasts were issued for 41 flood forecasting sites, as they did not cross the respective warning levels.

During the flood season 2006 and 2007, the network comprised of 147 level forecasting and 28 inflow forecasting sites. Thus, there were 175 flood forecasting sites and all of them were operational i.e. hydrological and hydro meteorological data were duly observed and collected. However, no forecasts were issued for 34 flood forecasting sites in the flood season 2006 and 51flood forecasting sites in the flood season 2007.

Only one inflow forecasting site was added in the network in the flood season 2005 which is situated in the state of Madhya Pradesh, on the river Chambal, a tributary of Yamuna. Two level forecasting sites were added in the network in the flood season 2006, in the state of Sahibganj on river Ganga (Jharkhand) and Arjunwad on Krishna (Maharashtra). No site was added in the network in the flood season 2007.

In all, 5618 flood forecasts were issued during the flood season 2005 for the benefit of the 15 States, one Union Territory (Dadra & Nagar Haveli) and NCT of Delhi which includes 4323 level forecasts and 1295 inflow forecasts. Out of 4323 level forecasts, 4162 forecasts i.e. 96.28% forecasts were found within permissible limit of accuracy of ± 15cm. Similarly, out of 1295 inflow forecasts, 1261 forecasts (97.37%) were found within permissible limit of accuracy of ± 20%. Thus, out of 5618 forecasts, 5423 forecasts (96.53%) were found within permissible limit of accuracy.

During the flood season 2006, 6663 flood forecasts were issued which includes 5070 level forecasts and 1593 inflow forecasts. Out of 5070 level forecasts, 4827 forecasts i.e. 95.21% forecasts were found within permissible limit of accuracy of ± 15cm. Similarly, out of 1593 inflow forecasts, 1550 forecasts (97.30%) were found within permissible limit of accuracy of ± 20%. Thus, out of 6663 forecasts, 6377 forecasts (95.71%) were found within permissible limit of accuracy.

In all, 8223 flood forecasts were issued during the flood season 2007, the second largest so far in any season, which includes 6516 level forecasts and 1707 inflow forecasts. Out of 6516 level forecasts, 6339 forecasts i.e. 97.28 % forecasts were found within permissible limit of accuracy of ± 15cm. Similarly, out of 1707 inflow forecasts, 1651 forecasts (96.72 %) were found within permissible limit of accuracy of ± 20%. Thus, out of 8223 forecasts, 7990 forecasts (97.17 %) were found within permissible limit of accuracy.

2 Flood Forecasting Performance

2.1 River Basinwise Performance

During the flood season 2005, maximum number of flood forecasting sites i.e. 86 out of 173 or 49.7 percent of the total forecasting sites were located in the Ganga basin. Similarly, there were 27 forecasting sites located in the Brahmaputra basin which is 15.6 percent of the total sites. In the Godavari basin, there were 18 forecasting sites i.e. 10.4 percent of the total sites. 15 sites i.e. 8.7 percent of the total sites were in the west flowing rivers. The remaining river systems covered under flood forecasting network with single digit site.

The analysis of riverwise forecast data for the flood season 2005 reveals that the maximum numbers of flood forecasts (2010) were issued for the Ganga River and its tributaries. Out of which, 1938 (96.42%) forecasts were found within permissible limit of accuracy. This is as per normal situation every year as floods occur more frequently either in Ganga or in Brahmaputra River. Next highest numbers of forecasts i.e. 1857 forecasts were issued for the Brahmaputra and its tributaries with an accuracy of 97.20 percent. The minimum numbers i.e. 13 forecasts were issued for the Pennar basin (Southern Rivers System) for the lone forecasting site i.e. Nellore Anicut for the first time with an accuracy of 84.62 percent i.e., about 10.5% less than the long term average all India accuracy level.

During the flood season 2006 and 2007, maximum number of flood forecasting sites i.e. 87 out of 175 i.e., 49.7 percent of the total forecasting sites were located in the Ganga basin. Similarly, there were 27 forecasting sites located in the Brahmaputra basin which is 15.6 percent of the total sites. In the Godavari basin, there were 18 forecasting sites i.e. 10.4 percent of the total sites. 15 sites i.e. 8.7 percent of the total sites were in the west flowing rivers. The remaining river systems covered under flood forecasting network with single digit site.

The analysis of river wise forecasts data for the flood season 2006 reveals that the maximum numbers of flood forecasts 2143 were issued for the Ganga river and its tributaries . Out of which, 2081 (97.10%) forecasts were found within permissible limit of accuracy. Next highest numbers of forecasts i.e. 1690 forecasts were issued for the Brahmaputra and its tributaries with an accuracy of 98.50 percent. The minimum numbers i.e. 111 forecasts were issued for the Mahanadi basin with an accuracy of 89.20 percent. No forecast was issued for Southern Rivers Systems (only Pennar at present) during the flood season 2006.

The analysis of river wise forecasts data for the flood season 2007 reveals that the maximum numbers of flood forecasts 3407 were issued for the Ganga river and its tributaries. Out of which, 3325 (97.59 %) forecasts were found within permissible limit of accuracy. Next highest numbers of forecasts i.e. 2788 forecasts were issued for the Brahmaputra and its tributaries with an accuracy of 98.24 percent. The minimum number i.e. one forecast was issued for the Southern Rivers System (Pennar basin) with an accuracy of 100 percent. All river basins had recorded issue of forecasts during the flood season 2007.

2.2 Statewise Performance

The analysis of Statewise forecast data of the flood season 2005 reveals that although maximum number of flood forecasting sites, i.e.35 sites of the total forecasting sites were, located in the state of Uttar Pradesh, yet the maximum number of flood forecasts were issued for the state of Assam where only 24 flood forecasting sites are located. On rivers in the state of Assam, 1843 forecasts (32.80 percent of total forecasts) were issued, out of which 1792 (97.23percent) forecasts were found within permissible limit of accuracy.

Next highest numbers of forecasts i.e. 990 forecasts (17.62%) were issued in the rivers of the state of Bihar, out of which 972 forecasts (98.18%) were found within permissible limit of accuracy.

All the forecasts issued on the 69 sites in the eleven states during the flood season 2005, were within permissible limit of accuracy as shown in the table given below:

Sl. No	State	No. of sites	Sl. No	State	No. of sites
1	Andhra Pradesh	4	8	Orissa	4
2	Assam	8	9	Uttar Pradesh	11
3	Bihar	20	10	Uttaranchal	1
4	Gujarat	3	11	West Bengal	9
5	Jharkhand	3	12	Karnataka	1
6	Madhya Pradesh	2		Total	69
7	Maharashtra	3			

The analysis of Statewise forecast data of the flood season 2006 reveals that although maximum number of flood forecasting sites, i.e. 35 sites of the total forecasting sites were located in the state of Uttar Pradesh, yet the maximum number of flood forecasts were issued for the state of Assam where only 24 flood forecasting sites are located. On rivers in the state of Assam, 1786 forecasts (26.80 percent of total forecasts) were issued, out of which 1755 (98.3percent) forecasts were found within permissible limit of accuracy.

Next highest numbers of forecasts i.e. 1064 forecasts (16.00%) were issued in the rivers of the state of Andhra Pradesh, out of which 988 forecasts (92.90 %) were found within permissible limit of accuracy.

All the forecasts issued on the 60 sites in the eleven states during the flood season 2006 were within permissible limit of accuracy as shown in the table given below:

Sl. No	State	No. of sites	Sl. No	State	No. of sites
1	Andhra Pradesh	1	7	Madhya Pradesh	2
2	Assam	12	8	Orissa	1
3	Bihar	23	9	Tripura	2
4	Gujarat	2	10	Uttar Pradesh	8
5	Jharkhand	2	11	West Bengal	6
6	Karnataka	1		Total:	60

The analysis of Statewise forecast data of the flood season 2007 reveals that although maximum number of flood forecasting sites, i.e. 35 sites of the total forecasting sites were located in the state of Uttar Pradesh, yet the maximum number of flood forecasts were issued for the state of Assam where only 24 flood forecasting sites are located. On rivers in the state of Assam, 2917 forecasts (35.48 percent of total forecasts) were issued, out of which 2872 (98.46 percent) forecasts were found within permissible limit of accuracy.

Next highest numbers of forecasts i.e.1912 forecasts (23.25%) were issued in the rivers of the state of Bihar, out of which 1885 forecasts (98.59%) were found within permissible limit of accuracy.

All the forecasts issued on the 54 sites in the ten states were within permissible limit of accuracy as shown in the table given below:

Sl. No	State	No. of sites	Sl. No	State	No. of sites
1	Andhra Pradesh	5	7	Orissa	2
2	Assam	9	8	Uttar Pradesh	5
3	Bihar	16	9	Uttaranchal	1
4	Gujarat	4	10	West Bengal	7
5	Jharkhand	4		Total:	54
6	Maharashtra	1			

During the flood season 2005, 2006 and 2007 , no forecast was issued for the lone flood forecasting site i.e. Tajewala weir located in the state of Haryana. Government of Haryana has constructed Hathnikund Barrage upstream of Tajewala. The decision for inclusion of this new site in the existing Flood Forecasting and Warning Network of CWC in lieu of Tajewala is required.

2.3 Divisionwise Performance

The "Flood Forecasting and Warning" activities are being performed by the 21 field divisions of the Central Water Commission. These Divisions report to respective Superintending Engineer's/Chief Engineer's in the field which function under the overall supervision of the Member (River Management), CWC.

These divisions have a dedicated team of Hydrologists and Hydro-meteorologists who are observing, collecting and analyzing the data and framing the forecasts of incoming floods in the rivers flowing through the fifteen flood prone states, Union Territory of Dadra & Nagar Haveli and NCT of Delhi.

During the flood season 2005, the analysis of forecast data of the flood season 2005 reveals that the maximum number of forecasts i.e. 962 forecasts were issued by the Upper Brahmaputra Division, Dibrugarh, out of which, 925 forecasts (i.e. 96.15 %) were found within permissible limit of accuracy. The minimum numbers of forecasts i.e. only 10 forecasts were issued by the Narmada Division, Bhopal which were found within permissible limit of accuracy i.e. with 100 percent performance accuracy. However, no forecast was issued to Gandhisagar Dam in Chambal Division, Jaipur. Forecasts issued by the Middle Ganga Division –III, Varanasi, Tapi Division, Surat, Mahi Division, Gandhinagar were found to be 100 % accurate.

The analysis of forecast data of the flood season 2006 reveals that the maximum number of forecasts i.e. 1108 forecasts were issued by the Middle Ganga Division-IV, Patna, out of which, 1076 forecasts (i.e. 97.10 %) were found within permissible limit of accuracy. The minimum numbers of forecasts i.e. only 6 forecasts were issued by the Upper Yamuna Division, New Delhi which were found within permissible limit of accuracy i.e. with 83.3 percent performance accuracy. However, no forecast was issued by Himalayan Ganga Division, Dehradun for its all the three flood forecasting sites. Forecasts issued by the Middle Ganga Division -III, Varanasi and Narmada Division, Bhopal were found to be 100 % accurate.

The analysis of forecast data of the flood season 2007 reveals that the maximum number of forecasts i.e. 1740 forecasts were issued by the Middle Ganga Division-IV, Patna, out of which, 1699 forecasts (i.e. 97.64 %) were found within permissible limit of accuracy. The minimum number of forecasts i.e. only 8 forecasts were issued by the Upper Yamuna Division, New Delhi as well as Chambal Division, Jaipur. The forecasts issued by Upper Yamuna Division, New Delhi were found within permissible limit of accuracy i.e. with 87.50 percent performance accuracy and the forecasts issued by Chambal Division, Jaipur, were also found within permissible limits (37.50%). However, no forecast was issued by Middle Ganga Division- III, Varanasi, and Narmada Division, Bhopal for all their flood forecasting sites. No division has issued forecasts which were to be 100 % accurate. Maximum accuracy was 99.02 % of Damodar Division, Asansol.

3 Data Communication System

A network of about 582 wireless stations covers the communication system of hydrological and hydro-meteorological data transfer between various base stations and forecasting sites and their subdivisions; and divisions (including Control Stations). The flood forecasts formulated in the divisional offices (sub divisional offices in a few cases), are disseminated by these wireless stations to the users and also from the divisions to the head quarters of the Central Water Commission at New Delhi.

4 Forecasts Accuracy- Criteria

As per present practice, all the level and inflow forecasts are being judged by the single criteria of accuracy i.e. ± 15cm for level forecasts and ± 20% for inflow forecast. However, the analysis of the forecasts data of individual sites has indicated that the application of uniform criteria to all sites is misleading especially for flashy rivers where rate of change in river level / inflow is sudden / abrupt and large in magnitude. For example, applying same criteria of accuracy to all the forecasting sites on the main stream Ganga in Bihar and to the forecasting site at Rishikesh on the Ganga in Uttaranchal is not logically correct. It is observed that in Bihar the rate of rise or fall in the level of the Ganga is very gentle & mostly even during high flood times less than 15 cm only, in 24 hours, which is the permissible limit of deviation in the forecast while for example at Rishikesh, where river width about 500m rise is sometimes more than 15 cm in less than 3 hours. Even for Brahmaputra at Dibrugarh where width of the river over 10 km in the flood season, the rate of rise 6 cm/ hr sufficiently high during severe floods in July 2005. River Pagladia (width about 300 m) at N.T.Road Crossing had recorded a rise of 17 cm per hour beyond its Danger level occurred during High/ Unprecedented floods. Similarly, on river Vamsadhara at Gunupur, 0.5 m rise was noticed during high floods. Therefore, there is a need of setting different yardsticks for judging accuracy of flood forecasts for flashy and flat rivers.

The forecast of incoming flood gives the peak water level or peak inflow and "time" of occurrences. It is also observed that in many cases the peak levels attained were found within permissible limit of accuracy but the time of occurrence was not the same. This factor is not presently being taken into account while judging the accuracy of forecasts.

Also, the analysis of forecasts data reveals that it is not correct to compare the forecasts performance accuracy of the divisions with insignificant number of forecasts (e.g. 10 forecasts in case of Narmada Division, Bhopal) , with the performance of Divisions with large number of forecasts(e.g. UBD, Dibrugarh which has issued 962 forecasts for various sites under its jurisdiction in flood season 2005 and 948 forecasts in flood season 2006) because by increasing one forecast in case of Narmada Division, Bhopal, the percentage accuracy may increase substantively wherens in case of UGB, Dibrugarh, there will be not be a large change. Hence, there is a need to correlate number of forecasts also in the formula for determining performance.

The study of the forecasts data also reveals that of issuing maximum number of forecasts (1843 forecasts) were issued in the flood season 2005 for the state of Assam. This is because of higher frequency and longer duration of floods as well as due to more number of sites being on flashy rivers & thus requiring more than one forecast a day.

5 Flood Forecast Monitoring at the CWC's Headquarter

The field units of the Central Water Commission located in various flood affected states, are responsible for issuing real time daily flood forecasts of the various forecasting sites to the users. At the Headquarter of the Central Water Commission, the "Flood Forecast Monitoring Directorate (FFM)" is responsible for monitoring the All India flood situation as well as daily flood forecasts and warnings issued by the field divisions every day. The FFM Directorate issues daily two flood forecast monitoring bulletins, namely, Part-I and Part-II which contain complete analyzed data of each flood forecasting site showing degree of flood situation and the current as well as forecasts level in respects of "Level Forecasting Sites" and discharge/ volume in case of "Inflow Forecasting Sites,". In unprecedented and high flood situations, hourly flood situations / levels of the concerned sites are also being collected through telephone / fax/ wireless and subsequently special "Red" or "Yellow" colored bulletins on latest flood situations are being issued by the FFM Directorate. The bulletins in case of unprecedented and high flood situations are issued to the following authorities.

1. The Hon'ble Minister of Water Resources, Shram Shakti Bhawan, New Delhi-110001.
2. The Secretary, MoWR, Shram Shakti Bhawan, New Delhi-110001.
3. The Chairman, CWC, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Member (RM), CWC, Sewa Bhawan, R.K. Puram, New Delhi-110066.
5. The Commissioner (ER), MoWR, Block No.11, C.G.O. Complex, Lodi Road, New Delhi-110003.
6. The Chief Engineer (FM), CWC, Sewa Bhawan, R.K. Puram, New Delhi-110066.
7. The Director, National Disaster Management (NDM) Cell, Ministry of Home Affairs, Room No. 12, North Block, New Delhi-110001

The special **"Red"** or **"Yellow"** colored bulletins are being issued for drawing prompt attention of the concerned authorities towards the severe flood situations prevailing at that time in any part of the country.

The FFM Directorate during the flood season 2005 had issued 161 Nos. **Part-I** and 137 Nos. **Part-II** Bulletins besides 58 Nos ."**Yellow**" and 8 Nos. **"Red"** bulletins.

During the flood season 2006, FFM Directorate had issued 173 Nos. **Part-I and Part –II (merged into one in the mid-season)** besides 48 Nos."**Orange**" (renamed from Yellow, under instructions of Standard Operating Procedure (SOP) of NDMA) and 36 Nos. **"Red"** bulletins.

The FFM Directorate during the flood season 2007 has issued 154Nos. **Part-I and Part –II** besides 124 Nos."**Orange**" and 89 Nos. **"Red"** bulletins.

6 Response of User Agencies

Since the issuing of the "Flood Forecasts & Warnings"; and the "Flood Protection & Flood Hazard Mitigation" jobs are being done by two different agencies, namely, the Central Water Commission and the various civil and engineering authorities of the state governments, respectively. It is the later one which is the user of the flood forecast & warning issued by CWC.

Although, there are always regular interactions between CWC's "Flood Forecasters" and the "Flood Hazard Mitigation Authorities", yet very few agencies give their response on the usefulness of the flood forecast issued by CWC. They have opined in general that the correct and timely flood forecasts and warnings of Central Water Commission were found extremely useful to them in flood loss mitigation, flood protection and reservoirs' operation etc.

7 Salient Features

The "Salient Features" of Flood Forecasting and Warning Network of the Central Water Commission are given in the table shown below.

Sl. No.	Salient Feature	Remarks
1.	Establishment of "First Scientific Flood Forecasting Unit" (F.F.U.) at Delhi in India	November, 1958
2.	Date of issue of first scientific flood forecast	25th July, 1959
3.	Name of first forecasting site and river	Delhi Railway Bridge (old) on the River Yamuna
4.	Year of commencement of flood forecasting system on the inter-state rivers i.e. first national level expansion	1969
5.	No. of Chief Engineer's offices including one CE (Flood Management) at CWC' headquarters	9
6.	No. of Superintending Engineer's offices including one Flood Forecast Monitoring Directorate at CWC headquarter	12
7.	No. of present Flood Forecasting Divisions	21
8.	No. of Control Room/Sub-Divisions engaged in flood forecasting work under above divisions	64

Sl. No.	Salient Feature	Remarks
9.	No. of inter-state rivers (main/tributaries) covered by flood forecasting programme	71
10.	No. of states including union -territories covered under F.F.Programme	17
11.	No. of forecasting sites	175
12.	No. of exclusive base stations	400 (approx.)
13.	No. of gauge and gauge & discharge sites	1000 (approx)
14.	No. of rain gauge stations (ordinary/self recording)	500 (approx)
15.	No. of real time data stations –(wireless stations including Control Stations)	582
16.	Maximum no. of forecasts issued in any one year Second Highest no.of forecasts issued	8566 (1990) 8233 (2007)
17.	Average no. of forecasts being issued every years	6000
18.	No. of forecasts issued in flood season 2005	5618
19.	No. of forecasts issued in flood season 2006	6663
20.	No. of forecasts issued in flood season 2007	8223

CHAPTER-1

NATIONAL FLOOD FORECASTING NETWORK

1.1 FLOOD FORECASTING SERVICES

Flood causes considerable damage to human lives and property almost every year. About one third of total flood prone area (40 mha assessed by the Rashtriya Barh Ayog) of the country has been provided with reasonable protection against flood of a low magnitude due to technological and economical constraints but there is no protection from floods of higher magnitude. Since adoption of National Flood Policy by Government of India in 1954, it was realized that a total protection against flood by structural means alone is not possible and that optimum solution would consist of a mixture of structural and non-structural measures. Therefore, stress has been laid on non-structural measures like flood forecasting and warning, which is most important among such means to minimize the damage potential from floods. Accurate and timely flood forecasts and advance warning have, therefore, to be aimed for providing valuable time to the people and to civil authorities in taking preventive measures like evacuation, relief and rehabilitation measures, preparedness for flood fighting by engineering authorities etc. and thus mitigating such loses from floods.

1.2 FLOOD FORECASTING NETWORK IN THE COUNTRY

Flood Forecasting has been recognized as the most important, reliable and cost effective non-structural measures for flood mitigation. Recognizing the great importance of this measure, flood forecasting of river Yamuna at Delhi was suggested by Reddy Committee set up by Prime Minister, Govt. of India to manage flooding of Delhi. Accordingly in the year 1958, CWC commenced the flood forecasting service in a small way by establishing flood forecasting unit for issuing water level forecasts of the Yamuna for the National Capital, Delhi. On the recommendation of various committees/panels, a "Flood Forecast & Warning Organization" was set up in CWC in 1969 to establish forecasting sites on inter-state rivers at various flood prone places in the country. 41 forecasting sites were added in 1969, making total number of forecasting sites to 43. Extension of the service followed from time to time and now the river forecasting has been expanded over the years to cover nine major inter-state flood prone river basins, which comprises of 71 sub-river basins traversing the country. The year-wise positions of the number of flood forecasting sites till the flood season 2007 in the network of Central Water Commission are shown below in the **Table 1.1**:

Table-1.1: Yearwise positions of number of forecasting sites in CWC

Year	No. of Flood Forecasting Sites	Year	No. of Flood Forecasting Sites
1958	01	2001	159
1965	02	2002	161
1969	43	2003	166
1977	77	2004	172
1980	84	2005	173
1985	145	2006	175
1987	147	2007	175
1990	157		

The "National Flood Forecasting and Warning Network" of Central Water Commission, which comprised of 175 flood forecasting sites including 28 inflow forecasting sites in flood season 2007 is shown in **Map-1.** The number of flood forecasting sites on each of the nine major inter-state river systems, which constitutes 71 river sub-basins in the country, are given in the Table 1.2.

Table 1.2: Number of flood forecasting sites in major inter-state river systems

S. No.	Major Interstate River Systems	Type of Forecasting Sites		Total
		Level Forecasting	Inflow Forecasting	
1	Ganga & its tributaries	77	10	87
2	Brahmaputra & its tributaries	27	00	27
3	Barak System	05	00	05
4	Eastern Rivers	08	01	09
5	Mahanadi	03	01	04
6	Godavari	14	04	18
7	Krishna	03	06	09
8	West Flowing Rivers	09	06	15
9	Southern River System (Pennar)	01	00	01
	Total	147	28	175

The above flood forecasting network covers the following 15 states, one Union Territory and NCT of Delhi as shown in the **Table 1.3**

Table 1.3: Statewise Flood Forecasting Network in CWC

Sl. No.	Name of State	Type of Forecasting sites		Total Forecasting sites
		Level forecasting	Inflow forecasting	
1	Andhra Pradesh	9	7	16
2	Assam	24	0	24
3	Bihar	32	0	32
4	Chhattisgarh	1	0	1
5	Gujarat	6	5	11
6	Haryana	0	1	1
7	Jharkhand	1	4	5
8	Karnataka	1	3	4
9	Madhya Pradesh	2	1	3
10	Maharashtra	7	2	9
11	Orissa	11	1	12
12	Tripura	2	0	2
13	Uttaranchal	3	0	3
14	Uttar Pradesh	34	1	35
15	West Bengal	11	3	14
16	Dadra & Nagar Haveli	1	0	1
17	NCT of Delhi	2	0	2
	Total	**147**	**28**	**175**

Central Water Commission through its twenty one flood forecasting divisions issued forecasts to the various user agencies, which includes various civil / engineering agencies of the States/ Central Governments such as Irrigation/ Revenue/ Railways/ public undertakings and Dam/ Barrage Authorities/ District Magistrates/ Sub Divisional Officers besides the Defence Authorities involved in the flood loss mitigation work. During the flood season, the Hon'ble Minister of Water Resources, Government of India, the Chairman and the Member (River Management) of Central Water commission were also being apprised of the latest flood situations in the above river basins in the country.

1.3 CLASSIFICATIONS OF VARIOUS FLOOD SITUATIONS

The Central Water Commission has categorized various flood situations, for monitoring the floods in the country though its flood forecasting network, into the following four different categories, depending upon the severity of floods i.e. based on floods magnitudes.

(i) LOW FLOOD

The river is said to be in **"LOW FLOOD"** situation at any flood forecasting sites when the water level of the river touches or crosses the warning level, but remains below the danger level of the forecasting site.

(ii) MODERATE FLOOD

If the water level of the river touches or crosses its danger level, but remains 0.50 m below the Highest Flood Level of the site (commonly known as "HFL") then the flood situation is called the **"MODERATE FLOOD"** situation.

(iii) HIGH FLOOD

If the water level of the river at the forecasting site is below the Highest Flood Level of the forecasting site but still within 0.50m of the HFL then the flood situation is called **"HIGH FLOOD"** situation. In **"High Flood Situations"** a special **"Orange Bulletin"** is being issued by the Central Water Commission to the users agencies which contains the "special flood message" related to the high flood.

(iv) UNPRECEDENTED FLOOD

The flood situation is said to be **"UNPRECEDENTED"** when the water level of the river surpasses the "**HIGHEST FLOOD LEVEL**" recorded at any forecasting site so far. In **"Unprecedented Flood Situations"** a special **"Red Bulletin"** is being issued by the Central Water Commission to the users agencies which contains the "special flood message" related to the unprecedented flood.

From flood season 2006, as per Standard Operating Procedure (SOP) directives issued by National Disaster Management Division, Ministry of Home Affairs, vide letter No:31-32/2003-NDM-III / II dated 10th April 2006, (made effective from 24th April 2006), the categorization of alerts is given below:
Specific hazards have different categories of alerts as indicated below. For the purpose of dissemination of alerts of PMO/ Cabinet Secretariat, a uniform system has

been devised by categorizing each type of alert in stages- Yellow, Orange and Red. For floods they are: (Referred as Flood- Central Water Commission)

Category	Description	Stage
IV	Low Flood (Water level between Warning level and Danger level)	Yellow
III	Moderate Flood (Water level below 0.50m less than HFL and above Danger Level)	Yellow
II	High Flood (Water Level less than Highest Flood Level but still within 0.50 m of the HFL)	Orange
I	Unprecedented Flood (Water Level equal and above Highest Flood Level-HFL)	Red

In addition, All Ministries/ Departments/ Agencies will be required to transmit 12 hourly updates for Orange stage. For Red stage, the monitoring will be done using 3 hourly updates. A copy of the SOP received from MHA is enclosed as Appendix.

Although, technically such flood situations when the flood level at a forecasting site just touches its previous HFL and does not crosses the same, (i.e. it equals the previous HFL), can not be termed as unprecedented flood situations, yet such flood situation are also given the same importance by the CWC in its flood messages as to the unprecedented flood situations.

The above criteria are applicable so far only to level forecasts and not to inflow forecasts. But in view of the floods in unprecedented floods Krishna and moderate floods in Godavari Basins, it is high time that similar criteria are fixed for inflow forecasts too. The reservoirs can not store beyond its FRL or MFL and thus all records of inflow will never occur either in yellow/ red bulletins, whereas the impact of the record inflows are phenomenal. For example, the criterion for issue of inflow forecast should be the "LOW" and the highest ever attained inflow (in Cumecs/ Volume in MCM in a given duration) should be the HFL ever attained criterion. The other two, viz; Moderate and the High are to be fixed, as per each forecast station's historical data. The categorization of inflow shall be done taking into account the total live storage of the reservoir and the largest designed flood discharging capacity and the likely affect of this discharge on the downstream areas, for each inflow forecast stations.

The inflow in volume during the given duration indirectly indicates the possibility of accommodating the given volume or otherwise in the reservoir. The outflow pattern is decided keeping in view of the safety measures at the reservoir and the likely impact of the outflow from the reservoir likely to cause damages/ difficulties in the downstream areas. Thus, the criteria should cover all the aspects of the flood pattern at the reservoir as well as the downstream. As the inflow computation on hourly basis requires the hourly reservoir levels and hourly outflows, the data processing is more complicated and time consuming. It is to be mentioned that the inflow computed on hourly basis, on historical data should be completed and then criteria are decided. The owner of the data of reservoir is generally the State Government and thus it will require lot of efforts to collect and compile.

1.4 EXPANSION OF FLOOD FORECASTING OF NETWORK

The operation and maintenance of existing flood forecasting network is carried out as per budget allotment each year under 'Non-Plan' head and is thus subject to such restrictions and cuts applied to items under 'Non-Plan'. The expansion of the network with a view to cover additional flood prone areas is covered under 'Plan' head. Work on such Plan schemes is subject to approval of specific schemes by the Government and the budget allocation of funds. After flood season 2004, following one inflow forecasting site was added in flood season 2005.

S.No.	New added flood forecast sites	River	State
1	Gandhisagar Dam	Chambal	Madhya Pradesh

After flood season 2005, the following two level forecasting sites were added.

S.No.	New added flood forecast sites	River	State
1	Sahibganj	Ganga	Jharkhand
2	Arjunwad	Krishna	Maharashtra

With the addition of above sites, total flood forecasting sites becomes 175. Due to trial run of the MIKE-11 model at the Jaipur Division on real time basis, the forecasts issued were not accounted for the flood season 2005. However, few forecasts issued were accounted for in the flood season 2006 and 2007.

The details of all the sites basin-wise as well as statewise during the flood season 2005, 2006 and 2007 are shown at Annex-I (A, B, C) and Annex-II (A, B, C) respectively.

1.5 Data Communication System

There is a network of about 582 wireless stations for real time/ near real-time communication of hydrological and hydro-meteorological data between various base & forecasting sites and their subdivisions; and divisions (including Control Stations). The details are shown in Annex-4. The flood forecasts are being formulated in the divisional offices (sub divisional offices in a few cases) and disseminated by these wireless stations to the users and also from the divisions to the head quarters of the Central Water Commission at Sewa Bhawan, R.K.Puram, New Delhi where "Flood Forecast Monitoring Directorate" is monitoring the flood situations and forecasts at the National level.

The monitoring of floods during the flood season at the Commission's head quarters has revealed that there was no direct wireless link between the nodal division MBD/ HOC, Guwahati and Delhi for last four years. As a result, the forecasts and other concerned hydrological and hydro-meteorological data from the Brahmaputra basin, which includes the river Tista and other tributaries, besides Barak System, were not being received directly by headquarter wireless, as the 500W HF wireless set meant for the purpose was out of order. This had resulted into more dependency on other mode of communications, namely, telephone as well as fax for data transmission. As a matter of fact, similar condition existed in Mahanadi

Division, Burla and Delhi, particularly, during high flood situations in the year 2005. Similar condition existed between Tapi Division, Surat, and Mahi Division, Ahmedabad and Delhi, particularly during severe flood situations in the year 2006. During high flood situations, the data was mostly received on telephone / fax or through indai-water.com (a web dedicated for FF activities of CWC) by few Divisions regularly. On the whole, telephone, internet and fax links have ultimately proved to be very useful, reliable and dependable means of communication of flood data, in all important and critical flood situations, between the field divisions and the head quarter of the Commission.

The telephone and the fax in particular were found more useful in receiving the vital flood forecasts and hourly river data on short notice as the wirelesses work on pre-fixed timetables only.

The analysis of forecasts data also revealed that the Brahmaputra river system is most flood prone and the flood season starts earlier sometime in first week of May and extends upto late October. As a result of longer flood periods, more number of forecasts are issued for the State of Assam.

1.6 FLOOD DAMAGES BETWEEN 1953 TO 2007

The damage due to floods for the entire country were estimated to be Rs.4958 crore (tentative) during the flood season 2005 as compared to Rs.1488.79 crore during 2004. It was Rs.665.06 crore (tentative) during the flood season 2006 and Rs.3939.9 crore (tentative) during the flood season 2007. The average annual damages to crops, houses and public utilities from the year 1953 to 2007 as reported by the States/UT's are of the order of Rs.1880.60 crore (tentative), the maximum annual damage being Rs.8864.54 crore during the year 2000.

A comparative details showing the details of damages occurred during the flood season 2005 to 2007 on different accounts, based on the reports (tentative), received from the revenue authorities of the state governments is given in the Table 1.4. (Figures given for all the three years are tentative- Source: FMP Directorate-CWC)

Table 1.4: Damages Occurred During Flood Season, 2005 to 2007

Sl. No.	Items	Flood damages during			Flood Damages during 1953-2007		
		2005	2006	2007	Average	Maximum	
						Year	Damage
1	Area affected (mha)	13.85	0.495	3.549	7.539	1978	17.500
2	Population affected (millions)	53.94	28.57	41.462	33.379	1978	70.45
3	Damaged to Crops (mha)	16.83	0.433	6.309	3.795	2005	16.830
4	Damaged to crops (Rs. Crore)	1754.94	306.826	1336.315	729.148	2000	4246.62
5	Damaged to houses (numbers)	1141844	737355	1686135	1232098	1978	3507542
6	Damaged to houses (Rs. Crore)	1102.26	46.053	1011.967	294.264	1995	1307.89
7	Cattle lost (number)	80267	8932	70650	92238	1979	618248
8	Human lives lost (numbers)	3118	1500	2439	1632	1977	11316
9	Damaged to publicUtilities (Rs. Crores)	2100.79	312.727	1591.616	835.596	2001	5604.46
10	Total damages to crops, houses & public utilities (Rs. Crores)	4957.99	665.606	3939.898	1880.60	2000	8864.54

1.7 CALAMITY RELIEF FUND

The earlier system of providing flood relief as central assistance to states has been dispensed with as per recommendations of the Ninth Finance Commission. In its place the Commission has recommended a scheme, which is qualitatively different in the sense that specific amount has been allocated to each state under "Calamity Relief Fund" and the states are expected to look after themselves in any situation created by natural calamities. The central government contributes 75 percent of the amount and the state governments contribute balance 25 percent out of its own resources.

1.8 PLAN OUTLAY FOR FLOOD FORECASTING NETWORK

Plan outlay for the "Flood Forecasting Network of CWC" is available. under the plan scheme "Establishment and Modernisation of Flood Forecasting Network in India including inflow forecasts" under the head "Flood Control and Drainage". The outlay of the scheme for the Tenth Plan Period 2002-2007 is Rs 65crore. The actual expenditure incurred during the year 2005-06, 2006-07 and 2007-08 were Rs. 9.6 Crore, Rs. 12.07 Crore and Rs. 10.57 crore respectively.

1.9 NOMINAL COST OF FLOOD FORECASTING NETWORK

Flood Forecasting and Warning Network has helped in reducing flood damages. It has also helped in utilizing water resources in a better way by properly regulating the reservoirs/ barrages, ensuring safety of reservoirs, obviating unnecessary dislocation of population, reduction of expenditure on flood fighting. The average annual expenditure on flood forecasting services during X^{th} plan was Rs 4.66 crore only against an average annual flood damage of Rs 1360 crores i.e. less than 0.33%. Though there are no data about prevention of damages as result of flood forecasting services, yet it is worth while even if it has resulted in saving of a few lives.

It is to be noted that one Thousand Million Cubic Feet (TMC) (about 28.304 Million Cubic metre) of Volume of water (the volume of water approximately 311 cubic metre per second flow continuing for entire 24 hours) can produce electricity in Hydel Power house costing to the tune of rupees one crore (as per 2003 prices), whereas the same one TMC of water can produce 10 crores worth of agricultural produce, provided at least 90 TMC of water is made available for a duration of a crop (either Kharif / Rabi). In the inflow forecasts (28 sites at present) at least 28 TMC of water would have been saved because of timely forecasts by CWC, and this amount is actually received by respective Electricity Boards and Revenue Departments of various State Governments. This amount should be reconciled for CWC for its forecasting services every year.

1.10 ANALYSIS OF PERFORMANCE OF FLOOD FORECASTING NETWORK

CWC carries out analysis and appraisal of the forecasting work, at the end of monsoon season. Based on this, measures for improvements, if necessary, are identified. A summary of the performance of the work carried out by the field divisions during the flood season 2005, 2006 and 2007 presented in Chapter-III. On the whole, 96 percent of forecasts were within limits of accuracy. While the performance of the flood forecasting system is satisfactory, yet there is constant endeavor for better performance as new technology and more data are becoming available.

1.11 ORGANISATIONAL SET-UP OF FLOOD FORECASTING NETWORK

The present organizational set up of Flood-forecasting & Warning Establishment of Central Water Commission under the Member (River-Management) is spread over regional offices of CWC each headed by a Chief Engineer. Eleven Circle Offices and twenty one Divisions in its field formations carry out flood forecasting activities. In the headquarters One Chief Engineer (Flood Management) and a Directorate coordinate and monitor the Flood Forecasting activities. It also issues flood bulletins at national level.

The organizational chart of Flood Forecasting and Warning set up of the Central Water Commission is given at **Figure-1.**

CHAPTER – 2

SOUTHWEST MONSOON ACTIVITIES

2.1 GENERAL

India gets about 80% of its Annual rainfall during the south-west monsoon from June to September except some portions of south-eastern parts of peninsular India where the main rains occur during the period of north-east monsoon from October to December, which overlap with the receding stage of the south-west monsoon in October. Occasionally, cyclonic storm develop in the south-west bay and move into the Peninsula and produces heavy rain during north-east monsoon season.

Southwest monsoon advances from Malabar in the beginning of June. It produces spell of heavy rainfall along the western coast of the peninsula and on the southern slopes of Khasi and Jaintia hills in north- eastern region.

In association with the depression which occasionally form in the North Bay of Bengal and move north-westwards, heavy rains are produced in the central parts of the country, Orissa, Gangetic West Bengal, southern districts of Bihar, Gujarat region, and East Rajasthan and in the later monsoon months in and around North Deccan.

A very important characteristic of southwest monsoon is the occurrence of "break". The break situations arise when the monsoon trough shifts to the Himalayas and are very important as these cause floods in the rivers rising from the Eastern Himalayas. Some times, the phenomenon of break sets in immediately after a monsoon depression has occurred. These two causes occurring in succession serve to intensify the floods.

The whole India has been divided into 36 meteorological sub-divisions by India Meteorological Department (IMD) since 2002 for the purpose of studies of rainfall/monsoon activities. The details of meteorological sub-divisions is shown in **Table 2.1.**

The progress of monsoon rainfall over the country is monitored by evaluating the departures of total rainfall from the normal rainfall in respect of meteorological sub-divisions and districts. The IMD has classified the rainfall as excess, normal, deficient and scanty, according to the following criteria.

Excess	:	+ 20% or more than normal
Normal	:	+ 19% to - 19% of the normal
Deficient	:	- 20% to - 59% of the normal
Scanty	:	- 60% to - 99% of the normal
No Rain (N.R.)	:	- 100% of the normal

Table 2.1: Details of Meteorological Sub-divisions

S.No.	Meteorological Sub-Division	S.No.	Meteorological Sub-Division
1	Jammu & Kashmir	19	Tamilnadu & Pondicherry
2	Himachal Pradesh	20	Kerala
3	Punjab	21	South Interior Karnataka
4	Haryana,Chandigarh & Delhi	22	North Interior Karnataka
5	Uttaranchal	23	Coastal Karnataka
6	West Uttar Pradesh	24	Konkon & Goa
7	East Uttar Pradesh	25	Madhya Maharashtra
8	Bihar	26	Marathawada
9	Jharkhand	27	Vidarbha
10	Gangetic West Bengal	28	Chhatisgarh
11	Sub-Himalayan W.B. & Sikkim	29	East Madhya Pradesh
12	Assam & Meghalaya	30	West Madhya Pradesh
13	Arunachal Pradesh	31	Gujarat region
14	Nagaland, Manipur, Mizoram & Tripura	32	Sourashtra, Kutch & Diu
15	Orissa	33	East Rajasthan
16	Telangana	34	West Rajasthan
17	Coastal Andhra Pradesh	35	Lakshadweep
18	Rayalaseema	36	Andaman & Nicobar Island

2.2 HIGHLIGHTS OF SOUTH-WEST MONSOON (2005-07)

2.2.1 Cumulative Rainfall Distribution during Monsoon Season 2005

- The southwest monsoon of 2005 (from June to September) was marked by near-normal rainfall over the country, even though erratic with prolonged weak/ break monsoon conditions.

- For the country as a whole, the total rainfall from 1st June to 30th September 2005 was 98 percent of its Long Period Average (L.P.A)

- The June-September rainfall was excess in 9, normal in 23 out of the 36 meteorological sub-divisions and the remaining 4 sub-divisions received deficient rainfall.

2.2.2 Cumulative Rainfall Distribution during Monsoon Season 2006

- For the country as a whole, the total rainfall from 1st June to 30th September 2006 was 99 percent of its Long Period Average. (L.P.A)
- The June-September rainfall was excess in 6, normal in 20 and deficient in 10 out of the 36 meteorological sub-divisions.
- Seasonal rainfall over Central India was excess by 16% and it was 94% and 95% of LPA over Northwest India and South Peninsula. It was however deficient over northeast India by 17%.
- Seasonal rainfall over the country as a whole was slightly more than the predicted value.

2.2.3 Cumulative rainfall distribution during monsoon season 2007

For the country as a whole, the seasonal rainfall from 1st June to 30th September was 105% of its long period average (LPA).

- Seasonal rainfall was excess by 26% over South Peninsula. It was deficient (15% below LPA) over Northwest (NW) India, 8% above LPA over Central India and 4% above LPA over Northeast (NE) India.

- Out of the 36 meteorological sub-divisions, the seasonal (June-September) rainfall was excess in 13 and normal in 17 sub-divisions. However, it was deficient in 6 sub-divisions.

- Out of 513 meteorological districts for which data were available, 72% of the meteorological districts received excess/normal rainfall and the remaining 28% received deficient / scanty rainfall during the season. 77 districts (15%) experienced moderate drought and 30 districts (6%) experienced severe drought at the end of the season.

- Five sub-divisions (viz. West Uttar Pradesh, Haryana, Chandigarh and Delhi, Punjab, Himachal Pradesh and east Madhya Pradesh) experienced moderate drought conditions (rainfall deficiency of 26% to 50%) at the end of the season.

- IMD's long range forecasts for July rainfall over the country as a whole and the 2007 seasonal rainfall over NW India and NE India were proved to be accurate. However, the 2007 monsoon seasonal rainfall over the country as a whole was more than the predicted value.

2.3 ONSET OF SOUTH-WEST MONSOON (2005- 07)

Climatologically, the southwest monsoon has an onset phase from end of May to end of June and a withdrawal phase from the first week of September continuing up to the middle of October. The Figure No. 2.1 and Figure No.2.2 are showing the "Normal dates on Onset and Withdrawal" of southwest monsoon in India, respectively. The intervening months of July and August are the months of peak monsoon activity. However, the rainfall over various parts of the country occurs in association with the movement of low-pressure systems. The monsoon rainfall thus has its active and weak phases. Also the paths traversed by the low-pressure systems determine the spatial rainfall pattern.

During phases of the weak monsoon activity mentioned above, the monsoon trough of low pressure, which normally runs across the northern parts of the country, shifts to the foothills of the Himalayas. This produced heavy rainfall and led to floods in Bihar, West Bengal and northeastern states.

2.3.1 ONSET OF SOUTH-WEST MONSOON SEASON 2005

The southwest monsoon entered the country just before the normal date viz; 31st May in Kerala, but with respect to Forecasting jurisdiction it entered Krishna basin on 8th June and covered the entire basin by 24th June 2005. The monsoon had taken almost over a month to cover the entire country. It covered the entire country by the end of June (over the forecasting jurisdiction), and the remaining areas by the second week of July 2005.

2.3.2 ONSET OF SOUTH-WEST MONSOON SEASON 2006

The southwest monsoon entered the country on 26th May (five days before the normal date) in Kerala. It had covered most of the Peninsular region and parts of Northeast India by 31st May. By 6th June. It covered parts of Gujarat, Coastal Andhra Pradesh, Orissa, Jharkhand and Bihar. After a prolonged lull, it revived on 23rd June and by 30th June it had covered almost the entire country.

2.3.3 ONSET OF SOUTH-WEST MONSOON SEASON 2007

Southwest monsoon advanced over the south Andaman Sea, Nicobar Islands and parts of southeast Bay of Bengal on 10 May about 5 days ahead of its normal date. This was associated with the formation of a Depression over the north Andaman Sea (3rd – 5th May) and the strengthening of the cross equatorial flow. However, the subsequent advance, was delayed by the formation of the cyclonic storm 'Akash' (13th – 15th May) over the east central Bay which had an unconventional origin in the mid-latitude westerlies. The system moved northeastward and crossed Bangladesh coast. It disrupted the monsoon flow by prolonging the mid-latitude westerly intrusion over the region. The monsoon revived gradually and arrived over Kerala on 28th May, four days prior to the normal date. Once again, the monsoon flow pattern was disrupted due to the formation of the Super Cyclonic Storm 'Gonu' over the east central Arabian Sea (1st – 7th June) which crossed Oman coast and subsequently the Makaran coast. Further advance of monsoon took place on 8th June, after a hiatus of 9 days. It covered the north-eastern states by 10th June, Peninsular and Central India by 25th June and subsequently the entire country on 4th July, nearly 11 days ahead of normal date.

2.4 SYNOPTIC FEATURES ASSOCIATED WITH THE MONSOON (2005-07)

2.4.1 SYNOPTIC FEATURES ASSOCIATED WITH THE MONSOON SEASON 2005

There were several significant weather systems formed during the monsoon 2005 (ending October 2005 in parts of Southern Peninsula). However there was one more severe system that affected Pennar (the periphery of Forecasting coverage) and entire other rivers of Peninsular rivers, especially Cauvery (not covered by Flood Forecasting) during November.

The first deep depression developed over northeast Arabian sea, and adjoining Saurashtra and Kutch ahead of monsoon current between 21st and 22nd June. It moved in northwesterly direction and weakened later.

The second system was the low pressure area forming over northwest Bay of Bengal on 27th June and concentrated into depression over gangetic West Bengal, moved west north-westwards towards Madhya Pradesh. The system weakened over Southwest Uttar Pradesh and northwest Madhya Pradesh on July 5. No major flood events occurred, except minor floods at Kopergaon on Godavari (Maharashtra) and in Brahmani (Orissa). The floods in the Northeast region were also during this period.

The third system was another low formed over northwest Bay of Bengal on 28th July and concentrated into a depression and crossed the coast near Balasore on 30th July (noon). It moved west- northwestwards, traveled through Chattisgarh and

Madhya Pradesh and weakened in Central Madhya Pradesh. There were consequent floods in a number of river systems in the country.

The fourth system was another low formed west- central and northwest Bay of Bengal on 10th September, concentrated into a depression, crossed the coast near Paradip on 12th September. It moved northwest/ northwards, weakened over west Uttar Pradesh and Uttaranchal. It also created floods.

The fifth was a depression over Arabian Sea, which started as a low over South Gujarat coast on 13th September, became well marked by the same evening. It moved northeast wards initially and later east wards towards Gujarat coast, crossed coast near Porbandar on 16th and weakened on 17th. This also created some floods in the western region.

The next one was formed as a cyclonic circulation on 14th September morning over central Bay of Bengal, formed as a low on 16th September, concentrated into depression on 17th September over North bay. Moving in a west- northwesterly direction, it intensified into deep depression and later as cyclonic storm on 18th Sempember, crossed the coast near Kalingapatnam on 19th September. It weakened gradually and traversed towards Madhya Maharashtra on 22nd September (morning). This system had created a series of floods in many basins.

The next one was another deep depression between October 26th and 29th September, which formed over the Southwest/ Southeast Bay of Bengal on 25th September, and concentrated later. Traveling sluggishly, it crossed coast near Ongole (AP) on 28th September. It weakened into a low over coastal Andhra Pradesh on 29th September. This had created floods in Pennar Basin as well as Krishna Basin.

2.4.2 SYNOPTIC FEATURES ASSOCIATED WITH THE MONSOON SEASON 2006

The season as a whole had been quite active in terms of the number of low pressure systems. In all, 16 systems (1 severe cyclonic storm, 8 depressions/ deep depressions and 7 low pressure areas/ well marked low pressure areas) formed during the season. All the systems formed over the Bay of Bengal except one land depression and one severe cyclonic storm over Arabian Sea. The systems formed over the bay of Bengal generally had a west- northwesterly track causing heavy rainfall over central India, especially over Orissa, West Madhya Pradesh, Maharashtra, Gujarat and West Rajasthan.

The only low pressure area in June which formed over the North Bay and adjoining Gangetic West Bengal (6 to 8 June) was short lived and dissipated over Jharkhand and neighbourhood. In July, one depression, 3 low pressure areas and one well marked low pressure area formed. All these systems moved west-northwestwards, except one which moved northwestwards. In August, one deep depression, 3 depressions and one low pressure area formed. All of them formed over the north Bay and crossed Orissa coast. They also had long tracks mostly in a westerly/ west-northwesterly direction across Central India and moved up to west Rajasthan as remnants. In September, one severe cyclonic storm formed over the Arabian Sea. It dissipated over the Sea itself due to large vertical wind shear and cold air advection. In addition, 3 depressions, including one land depression and one low pressure area formed. The last depression of the season formed over the Bay of Bengal in the afternoon of 28th September and crossed Orissa coast close to Gopalpur on 29th evening. It then moved westwards and weakened gradually.

2.4.3 SYNOPTIC FEATURES ASSOCIATED WITH THE MONSOON SEASON 2007

Formation of two intense low pressure systems over the Arabian Sea in the month of June is a unique feature of the southwest monsoon 2007, barring the years 1948, 1930, 1925 & 1907. Gonu is the first ever Super Cyclone formed over the Arabian Sea. The Cyclonic Storm, 'Yemyin' (25-26 June) formed from the remnants of a Deep Depression which formed over the Bay of Bengal and emerged into the Arabian Sea as a low pressure area after traversing the peninsula. This system moved away north-westwards and crossed Pakistan coast, without affecting the weather over the country. Apart from the above two Cyclonic Storms, 11 more low pressure systems including 4 Deep Depressions, 1 Depression, 4 well marked low pressure areas and 2 low pressure areas formed during the season. Most of these systems formed over the Bay of Bengal except a well marked low pressure area (23rd – 25th September) which formed over the Arabian Sea in September. All the systems over the Bay of Bengal moved generally in a west-northwesterly to northwesterly direction, giving rise to extremely heavy rainfall (25 cm. or more) many a times over Orissa, Gangetic West Bengal, Bihar, Andhra Pradesh, Chhattisgarh, Madhya Pradesh, Rajasthan, Gujarat and also in Maharashtra and Karnataka.

2.5 RAINFALL DISTRIBUTION IN INDIA DURING THE MONSOON (2005-07)

2.5.1 RAINFALL DISTRIBUTION IN INDIA DURING THE MONSOON 2005

During the monsoon season 2005, the rainfall for the country as a whole was -1 percent below normal. The cumulative rainfall from 1st June to 30th September was excess in 8 meteorological sub-divisions, normal in 24 sub-divisions and deficient in 4 sub-divisions. (part of Northeast India, Bihar and Jharkhand).

The southwest monsoon rainfall (June to September) for the country as a whole and four broad homogenous regions is shown in **Table 2.2**

Table 2.2: Southwest monsoon rainfall during 2005

Region	Actual (mm)	Normal (mm)	Percentage Departure
All –India	1054.7	1070.6	-1
Northwest India	621.6	941.5	-34
Central India	1018.6	907.5	+12
South Peninsula	1348.9	1235.7	+09
Northeast India	1252.4	1524.0	-18

2.5.2 RAINFALL DISTRIBUTION IN INDIA DURING THE MONSOON 2006

During the monsoon season 2006, the rainfall for the country as a whole was -1 percent below normal. The cumulative rainfall from 1st June to 30th September was excess in 6 meteorological sub-divisions, normal in 20 sub-divisions and deficient in 10 sub-divisions. (part of Northeast India, Bihar and Jharkhand).

The southwest monsoon rainfall (June to September) for the country as a whole and four broad homogenous regions is shown in **Table 2.2**

Table 2.3: Southwest monsoon rainfall during 2006

Region	Actual (mm)	Normal (mm)	Percentage Departure
All –India	886.6	892.2	-1
Northwest India	573.7	611.6	-6
Central India	1152.2	993.9	+16
South Peninsula	684.6	722.6	-05
Northeast India	1177.6	1427.3	-17

2.5.3 RAINFALL DISTRIBUTION IN INDIA DURING MONSOON SEASON 2007

The southwest monsoon rainfall (June to September) for the period 1st June to 30th September 2007 for the country as a whole and the four broad homogeneous regions is shown in Table 2.4.

Table 2.4: Southwest monsoon rainfall during 2007

Region	Actual (mm)	Normal (mm)	Percentage Departure
All-India	936.9	892.2	5%
Northwest (NW) India	520.8	611.6	-15%
Central India	1073.8	993.9	8%
South peninsula	907.3	722.6	26%
Northeast (NE) India	1485.9	1427.3	4%

2.6 WITHDRAWAL OF MONSOON (2005-07)

2.6.1 WITHDRAWAL OF MONSOON 2005

The withdrawal of the monsoon from Northwest India commenced during first fortnight of September in the North West Region and completed towards Krishna Basin by 11th October 2005, and the northeast Monsoon 2005 set on the same day. The Norteast monsson had created floods in Pennar, which spilled over to the end of October and extended up to Cauvery Basin, till November. (not covered in Forecasting jurisdiction so far)

2.6.2 WITHDRAWAL OF MONSOON 2006

Southwest monsoon withdrew from western parts of Punjab and most parts of west Rajasthan on 21st September. It further withdrew from some parts of Jammu and Kashmir, entire Punjab, most parts of Haryana, Chandigarh & Delhi, west Rajasthan and some parts of east Rajasthan on 25th September. After two days, it withdrew from remaining parts of Jammu and Kashmir, entire Himachal Pradesh, Uttaranchal, remaining parts of Haryana, some parts of west Uttar Pradesh and east Rajasthan and some more parts of west Rajasthan. It had withdrawn from entire Gujarat State by 1st week of October, Krishna Basin on 13th October, Godavari Basin on 16th October and Orissa by 16th October.

2.6.3 WITHDRAWAL OF MONSOON 2007

This year, there was an unusual delay in the withdrawal of monsoon from extreme west Rajasthan, due to the prevalence of cyclonic circulations, availability of moisture and sporadic rainfall over the region. However, the southwest monsoon withdrew from western parts of Rajasthan and some parts of Punjab and Haryana on 30th September. The normal date of withdrawal from west Rajasthan is 15th September. During the period 1960-2006, the most delayed date of monsoon withdrawal from extreme west Rajasthan was 28th September, which occurred in the years 1964 & 1970. In the year 1990 also the withdrawal started as late as 27th September.

(Note: Sources of this Chapter have been taken mostly from web site of the India Meteorological Department collected from time to time.)

CHAPTER 3

FLOOD FORECAST PERFORMANCE

3.1 FLOOD FORECASTING EVALUATION - PRESENT CRITERIA AND PROCEDURE

A number of techniques are being utilized for formulation of river level and inflow forecasts by Central Water Commission. While inflow forecast is being provided for assisting in reservoir regulation, the level forecast is done about the predicted water level well ahead of its occurrence. An accurate forecast is one where the forecast level and corresponding actual observed level exactly synchronize or have such a small difference that it can be taken as reasonably accurate. In an ideal situation, not only the forecast and the corresponding observed value of river level/ inflow should be the same but also the time of such occurrence should be the same as that predicted.

3.2 EVALUATION CRITERIA FOR STAGE/ INFLOW FORECASTING

According to the present norms of Central Water Commission, a forecast of a flood forecasting site is considered to be reasonably accurate if the difference between the forecast and the corresponding actual observed level of river lies within +/-15cm. In case of inflow forecasts, a variation within +/-20% Cumec/MCM is considered acceptable.

3.3 FLOOD FORECASTING ACTIVITIES

During the flood season 2005, there were 173 flood forecasting sites including 28 inflow forecasting sites and during the flood season 2006 & 2007, there were 175 flood forecasting sites including 28 inflow forecasting sites in operational condition.

3.4 RIVERWISE FLOOD FORECASTING ACTIVITES AND ACCURACY OF FORECAST

3.4.1 Brahmaputra Basin

Analysis of the flood forecasts issued during the flood season 2005 reveals that out of 5618 forecasts, 1857 forecasts (33.05%) were issued for all the 24 sites located on the main Brahmaputra and tributaries. Out of these, 1805 (97.20%) forecasts were found within permissible limit of accuracy.

During the flood season 2006, analysis of the flood forecasts issued reveals that out of 6663 forecasts, 1690 forecasts (25.36%) were issued for all the 22 sites located on the main Brahmaputra and tributaries. Out of these, 1665 (98.50%) were found within permissible limit of accuracy.

During the flood season 2007, analysis of the flood forecasts issued reveals that out of 8223 forecasts, 2788 forecasts (33.9%) were issued for

sites located on the main Brahmaputra and tributaries. Out of these, (98.24%) were found within permissible limit of accuracy.

3.4.2 Barak and Meghna Basin

For the Barak System, during the flood season 2005, 76 (1.35%) forecasts were issued for five sites. Out of these, 73 (96.05%) forecasts were found within permissible limit of accuracy. During the flood season 2006, 42 (2.13%) were issued for five sites. Out of these, 135 (95.10%) forecasts were found with in permissible limit of accuracy. During the flood season 2007, 407 forecasts (4.95%) were issued for five sites. Out of these, 381 forecasts (93.61%) forecasts were found with in permissible limit of accuracy

3.4.3 Ganga Basin

During the flood season 2005, 2010 forecasts (35.78%) were issued for 59 sites, out of total 86 sites located on the main Ganga and its tributaries. Out of these, 1939 forecasts (96.47%) were found within permissible limit of accuracy. No forecast was issued for the remaining 27 sites as the water level remained below the warning level there.

During the flood season 2006, 2143 forecasts (32.16%) were issued for 59 sites, out of total 87 sites located on the main Ganga and its tributaries. Out of these, 2081 forecasts (97.10%) were found within permissible limit of accuracy. No forecast was issued for the remaining 28 sites, including Tajewala on Yamuna, as the water levels remained below the warning level at those locations.

During the flood season 2007, 3407 forecasts (41.43%) were issued for 56 sites, out of total 87 sites located on the main Ganga and its tributaries. Out of these, 3325 forecasts (97.59 %) were found within permissible limit of accuracy.No forecast was issued for the remaining 31 sites.

3.4.4 Eastern Rivers Basins including Mahanadi

For the Eastern Rivers, during the flood season 2005, 163 forecasts (2.90%) were issued for eight sites out of nine sites and 151 (92.64%) forecasts were found with in permissible limit of accuracy. Also 88 forecasts (1.57%) were issued for all the four sites located on the Mahanadi river basin, of which 84 forecasts (95.45%) were found within permissible limit of accuracy.

During the flood season 2006, 427 forecasts (6.41%) were issued for all nine sites and 379 (88.80%) forecasts were found with in permissible limit of accuracy. Also 111 forecasts (1.67%) were issued for all four sites located on the Mahanadi river basin, of which 99 forecasts (89.40%) were found within permissible limit of accuracy.

During the flood season 2007, 259 forecasts (3.15%) were issued for all nine sites and 238 (91.89%) forecasts were found with in permissible

limit of accuracy. Also 106 forecasts (1.29%) were issued for two sites located on the Mahanadi river basin, of which 103 forecasts (97.17%) were found with in permissible limit of accuracy.

3.4.5 Godavari Basin

During the flood season 2005, 401 forecasts (7.14%) were issued for 17 sites out of 18 forecasting sites in the Godavari basin, of which 374 forecasts were found with 93.27 percent accuracy.

During the flood season 2006, 988 forecasts (14.83%) (third highest) were issued for all 18 forecasting sites, of which 890 forecasts were found with 90.10 percent accuracy. It is remarkable, for all the 18 forecast sites, during 4th to 17th October 2006 the forecasts were issued, which was a rare phenomenon, as all major tributaries almost simultaneously.

During the flood season 2007, 169 forecasts (2.06%) were issued for all the forecasting sites, of which 164 forecasts were found within 97.04 percent accuracy.

3.4.6 Krishna Basin

During the flood season 2005, 870 forecasts (15.49%) of the total number of forecasts, (third highest) were issued for all eight forecasting sites and 850 forecasts (97.70%) were found within permissible limit of accuracy. 13 forecasts were issued for Pennar (one of Southern Rivers) at Nellore, out of which 11 forecasts (84.62%) were found within permissible limit of accuracy.

During the flood season 2006, 789 forecasts (11.84%) of the total number of forecasts, (fourth highest) were issued for all eight forecasting sites located in the basin and 775 forecasts (98.20%) were found within permissible limit of accuracy. River Pennar, the lone river in southern river system, the river did not cross the warning level.

During the flood season 2007, 870 forecasts (10.58%) of the total number of forecasts, were issued for seven forecasting sites and 836 forecasts (96.09%) were found with in permissible limit of accuracy. River Pennar, the lone river in southern river system, the river did cross the warning level for a short while, and one forecast was issued which was within limits.

3.4.7 West Flowing Rivers

During the flood season 2005, for the West-Flowing Rivers which comprises of the Narmada River, the Tapi River etc, 140 forecasts (2.49%) were issued for eight sites, out of fifteen sites. Here, 137 forecasts (97.86%) were found within permissible limit of accuracy. Thus, in the nine major river systems in the country where "Flood Forecasting & Warning Network" of the Central Water Commission exists, and floods are being monitored, the accuracy of the forecasting performance varies from a maximum of 97.86 % for West Flowing Rivers and its tributaries to a minimum of 84.62% for the

Pennar basin. The overall accuracy performance was of the order of 96.53% for the country as a whole.

During the flood season 2006, for the West-Flowing Rivers which comprises of the Narmada , the Tapi etc, 373 forecasts (5.60%) were issued for thirteen sites, out of fifteen sites. Here, 353 forecasts (94.60%) were found within permissible limit of accuracy.

During the flood season 2007, for the West-Flowing Rivers which comprises of the Narmada, the Tapi etc, 216 forecasts (2.63%) were issued for sites, out of fifteen sites. Here, 203 forecasts (93.98%) were found with in permissible limit of accuracy.

Thus, in the nine major river systems in the country where "Flood Forecasting & Warning Network" of the Central Water Commission exists, and floods are being monitored, the accuracy of the forecasting performance during 2005 season varies from a maximum of 97.86 % for West Flowing Rivers and its tributaries to a minimum of 84.62% for the Pennar basin. The overall accuracy performance was of the order of 96.53% for the country as a whole.

During season 2006, the accuracy of the forecasting performance varies from a maximum of 98.50% for Brahamaputra and its tributaries to a minimum of 88.80 for the Eastern Rivers (excluding Mahanadi). The overall accuracy performance was of the order of 95.70% for the country as a whole. During 2007, the accuracy of the forecasting performance varies from a maximum of 98.24% for Brahamaputra and its tributaries to a minimum of 91.89 for the Eastern Rivers (excluding Mahanadi). For the lone Pennar forecast site, one forecast was issued and found within limit of accuracy. The overall accuracy performance was of the order of 97.17% for the country as a whole.

Further analysis of forecasts performance for the flood season 2005, 2006 and 2007 also reveals that 100% forecasts were issued for the 69, 35 and 30 respectively flood forecasting sites as listed in **Table 3.1**

Table 3.1: List of Forecast stations with 100% accuracy

S. No.	Name of the river	Stn.	2005	2006	2007
1	Ganga	1	Rishikesh	Narora barrage	Rishikesh
		2	Kannuaj	Gazipur	Kannauj
		3	Kanpur +	Buxar	Ankinghat
		4	Dalmau	Ballia	Kanpur
		5	Varanasi	Patna (Dighaghat)	Dalmau
		6	Gazipur	Patna (Gandhighat)	Patna (Dighaghat)
		7	Buxar	Hathidah	Patna (Gandhighat)
		8	Ballia	Bhagalpur	Hathidah
		9	Patna (Dighaghat)	Kahalgaon	Bhagalpur
		10	Patna (Gandhighat)	Sahibgunj	Kahalgaon
		11	Hathidah		Sahibgunj
		12	Bhagalpur		
		13	Kahalgaon		
		14	Farakka		

S. No.	Name of the River	Stn.	2005	2006	2007
2	Yamuna	1		Mathura	Mawi
		2		Auraiya	
		3		Hamirpur	
		4		Chillaghat	
3	Betwa	1		Mohana	
4	Ramganga	1	Barelliy		
		2	Moradabad		
5	Ken	1	Banda		
6	Ghaghra	1	Darauli	Darauli	Darauli
		2	Gangpur Siswan	Gangpur Siswan	Gangpur Siswan
7	Rapti	1	Balrampur		
		2	Gorakhpur (Birdghat)		
8	Sone	1	Maner	Koelwar	
		2		Maner	
9	Punpun	1	Sripalpur	Sripalpur	
10	Gangdak	1	Rewaghat	Rewaghat	Chatia
		2			Rewaghat
11	Burhi Gandak	1	Muzaffarpur (sikandarpur)	Lalbeghiaghat	Samastipur
		2	Samastipur	Muzaffarpur Sikandarpur	Khagaria
		3	Roseera	Samastipur	
		4	Khagaria	Rosera	
		5		Khagaria	
12	Bagmati	1		Hayaghat	Hayaghat
13	Adhwara Group	1	Ekmighat	Kamtaul	Kamtaul
14	Kamlabalan	1	Jhanjharpur	Jhanjharpur	
15	Kosi	1	Baltara	Baltara	Baltara
		2	Kursela	Kursela	Kursela
16	Mahananda	1	Jhawa	Jhawa	Dhengraghat
17	Mayurakshi	1	Massanjore Dam		Massanjore Dam
		2	Tilpara Barrage	Tilpara Barrage	Tilpara Barrage
		3			Narayanpur
18	Damodar	1	Tenughat Dam	Panchet Dam	
		2	Panchet Dam	Durgapur Barrage	Panchet Dam
		3	Durgapur Barrage		Durgapur Barrage
19	Barakkar	1			Maithon Dam
20	Kangsabati	1	Kangsabati Dam		Mohanpur
21	Brahmaputra	1	Dibrugrah		
		2	Guwahati		
		3	Goalpara		
		4	Dhubri		
22	Subansiri	1	Badatighat		
23	Beki	1	Road Bridge		
24	Manas	1	N.H.Road Crossing		
25	Raidak-1	1	Tufanganj		
26	Jaldhaka	1	NH-31		
		2	Mathabhanga		

S. No.	Name of the River	Stn.	2005	2006	2007
27	Tista	1	Domohani		
		2	Mekhliganj		
28	Barak	1	Karimganj		
29	Burhabalang	1	Akhuapada		
30	Brahmani	1	Jenapur Ex.Way		
31	Mahanadi (devi)	1	Alipingal Devi		
32	Mahandai (Kushabhadra)	1	Nimapara		
33	Godavari	1	Nanded		
		2	Eturunagaram		
		3	Kunavaram		
34	Wardha	1	Balharsha		
35	Manjira	1	Singur Dam		
		2	Nizamsagar Dam		
36	Tungabhadra	1	Tungabhadra Dam		
37	Mahi		Kadana Dam		
38	Narmada	1	Mandla		
		2	Hoshangabad		
39	Tapi	1	Hatnur Dam		
		2	Ukai Dam		
40	Damanganga	1	Madhuban Dam		
	Total in the year:		**69**	**35**	**30**

There was no site where all the issued forecasts were beyond the prescribed limit of accuracy during the flood season 2005, 2006 and 2007. Sitewise "Forecast Performance" of 132 flood forecasting sites, out of 173 operational sites, where forecasts were actually issued in flood season 2005, 141 flood forecasting sites, out of 175 operational sites in flood season 2006 and 124 flood forecasting sites, out of 175 operational sites in flood season 2007 are shown in **Table 3.2**.

Table 3.2: Site wise Forecast Performance during Flood Season 2005 -07

The other details of the Basin-wise, River-wise forecasting sites, such as their names, warning levels, danger levels, previous highest flood levels and the maximum levels attained during the flood season 2005, 2006 and 2007 together with number of forecasts issued, the number of forecasts within permissible limit of accuracy and the percentage of accuracy, are given in

Sl. No.	Details of sites within different range of permissible limit of accuracy (+/-15cm,+/-20%cumec)	Flood Season 2005		Flood Season 2006		Flood Season 2007	
		No. of Sites	% age	No. of Sites	% age	No. of Sites	% age
1	Sites with performance accuracy between 0.0 % to 25.0%	1	0.76 %	0	Nil	0	Nil
2	Sites with performance accuracy between 25.1 % to 50.0%	0	Nil	0	Nil	2	1.61%
3	Sites with performance accuracy between 50.1 % to 75.0%	0	Nil	10	7.09 %	6	4.84
4	Sites with performance accuracy between 75.1 % to 99.99%	62	46.97 %	69	48.94 %	62	50.00%
5	Sites with 100% performance accuracy i.e. where all forecasts issued were within permissible limit of accuracy	69	52.27 %	60	42.55 %	54	43.55%
6	Sites with 0.0% performance accuracy i.e. where all forecasts issued were beyond permissible limit of accuracy	nil	Not applicable	2	1.42%.	Nil.	Not applicable
	Total sites where forecasts were issued	**132**		**141**		**124**	

Annex-1A, 1B and 1C respectively. The major Basin-wise performance of flood forecasting stations in India, are given in **Annex-10A, 10B and 10C** respectively.

3.5 STATEWISE FLOOD FORECASTING PERFORMANCE

There are 15 states, one Union Territory of the Dadra & Nagar Haveli, and National Capital Territory of Delhi so far covered under the Flood Forecast and Warning Network of the Central Water Commission. The statewise flood forecasting information in India during the flood season 2005,

2006 and 2007 are given in **Annex –2A, 2B and 2C** respectively. Their salient features are as under:

3.5.1 Andhra Pradesh

During the flood season 2005, there were 9 level forecasting sites and 7 inflow forecasting sites in the state of Andhra Pradesh. No forecast was required on one level forecasting site viz; Kaleswaram. Forecasts were issued for all other 15sites. It is revealed that 149 level forecasts and 516 inflow forecasts, out of which 138 level forecasts (92.62%) and 503 inflow forecasts (97.48%) respectively were within limits of accuracy.

During the flood season 2006, out of 9 level forecasting sites and 7 inflow forecasting sites, no forecast was required on one level forecasting site viz; Nellore Anicut. Forecasts were issued for all others. It is revealed that 573 level forecasts and 491 inflow forecasts, out of which 512 forecasts (89.40%) and 476 forecasts (96.90%) respectively were within limits of accuracy.

During the flood season 2007out of 9 level forecasting sites and 7 inflow forecasting sites, no forecast was required on 2 level forecasting site viz; Kaleswaram and Rajahmundry and one inflow station viz: Nizamsagar Dam.. Forecasts were issued for all others. It is revealed that 124 level forecasts and 534 inflow forecasts, out of which 119 forecasts (95.97%) and 512 forecasts (95.88%) were found within limits respectively .

3.5.2 Assam

In the state of Assam, there were 24 forecasting sites and all of them were level forecasting sites. Forecasts were issued for 20 sites. It is seen that 1792 forecasts out of 1843 forecasts (97.23%) were found within limit of accuracy. During the flood season 2006, excluding one, (Naharkataia), forecasts were issued for 23 sites in the state. It is seen that 1755 forecasts (98.30%) out of 1786 forecasts were found within limit of accuracy. Forecasts were issued for 23 sites in the state, once again excluding Naharkatia, during the flood season 2007. It is seen that 2872 forecasts, out of 2917 forecasts (98.46%) were found within limit of accuracy.

3.5.3 Bihar

In the state of Bihar, there were 32 level forecasting sites. During the flood season 2005, out of 990 forecasts, 972 forecasts (98.18%) were found within limit of accuracy, issued for 27 forecasting stations. Out of 990 forecasts, 972 forecasts (98.18%) were found within limit of accuracy, issued for 27 forecast stations during the flood season 2006. Also, out of 1912 forecasts during the flood season 2007, 1885 forecasts (98.59%) were found within limit of accuracy, issued for 25 forecast stations.

3.5.4 Chhatisgarh

In the state of Chhatisgarh there was only one level flood forecasting site (i.e. Jagdalpur) on the Indravati River (a tributary of the Godavari River).
17 forecasts out of 19 forecasts (89.47%) were found within limit of accuracy during the flood season 2005, 69 forecasts, out of 72 forecasts (95.80%) were found within limit of accuracy during the flood season 2006 and 32 forecasts, out of 33 forecasts (96.97%) were found within limit of accuracy during the flood season 2007.

3.5.5 Gujarat

There were 11 flood forecasting sites in the state of Gujarat including five inflow forecasting sites. However, the forecasts were issued for the four inflow forecasting sites and one level forecasting site. A single forecast was issued for this site which was found beyond limit of accuracy. On the four inflow forecasting sites, 80 inflow forecasts out of 82 inflow forecasts (97.56%) were found within limit of accuracy during the flood season 2005. During the flood season 2006, the forecasts were issued for all stations except one level forecasting site (Vapi Town). On the inflow forecasting sites, 201 inflow forecasts (97.10%) out of 207 inflow forecasts were found within limit of accuracy. Out of 110 level forecasts issued, 100 found within limits (90.90%). The forecasts were issued for 10 stations. On the inflow forecasting sites, 95 inflow forecasts (96.94%) out of 98 inflow forecasts were found within limit of accuracy. Out of 17 level forecasts issued, 13 forecasts (76.47%) were found within limits of accuracy during the flood season 2007.

3.5.6 Haryana

Neither any hydrological data was collected nor any forecast was issued for the lone site Tajewala weir on the river Yamuna in the state of Haryana during the flood season 2005, 2006 and 2007. Instead data from an upstream site, namely, Hathni Kund Barrage were collected. Consequently, the analysis of the forecasts data did not explain / reveal any flood situations in the state.

3.5.7 Jharkhand

In the state of Jharkhand, there were four inflow flood forecasting sites. Flood forecasts were issued for all of them. It is seen that 90 forecasts out of 92 forecasts (97.83%) were found within limit of accuracy, during the flood season 2005. During the flood season 2006, flood forecasts were issued for all of them. It is seen that 224 forecasts out of 229 inflow forecasts (97.80%) and 59 level forecasts out of 59 (100%) were found within limit of accuracy. During the flood season 2007, 278 forecasts out of 279 inflow forecasts (99.64%) and 88 level forecasts out of 88 forecasts (100 %) were found within limit of accuracy.

3.5.8 Karnataka

There were four flood forecasting sites in the state of Karnataka which includes three inflow forecasting sites and one level forecasting site, namely, Deongaon on the river Bhima, tributary of the Krishna. Out of 39 level forecasts issued for this site, 34 forecasts (87.18%) were found within limit of accuracy. 340 inflow forecasts, out of 344 inflow forecasts (98.84 %) were found within limit of accuracy during the flood season 2005. During the flood season 2006, Out of 46 level forecasts issued, 41 forecasts (89.10%) were found within limit of accuracy. 323 inflow forecasts, out of 326 inflow forecasts (99.10%) were found within limit of accuracy. During the flood season 2007, Out of 334 inflow forecasts, 320 inflow forecasts (95.81%) were found within limit of accuracy. Necessity did not arise to issue any level forecasts.

3.5.9 Madhya Pradesh

In the state of Madhya Pradesh, there were two level forecasting sites on the river Narmada and 10 forecasts were issued at these sites with 100% accuracy. Also, no inflow forecast was issued at the lone inflow forecasting sites during the flood season 2005. During the flood season 2006, 11 forecasts were issued at these sites with 100% accuracy. Also, inflow forecast station viz; Gandhi Sagar on river Chambal was included; out of 8 forecast, 7 forecast (87.50%) at the lone inflow forecast station. During the flood season 2007, 8 forecasts were issued at these sites with 37.50% accuracy for the lone inflow forecast station viz; Gandhi Sagar on river Chambal. Necessity did not arise to issue any level forecasts.

3.5.10 Maharashtra

There were eight forecasting sites including two inflow forecasting sites, in the state of Maharashtra. Forecasts were issued for all six level forecasting sites. It is seen that out of 219 level forecasts, 206 forecasts (94.06%) were found within limit of accuracy. 66 inflow forecasts were issued for two inflow forecasting sites and 62 forecasts (93.94%) were within limits of accuracy during the flood season 2005. During the flood season 2006, forecasts were issued for all eight level forecasting sites, excluding new station Arjunwad. It is seen that out of 283 level forecasts, 256 level forecasts (90.50%) were found within limit of accuracy. 74 inflow forecasts were issued for two inflow forecasting sites and 66 inflow forecasts (89.20%) were within limits of accuracy. During the flood season 2007, forecasts were issued for the lone level forecasting sites, viz at Kopergaon. It is seen that out of 26 level forecasts, 25 level forecasts (96.20%) were found within limit of accuracy. 107 inflow forecasts were issued for two inflow forecasting sites and 101 were within limits of accuracy.

3.5.11 Orissa

In the state of Orissa, there were eleven level flood forecasting sites and one inflow forecasting site i.e. Hirakund Dam on the main river

Mahanadi. From the data received, it is revealed that 154 level forecasts out of 165 level forecasts (93.33 %) were found within limit of accuracy. For inflow forecasting sites, 63 forecasts, out of 65 forecasts (96.92%) were found within limit of accuracy during the flood season 2005. During the flood season 2006, 388 level forecasts (88.60%) out of 438 level forecasts were found within limit of accuracy. For inflow forecasting sites 53 forecasts (93.00%) out of 57 forecasts were found within limit of accuracy. During the flood season 2007, 231 level forecasts (93.15%) out of 248 level forecasts were found within limit of accuracy. For inflow forecasting sites 97 forecasts (97.00%) out of 100 forecasts were found within limit of accuracy.

3.5.12 Uttaranchal

There were three level forecasting sites in the state of Uttaranchal, namely, Srinagar on the Alaknada, Rishikesh and Haridwar on the main river Ganga. However, forecasts could not be issued at Srinagar on Alaknanda as this site was converted into new forecasting site recently. Forecasts were issued for the remaining sites, viz. Haridwar and Rishikesh. It is seen that 38 forecasts out of 48 forecasts (79.17%) were found within limit of accuracy during the flood season 2005. During the flood season 2006, forecasts were not necessary to be formulated, as the sites did not cross their respective warning levels. During the flood season 2007, 7 forecasts, out of 10 forecasts (70.00%) were found within limit of accuracy.

3.5.13 Uttar Pradesh

There were 35 flood forecasting sites in the state of Uttar Pradesh, which includes one inflow forecasting site at Narora barrage (U/S) on the river Ganga. During the flood season 2005, out of 34 level forecasting sites, forecasts were issued for 20 sites. Though no low flood situation was experienced at the site Kanpur i.e. water level did not touch the warning stage of this site, yet forecasts were issued on demand of the state agencies. From the data received, it is seen that out of 672 level forecasts, 638 forecasts (94.94%) were found within limit of accuracy. Further 73 inflow forecasts out of 80 inflow forecasts (91.25%) were found within limit of accuracy. Out of 34 level forecasting sites, forecasts were issued for 17 sites, mainly in tributaries and downstream sites of Ganga. From the data received, it is seen that out of 534 level forecasts, 506 forecasts (94.80%) were found within limit of accuracy. Further all 46 inflow forecasts (100%) were found within limit of accuracy during the flood season 2006. During the flood season 2007, out of 642 level forecasts, 608 forecasts (94.70%) were found within limit of accuracy. Further out of 68 nos., 67 inflow forecasts (98.53%) were found within limit of accuracy

3.5.14 West Bengal

In the state of West Bengal, there were 14 flood forecasting sites, which include three inflow forecasting sites. During the flood season 2005, no forecasts were issued at four level forecast sites. From the data received, it is seen that out of 152 level forecasts, 150 forecasts (98.68%) were found within limit of accuracy. Further, all 50 inflow forecasts were found within limit of accuracy. During the flood season 2006, no forecasts were issued at one level forecast site, at Ghugumari on Torsa. From the data received, it is seen that out of 164 level forecasts, 154 forecasts (93.90%) were found within limit of accuracy. Further, out of 115 inflow forecasts, 114 (99.40%) were found within limit of accuracy. During the flood season 2007, out of 426 level forecasts, 411 forecasts (96.48%) were found within limit of accuracy. and out of 179 inflow forecasts, 178 (99.44%) were found within limit of accuracy.

3.5.15 Dadra & Nagar Haveli

In the Union Territory of Dadra & Nagar Haveli, there were only one flood forecasting site at Daman on river Damaganga. No flood forecast was issued for the site during the flood season 2005, 2006 and 2007. (The Madhuban Dam listed in this Union Territory up to last report, actually belonged to Gujarat (Valsad District) and the modification has been done in this report.

3.5.16 NCT of Delhi

There are two flood forecasting sites in the National Capital Territory of Delhi (NCT of Delhi), namely, Delhi Railway Bridge on the Yamuna river and Dhansa Regulator at Delhi and Haryana border on the Sahibi river, a tributary of Yamuna river which is commonly known by name of Nazafgarh drain within Delhi town.

Both the sites are level forecasting sites. Forecast was issued for Delhi Railway Bridge only. Out of 14 forecasts, 13 forecasts (92.86%) were within limits of accuracy during the flood season 2005. For Dhansa Regulator, no forecast had been issued since 1998. During the flood season 2006, no forecast was issued for Delhi Railway Bridge. During the flood season 2007, Out of 4 forecasts, 3 forecasts (75.00%) were within limits of accuracy

The Statewise performance of flood forecasting stations in India is given in **Annex-11A, 11B and 11C**.

3.6 AN OVERVIEW OF FLOOD FORECASTING PERFORMANCE

An average number of flood forecasts issued per forecasting site were 43 during the flood season 2005. The number of forecasting sites where the performance accuracy of the issued forecasts was found above 96.55 % (National average for flood season 2005) was 85 sites (64.89%) which

includes 69 stations (52.67%) flood forecasting stations having 100 % accurate forecast. There was one station where the lone forecast issued was found beyond the permissible limit. During the flood season 2006,

During the flood season 2006, an average number of flood forecasts issued per forecasting site were 47. The number of forecasting sites where the performance accuracy of the issued forecasts was found above 96.55 % (National average for flood season 2006) was 85 sites (64.89%) which includes 69 stations (52.67%) flood forecasting stations having 100 % accurate forecast. There was one station where the lone forecast issued was found beyond the permissible limit.

During the flood season 2007, an average number of flood forecasts issued per forecasting site were 66. The number of forecasting sites where the performance accuracy of the issued forecasts was found above 97.18% (National average for flood season 2007) was 75 sites (60.49%) which includes 54 stations (43.54%) flood forecasting stations having100 % accurate forecast. There was one station where the lone forecast issued was found beyond the permissible limit.

The flood forecasting performance of the level forecasting as well as inflow forecasting sites from 1986 to 2007 is given in **Annex-12.**

CHAPTER – 4

RIVERWISE APPRAISAL OF FLOOD EVENTS

4.1 GENERAL

All the 173 flood forecasting sites including 28 inflow forecasting sites, were operational i.e. where desired hydrological data was observed / collected, during the flood season 2005.

During the flood season 2005, out of 145 level forecasting sites, water levels at 107 sites equaled or exceeded their warning levels and at 68 sites, the flood level exceeded the danger levels. Although the water level was below the warning level at Kanpur site on the Ganga River, as well as Nellore Anicut on Pennar River, the forecasts were issued on the request of local authorities.

During the flood season 2006, all the 175 flood forecasting sites including 28 inflow forecasting sites, were operational. Out of 147 level forecasting sites where forecasts were formulated, water levels at 114 sites equaled or exceeded their warning levels and at 74 sites, the flood level exceeded the danger levels.

During the flood season 2007, all the 175 flood forecasting sites including 28 inflow forecasting sites, were operational. Out of 147 level forecasting sites, water levels at 97 sites (excluding Kanpur), equaled or exceeded their warning levels and at 78 sites, the flood level exceeded the danger levels.

Details of unprecedented and high flood events in the various river systems covered under the Flood Forecasting & Warning Network are given in Annex- 5A, 5B & 5C and Annex-6A, 6B & 6C respectively. Moderate and low flood events are shown at Annex-7A, 7B, & 7C. Riverwise flood events are described in the following paragraphs.

4.2 FLOOD EVENTS IN THE GANGA BASIN

The Ganga basin comprises of the main stream Ganga and its 25 tributaries / sub- tributaries which were covered under the CWC's Flood Forecasting Network. During the flood season 2005, there were 86 flood forecasting sites in the whole Ganga Basin, which included 77 level and 9 inflow forecasting sites. During the flood season 2006 and 2007, there were 87 flood forecasting sites in the whole Ganga Basin, which included 77 level and 10 inflow forecasting sites. The details are given in Statement No. 4.1.

During the flood season 2005, the unprecedented flood event occurred only at Banda on river Ken, a tributary of Yamuna River (refer Annex-5A). High flood events were recorded at three sites in the Ganga Basin viz. Kannauj on main Ganga River, Elgin Bridge on Ghaghra and Benibad on river Bagmati (refer Annex-6A). Moderate and low flood events recorded are given at Annex-7A. Water level was below the warning level at Kanpur site on the Ganga River, however, the forecasts were issued at the request of local authorities.

During the flood season 2006, no unprecedented flood event occurred in the Ganga Basin. The high flood events occurred at Benibad on Bagmati, Basua on Kosi River (refer Annex-6B). Moderate and low flood events recorded are given at Annex-7B

During the flood season 2007, the unprecedented flood event occurred at Ayodhya on Ghagra River, a major tributory of Ganga River (refer Annex-5C). High flood events occurred at Harinkhola on Mundeshwari, Elgin Bridge and Ayodhya on Ghaghra River, Balrampur on Rapti River, Elmighat on Adhwara Group of Rivers, Benibad and Hayaghat on Bagmati River, Chatia and Rewaghat on Gandhak River, Muzaffarpur, Samastipur and Rossra on Burhi – Gandhak River, Jhanjharpur on Kamla Bagan River, Basua on Kosi River (refer Annex-6C). Moderate and low flood events recorded are given at Annex-7C

4.3 FLOOD EVENTS IN BRAHMAPUTRA BASIN

The Flood Forecasting and Warning Network of the Central Water Commission carried of the main river Brahmaputra and its 16 tributaries / sub-tributaries during the flood season 2005 to 2007. The details are shown in Statement No. 4.2.

During the flood season 2005, no unprecedented flood event occurred. High flood event occurred at NT Road Crossing at Jia-bharali (Assam) (Refer Annex 6-A).The occurrence of moderate and low floods is given in Annex-6A. During the flood season 2006, no unprecedented as well as high flood event occurred. The occurrence of Moderate and low floods are given in Annex-8B. During the flood season 2007, the unprecedented events occurred at 4 sites viz. NT Road Crossing on Jiabharali, NH Road Crossing on Puthimari (both in Assam and in Brahmaputra Basin) and at Mathabhanga on Jaldakha (West Bengal), at Golakganj (Assam) on Sankosh (Both in Tista-Brahmaputra basin) (refer Annex-5C). High flood events occurred at road bridge on Beki, Khowang (Chenimari) on Burhi-dhing, Nanglamoraghat on river Desang, Kampur on Kopilli, (all in Assam and in Brahmaputra Basin) (refer Annex -6C). The occurrence of moderate and low floods is given in Annex-8C.

4.4 FLOOD EVENTS IN BARAK AND MEGHNA SYSTEM

The Barak and Meghna River System under the Flood Forecasting and Warning Network of the Central Water Commission covers five rivers, namely the Barak, the Katakhal, the Kushiyara, the Manu and the Gumti rivers. The river system enters into Bangladesh in the down stream of Silchar in Assam.

There were five level flood forecasting sites in the Barak & Meghna basins system, namely Annapurna Ghat, Matizuri, Karimganj, Kaliashahar and Sonamura, one each on Barak, Katakhal, Kushiyara, Manu and Gumti rivers. The sites AP Ghat, Matizuri and Karimganj are in Assam and the Kailashahar and Sonamura are in Tripura. There is no inflow forecasting site on any of these rivers. Forecasts were issued for all sites during the flood season 2005, 2006 and 2007.

During the flood season 2005, no unprecedented flood events and high flood events occurred at Kaliashar on river Manu (Tripura) (refer Annex 6-A). The occurrence of moderate and low floods is given in Annex-8A. During the flood season 2006, the unprecedented flood events occurred at Karimganj on Kushiyara (a distributary of Barak) in Assam. High flood events also occurred at the same station (refer Annex 5B and 6B). The occurrence of moderate and low floods is given in Annex-8B. During the flood season 2007, the unprecedented flood events occurred at two locations viz; Karimganj on Kushiyara once again and at Matizuri on Katakhal (both in Assam) (refer Annex-5C). High flood events occurred at Annapurnaghat, Silchar (Assam) in addition to other two sites mentioned above (refer Annex-6C). The occurrence of moderate and low floods is given in Annex-8C.

4.5 FLOOD EVENTS IN EASTERN RIVERS SYSTEM

The Eastern Rivers under the Flood Forecasting and Warning Network of Central Water Commission are the Subernarekha, the Burhabalang, the Baitarni, the Brahmani, the Rushikulia, the Vamsadhara.

There are nine flood forecasting sites including one inflow forecasting site at Gotta Barrage located in the state of Andhra Pradesh. Remaining all the 8 level forecasting sites are in the state of Orissa. During the flood season 2005, flood forecasts were issued for all forecasting sites, excluding Rajghat on Subarnarekha. The details are shown in Statement No. 4.3.

It is seen that the unprecedented and high flood events were not recorded at any of these sites during flood season 2005. The moderate and low flood events observed are given in Annex-9A. It is seen that the unprecedented flood events were not there during flood season 2006, whereas, high flood events occurred at Rajghat on Subarnarekha (Orissa). The moderate and low flood events are given in Annex-9B. During flood season 2007, once again Subarnarekha at Rajghat recorded as unprecedented flood events (refer Annex

5C), in addition to high flood events (refer Annex 6C). Moderate and low flood events are shown in Annex- 9C.

4.6 FLOOD EVENTS IN THE MAHANADI BASIN

In the Mahandi Basin, Central Water Commission has so far covered only the main stream Mahanadi under its Flood Forecasting and Warning Network setup. There were four flood forecasting sites, one being the inflow forecasting site at Hirakud Dam in Orissa. During the flood season 2005 to 2007, all the sites were operational. Forecasts were issued for all the sites. The details are shown in Statement No. 4.3.

It is seen that the unprecedented and high flood events were not recorded at any of these sites during flood seasons 2005 to 2007. The moderate and low flood events observed are given in Annex-9A, 9B and 9C.

4.7 FLOOD EVENTS IN THE GODAVARI BASIN

The Flood Forecasting and Warning Network of Central Water Commission, covers of the main river Godavari and four of its main tributaries, namely, the Wardha, Wainganga, the Manjira and the Indravati rivers. There were 18 flood forecasting sites which were operational during the flood seasons, 2005 to 2007. Out of these, 12 sites were on the main Godavari River including two inflow forecasting sites, Jaikwadi dam and Sriram Sagar (Pochampad), one in Wardha River, two each on the Manjira and Wainganga rivers, and one in the Indravati River. Two sites on Manjira, namely, Singur dam & Nizamsagar Dam were also inflow forecasting sites. The details are shown in Statement No. 4.3.

During flood season 2005, unprecedented flood events were experienced at Bhandara on Wainganga River, shown in Annex-5A. During flood season 2006, unprecedented flood events occurred at Nanded, after a gap of 24 years (1983). This was once again due to conditions similar to those in 1983, where intensive "very heavy rainfall" downstream of Jaikwadi Dam had created the flood. High flood events were recorded at Gangakhed on Godavari River and at Balharsha on river Wardha, a sub- tributary of Godavari River (refer Annex- 5B & 6B). The flood season 2007 was uneventful in this Basin. The details of moderate and low events are shown in Annex-9C.

4.8 FLOOD EVENTS IN THE KRISHNA BASIN

Flood Forecasting and Warning Network of Central Water Commission, covers of the main river Krishna, two of its main tributaries, namely, the Tungabhadra, and the Bhima. There were eight flood forecasting sites on these rivers, which were operational during the flood season, 2005 to 2007. Out of these sites, five sites (all inflow forecasting sites) are on the main river Krishna, two on the Tungabhadra River (one level & other inflow forecasting site) and one on the Bhima River. The details are shown in Statement No. 4.3.

During flood season 2005, no major flood events occurred anywhere in the basin. However, during flood season 2006, Bhima River at Deongaon Bridge reached near to danger level for the first time since inception of the station, and recorded unprecedented flood events (refer Annex- 5B &6B). During flood season 2007, no major flood event occurred anywhere in the basin. The details of moderate and low events are shown in Annex-9C.

4.9 FLOOD EVENTS IN WEST FLOWING RIVERS

The important west flowing rivers include the Banas, the Sabarmati, the Mahi, the Narmada, the Tapi, and the Damanganga rivers. There were fifteen flood forecasting sites on the above rivers, including six inflow forecasting sites. One site on the Banas River at Dantiwada Dam is an inflow forecasting. One level forecasting and one inflow forecasting sites exist on each of rivers, the Sabarmati and the Mahi. There are four sites (all level forecasting sites) on the Narmada River. Two inflow and one level forecasting sites are located on the Tapi River. One inflow and two level forecasting sites are on the Damanganga River. The details are shown in Statement No. 4.3.

During the flood season, 2005, there were no unprecedented as well as high flood events in any of these sites. During flood season 2006, however, three stations viz; Surat on Tapi River, Wanakbori weir on Mahi River and Subash bridge (Ahmedabad) on Sabarmati River had created unprecedented floods. This was the worst flood year of the decade in Gujarat State, as per media reports and large evacuation of population was done at Surat, Ahmedabad and other towns in the state. During flood season 2007, no such events occurred in the west flowing rivers. The details of moderate and low events are shown in Annex-9C.

4.10 FLOOD EVENTS IN SOUTHERN RIVER SYSTEM

There was one forecasting site at Nellore on the Pennar River. The forecasts issued at Nellore Anicut on river Pennar were due to flooding for the first time after the start of forecasting activity (after 2001 floods) and due to the confusion in adoption of two separate gauges by the State Government, whose Zero of Gauges differed by more than 3 metres (10 ft) viz: sill level of the under sluice 10.07 m (33.04 ft), and the crest level of the anicut 13.11 m (43.01 ft). Regular gauges are observed near the sluice gates, and during flood overflow it is observed from Anicut. However, the comparison was done fortunately, with CWC site, which is just downstream of the Anicut, where hourly gauges are observed during flood season. This issue had been sorted out and correct ZOG will be followed in future by the state authorities. During flood season 2006, no forecast was issued. During flood season 2007, one forecast was issued, as the river crossed warning level just for few hours. See the details in Annex-9C.

4.11 AN OVERVIEW OF FORECAST EVENTS

During the flood season 2005, unprecedented floods, exceeding previous highest flood levels (HFL), were experienced at only 2 sites, and the levels were recorded within 0.5 m of their respective H.F.L at 5 sites. All these forecasts were within prescribed limit of accuracy. No forecast was issued for 41 sites.

During the flood season 2006, unprecedented floods, exceeding previous highest flood levels (HFL), were experienced at 7 sites, and the levels were recorded within 0.5 m of their respective H.F.L at 18 sites. All these forecasts were within prescribed limit of accuracy. No forecast was issued for 41 sites.

During the flood season 2007, unprecedented floods, exceeding previous highest flood levels (HFL), were experienced at 8 sites, and the levels were recorded within 0.5 m of their respective H.F.L at 20 more sites exclusively (total 28 on or above High Flood). All these forecasts were within prescribed limit of accuracy. No forecast was issued for 51 sites.

CHAPTER 5

RESPONSE FROM USER AGENCIES

5.1 General

Central Water Commission performs the Flood Forecasting and Warning job on flood prone interstate river basins in the country. It issues the forecast to the users such as various civil and engineering departments of the state and central governments including, railway, defence, revenues authorities, public sector undertakings besides National Disaster Management Cell in the Ministry of Home Affairs, who are responsible for taking timely flood fighting measures, rescue operations including shifting of flood affected people to safer places etc.

Though the various state government agencies in-charge of the flood management and relief operations generally do not give their views in writing on usefulness of the flood forecasting activities of CWC, yet some of them do. write to the Central Water Commission conveying their views on the usefulness of the flood forecasts received by them.

5.2 Appreciation letters received during flood season 2005

Abstract of some of the messages received by our field unit during the flood season 2005 are given below:

5.2.1 Engineer-in- Chief, I & CAD Department, Erum Manzil, Hyderabad (Andhra Pradesh)

Dated: 21.10.2005

"The information furnished by Central Water Commission (Krishna Basin) Hyderabad unit in respect of real time and forecast in Krishna Basin is very useful in monitoring the floods and water resources of the various reservoirs and also very helpful during review meetings of high level co ordination committee on flood management being held by Principal Secreatary to Governement during flood season. The forecast issued by Central Water Commission (Krishna) in respect of inflows into Major reservoirs is more helpful in monitoring and planning the water releases for the irrigation".

5.2.2 Assistant to Chief Engineer & Basin Manager, Lower Mahanadi Basin (Flood Cell), O/O of the E-in- C, Water Resources, Bhubaneswar, Orissa

Lr.no: FC-II-CWC-28/05/345 dated 09.01.2006

"I feel great to mention here that the availability of facilities in form of supply of hydrometorological information and situation forecast etc., (Round the clock) from pioneer organizations like CWC & IMD have made it possible time and again to overcome successfully the flood exigencies in time and with

better preparedness. As an active user of online data and forecasts of CWC, I do express my deep thanks and gratitide to the CWC Organisation".

5.2.3 Executive Engineer, Deesa Irrigation Division, Deesa, (Gujarat)

"It is to state that the utility of flood message / forecasts/ warnings etc. issued by your office during flood season is most useful for arranging flood fight programmes and gate operation of the dam timely. It is useful for keeping year wise records also".

5.2.4 Superintending Engineer, Mahi Irrigation Circle, Nadiad, Gujarat

" During 2005 monsoon, CWC has rendered excellent service by conveying very useful information and forecast about the levels, storage, inflow and outflow through their wireless station situated at Nadiad which enable the focal officer to send information to the people through Local Authority (Revenue & other local Government authorities) for taking necessary action in time".

5.2.5 Superintending Engineer, Damanganga Project Circle, Valsad, Gujarat

"The flood forecasting services rendered by your Division during monsson 2005 was useful to Damanganga Reservoir Project. It is requested to render such services in future also".

5.2.6 Divisional Manager, N.E.Railway, Samastipur

" All the flood forecasts issued by your office for the rivers Gandak and Kosi from 15th June 2005 to 15th October 2005 were very useful for the railway administration, traffic, and communication and ensure safety and proper control with great success. Hope to have similar services in the future too."

5.2.6 Sub-Divisional Officer, Rossera (Bihar)

" The forecasts issued to Burhi Gandak and Ksoi were very useful to the Administration for taking precautionary measures"

5.3 Appreciation letters received during flood season 2006

Abstract of some of the messages received by our field unit during the flood season 2006 are given below:

5.3.1 Assistant to Chief Engineer & Basin Manager, Lower Mahanadi Basin (Flood Cell), O/O of the E-in- C, Water Resources, Bhubaneswar, Orissa

Lr.no: FC-II-CWC-28/02-1829 dated 05.02.2007

"I feel great to mention here that the availability of facilities in form of supply of hydro meteorological information and situation forecast etc., (Round the clock) from pioneer organizations like CWC have made it possible time and again to overcome successfully the flood exigencies in time and with better

preparedness. As an active user of online data and forecasts of CWC, I do express my deep thanks and gratitude to the CWC Organisation".

5.3.2 District Collector, Bharuch District, Bharuch (Gujarat)

"I am to state that we would like to apprise that, when there flood is in river Narmada, the flod forecasting services rendered by you and Lower Narmada Sub-division, CWC, Bharuch was very much useful to us for taking necessary precautionary measures in minimizing the damage to the public and private properties, live stock and human lives ".

5.3.3 Superintending Engineer, Kadana Project, Gujarat

"We are thankful to CWC for providing rainfall data as well as flood likely to come in the Kadana Dam. The flood cell at Kadana dam used the data made available by CWC, for releasing flood to downstream in Kadana in Mahi Basin".

5.3.4 Disaster management Branch, Khagaria (Bihar)

"In the year 2006, during the flood period from 9.6.2006 to 15.10.2006 the flood situation reports were received regularly, based on which the help to preventive action was possible. Your reports containing flood levels, trend etc were very easy to understand and very much appreciable."

5.3.5 Executive Engineer, Flood Control Sub-division, Begusarai, (Bihar)

"The flood information and forecasts provided by CWC from 15.6.2006 to 15.10.2006 for Ganga and Burhi- Gandak were received in this office regularly. It was very much informative and useful and we are thankful for the same. "

5.4 Appreciation letters received during flood season 2007

Abstract of some of the messages received by our field unit during the flood season 2007 are given below:

5.4.1 Executive Engineer, Jalgaon Irrigation Division, Jalgaon (Maharashtra)

"It is to inform you that flood forecasting services rendered by Tapi Division, Central Water Commission, Surat & Upper Tapi Sub Division, Central Water Commission, and Bhusaval were very much useful to Hatnur Dam. The forecast received well in time and helped us considerably in planning of reservoir storage optimizing in utilization of water for various purposes, flood routing and dam safety. Due to this forecast, gate operation can be done in time, so as to release moderate flood or to maintain inflow and outflow as required. Hence no damage is observed during monsoon-2007 ".

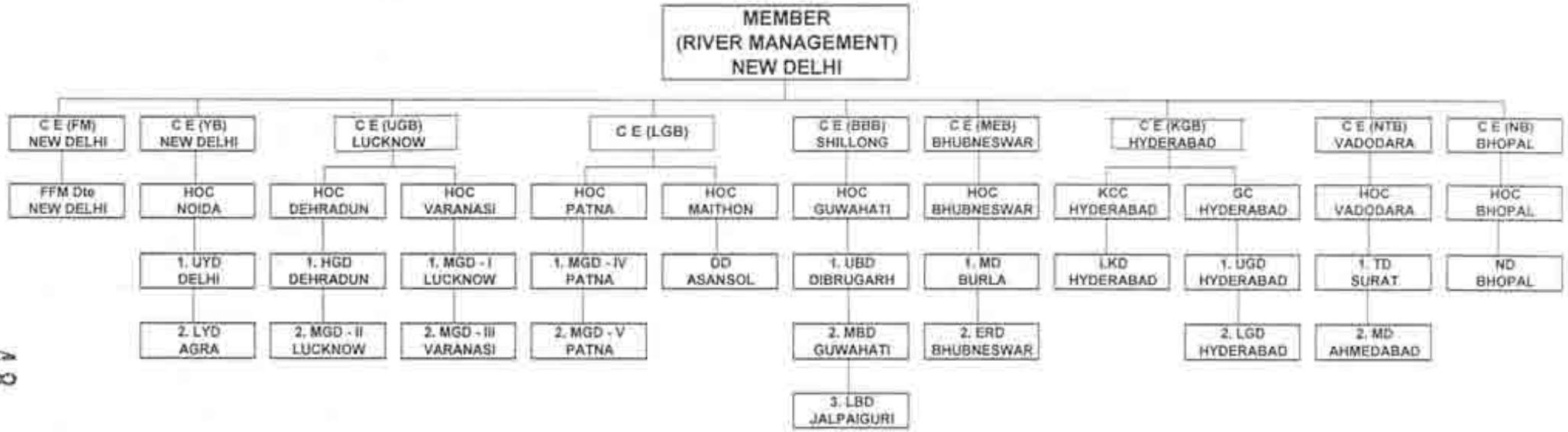
5.4.2 Superintending Engineer, Flood Control Circle, Khagaria (Bihar)

"Using Flood forecasts and Daily water levels received from CWC, help was forthcoming in executing emergency works of the Flood Control Measures in our jurisdiction."

5.4.3 District Magistrate, Supaul District. (Bihar)

"The flood information and forecasts provided by CWC helped us in protecting flood prone areas and embankments to keep close vigil for the preventive measures of the floods."

ORGANISATIONAL CHART OF FLOOD FORECASTING & WARNING SET UP OF CENTRAL WATER COMMISSION



CHIEF ENGINEER OFFICE	- 9
DIRECTORATE	- 1
CIRCLE OFFICE	- 11
DIVISION OFFICE	- 21

A-8

NORMAL DATES OF ONSET

(WITHDRAWAL | Back to SOUTHWEST MONSOON)

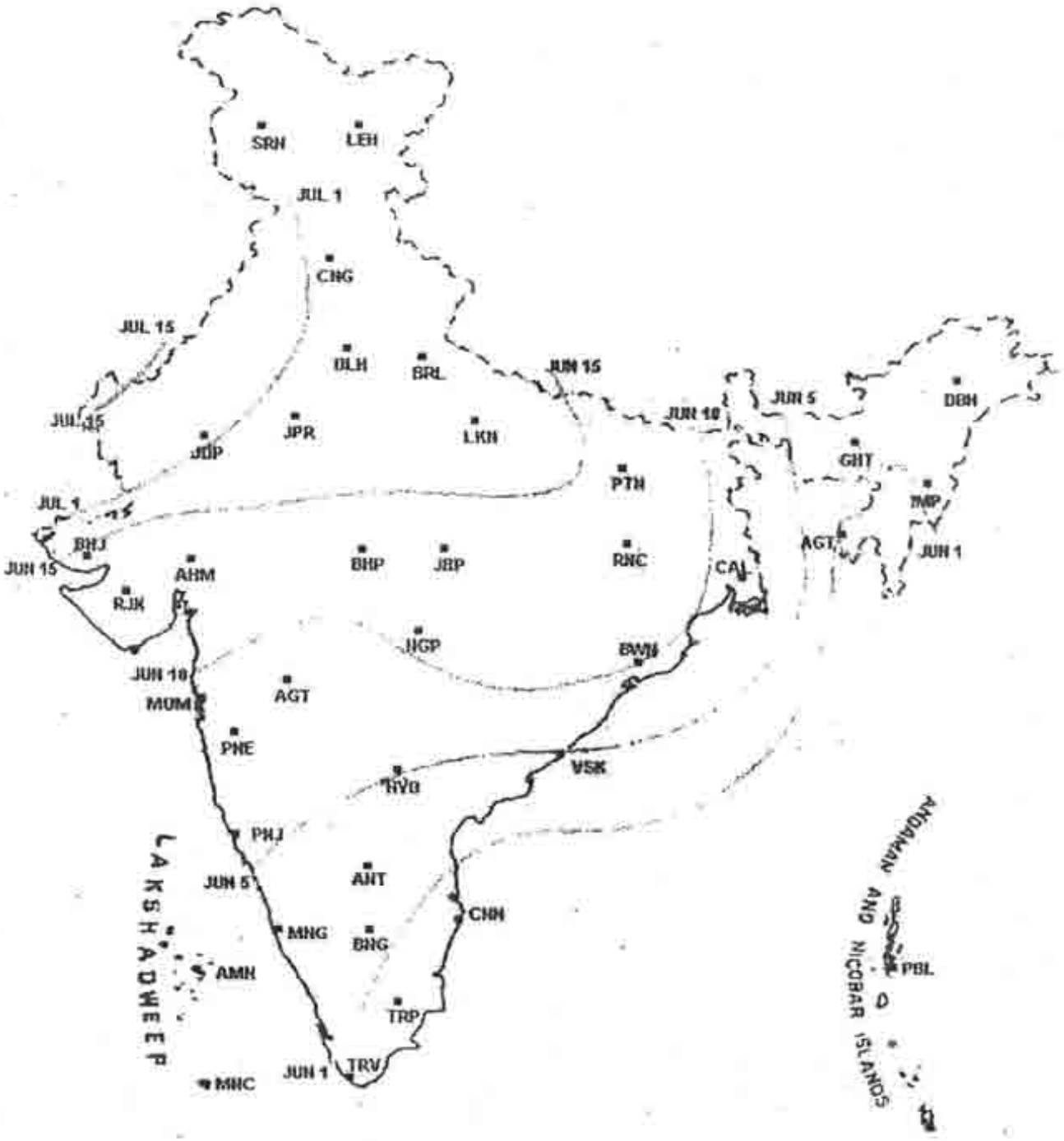


Figure 2.1

NORMAL DATES OF WITHDRAWAL

(ONSET | Back to SOUTHWEST MONSOON)

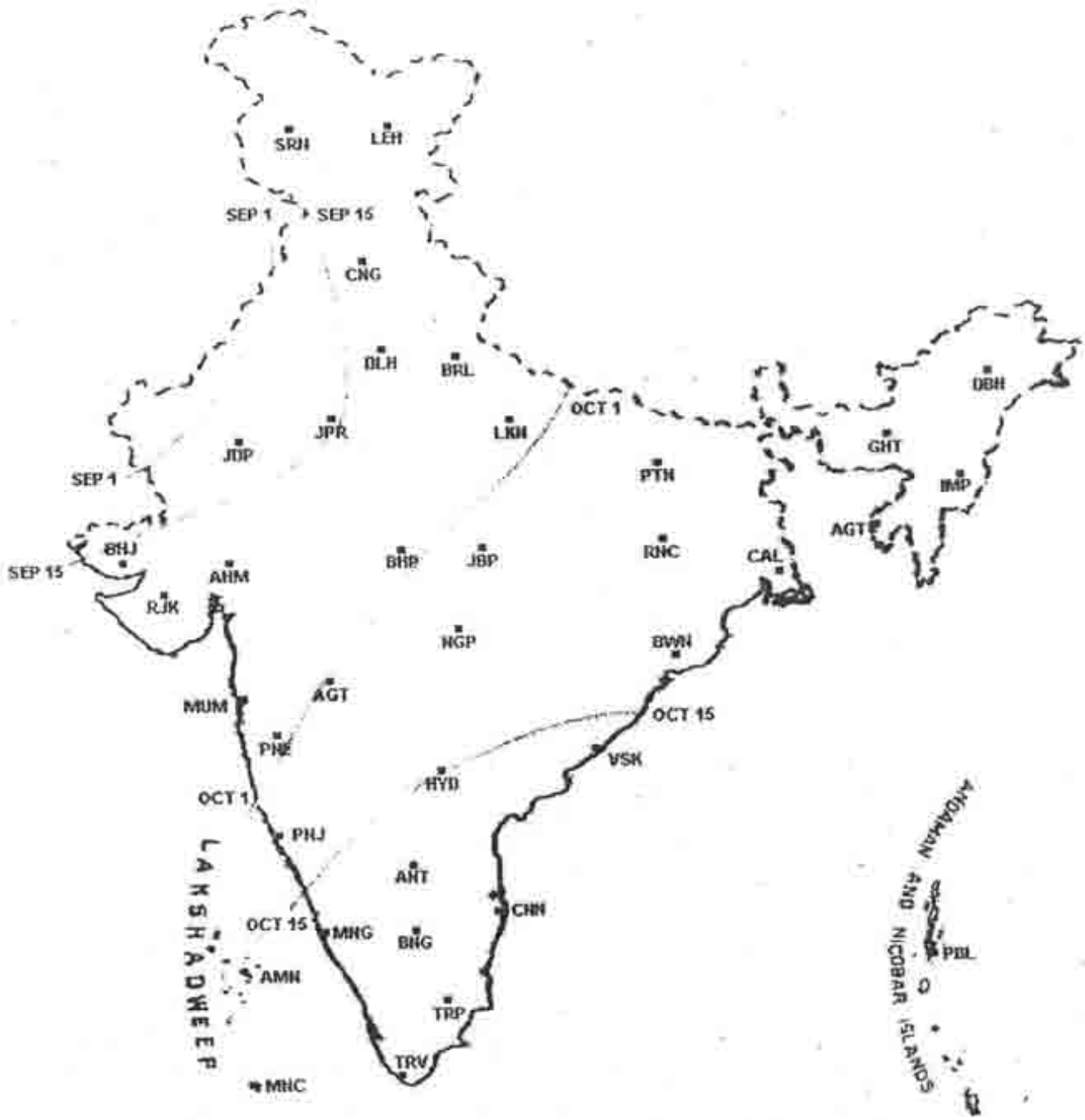


Figure 2.2

Fig. 3.1

FLOOD FORECASTING PERFORMANCE (FROM 1978 - 2007)

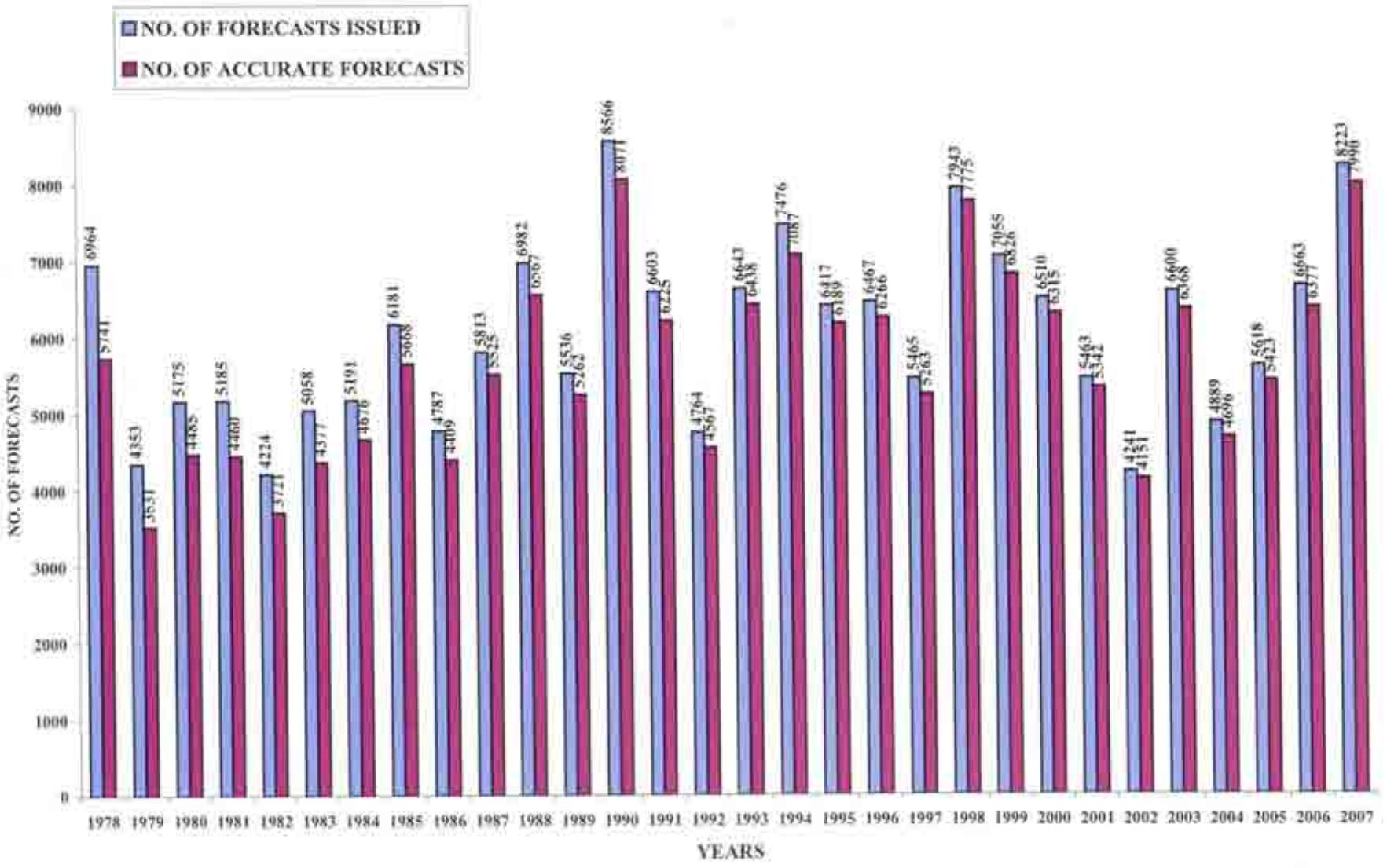
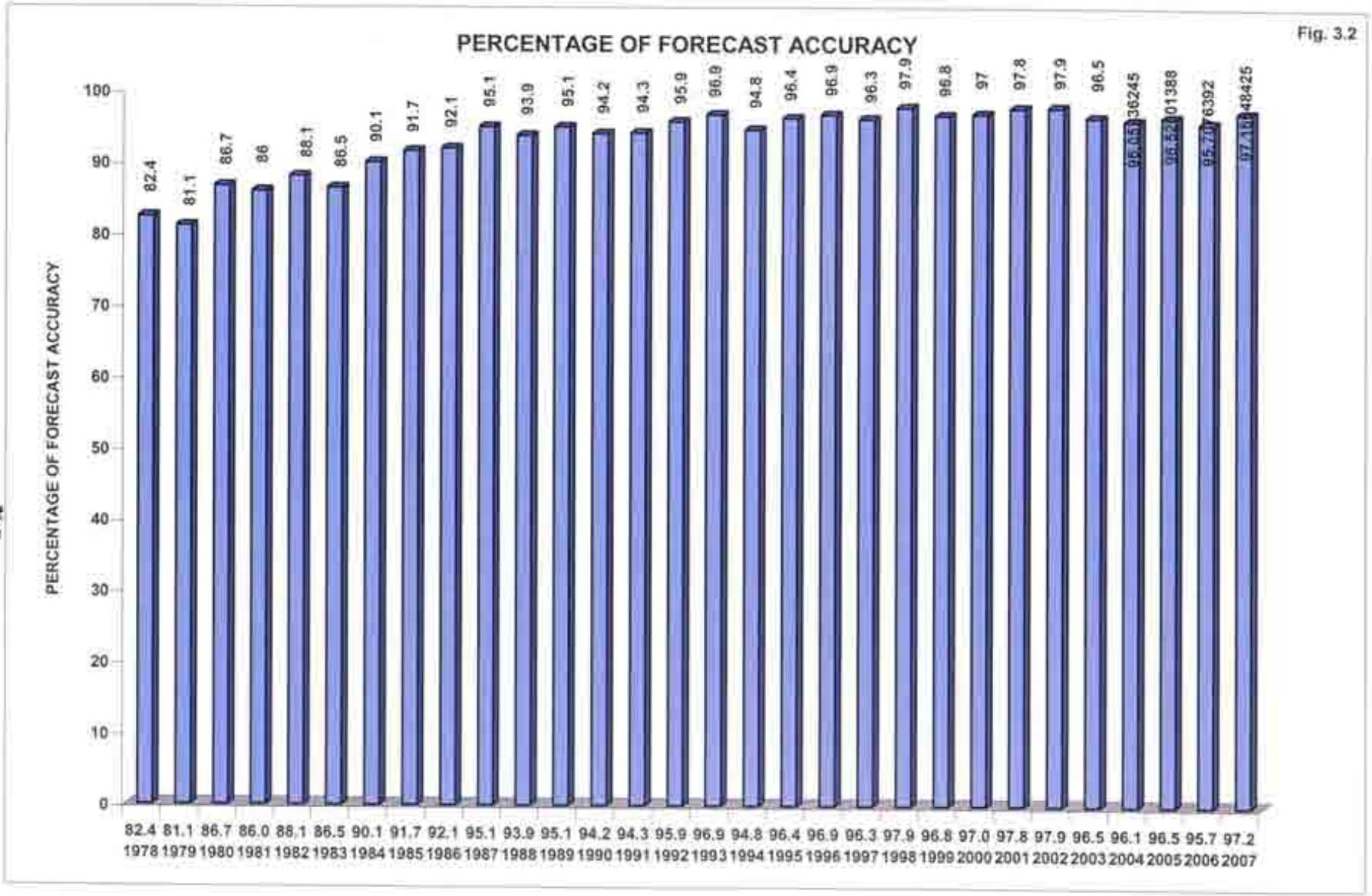


Fig. 3.2


PERCENTAGE OF FORECAST ACCURACY
PERCENTAGE OF FORECAST ACCURACY
100
90
80
70
60
50
40
30
20
10
0
82.4 81.1 86.7 86.0 88.1 86.5 90.1 91.7 92.1 95.1 93.9 95.1 94.2 94.3 95.9 96.9 94.8 96.4 96.9 96.3 97.9 96.8 97.0 97.8 97.9 96.5 96.1 96.5 95.7 97.2
1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007

Annex-1A

Flood Forecasting Information (Basinwise and Riverwise) in India during Flood Season 2005.

Sl.No.	Name of the river	Name of FF site	Name of State	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2005		During 2005		
						Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecasts within limits *	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
	Ganga Basin											
1	Alaknanda	Srinagar #	Uttaranchal	539.00	540.00	536.85	05.09.1995	534.55	07 / 29.07	0	0	
2	Ganga	Rishikesh	Uttaranchal	339.50	340.50	341.72	05.09.1995	340.00	18/25.09	3	3	100.00
3	Ganga	Haridwar	Uttaranchal	293.00	294.00	296.23	02.09.1978	294.97	09/25.09	45	35	77.78
4	Ganga	Narora Barrage (U/S)	Uttar Pradesh	PL= 180.79 at D/S		180.18	06.09.1978	179.39	19/28.09	80	73	91.25
5	Ganga	Kannauj	Uttar Pradesh	124.90	125.97	126.24	29.8.1998	126.07	04/03.10	14	14	100.00
6	Ganga	Ankinghat	Uttar Pradesh	123.00	124.00	124.31	09.09.1978	123.59	08/03.10	19	18	94.74
7	Ganga	Kanpur +	Uttar Pradesh	113.00	114.00	113.47	02.09.1967	112.95	22/03.10	35	35	100.00
8	Ganga	Dalmau	Uttar Pradesh	98.36	99.36	99.84	03.08.1973	98.95	21/03.10	16	16	100.00
9	Ganga	Phaphamau	Uttar Pradesh	83.73	84.73	87.96	08.09.1978	83.58	17-20/09.07	0	0	
10	Ganga	Allahabad (Chhatnag)	Uttar Pradesh	83.73	84.73	88.03	08.9.1978	82.81	14-20/09.07	0	0	
11	Ganga	Mirzapur	Uttar Pradesh	76.72	77.72	80.34	09.09.1978	76.09	22-24/09.07	0	0	
12	Ganga	Varanasi	Uttar Pradesh	70.26	71.26	73.90	09.09.1978	70.45	04-11/10.07.	2	2	100.00
13	Ganga	Ghazipur	Uttar Pradesh	62.11	63.11	65.22	09.09.1978	63.38	12-18/10.07.	4	4	100.00
14	Ganga	Buxar	Bihar	59.32	60.32	62.09	1948	59.70	21/10.07-08/11.07	4	4	100.00
15	Ganga	Ballia	Uttar Pradesh	55.62	57.62	60.25	14.09.2003	58.46	05-08/11.07	22	22	100.00
16	Ganga	Patna (Dighaghat)	Bihar	49.45	50.45	52.52	23.08.1975	49.99	24/26.08- 06/27.08	4	4	100.00
17	Ganga	Patna (Gandhighat)	Bihar	47.6	48.6	50.27	14.08.1994	48.79	09-14/27.08	21	21	100.00
18	Ganga	Hathidah	Bihar	40.76	41.76	43.15	07.08.1971	41.64	18/27.08-04/28.08	10	10	100.00
19	Ganga	Munger	Bihar	36.33	39.33	40.99	19.09.1976	38.27	07-18/ 28.08	0	0	
20	Ganga	Bhagalpur	Bihar	32.68	33.68	34.20	17.09.2003	33.47	16/28.08- 18/29.08	8	8	100.00
21	Ganga	Colgong/ Kahalgaon	Bihar	30.09	31.09	32.87	17.09.2003	32.14	21/28.08- 24/29.08	56	56	100.00
22	Ganga	Farakka	West Bengal	21.25	22.25	25.14	07.09.1995	24.43	06/30.08- 24/31.08	64	64	100.00
23	Ramganga	Moradabad	Uttar Pradesh	189.60	190.60	192.68	03.09.1978	191.26	12/27.09	16	16	100.00
24	Ramganga	Bareilly	Uttar Pradesh	162.07	163.07	162.88	06.8.1978	162.16	24/28.09	1	1	100.00
25	Yamuna	Tajewala Weir	Haryana	PL=323.70		328.27	03.09.1978	335.50	05.07.	0	0	
26	Yamuna	Mawi	Uttar Pradesh	230.00	230.85	232.45	26.09.1988	230.94	01/ 08.07.	14	13	92.86
27	Yamuna	Delhi Rly Bridge	NCT Delhi	204.00	204.83	207.49	06.09.1976	204.85	10/16.07.	14	13	92.86
28	Yamuna	Mathura	Uttar Pradesh	164.20	165.20	169.73	08.09.1978	164.86	22/20.07.	21	19	90.48
29	Yamuna	Agra	Uttar Pradesh	151.40	152.40	154.76	09.09.1978	149.84	10-13/ 22.07	0	0	
30	Yamuna	Etawa	Uttar Pradesh	120.92	121.92	126.13	11.09.1978	118.99	12-18/ 23.07	0	0	
31	Yamuna	Auraiya	Uttar Pradesh	112.00	113.00	118.19	25.08.1996	108.55	11-17/ 18.07.	0	0	
32	Yamuna	Kalpi	Uttar Pradesh	107.00	108.00	112.98	25.08.1996	103.26	15-23/ 18.07	0	0	
33	Yamuna	Hamirpur	Uttar Pradesh	102.63	103.63	108.59	12.09.1983	101.15	23-24/ 8.07	0	0	

Flood Forecasting Information (Basinwise and Riverwise) in India during Flood Season 2005.												
Sl.No.	Name of the river	Name of FF site	Name of State	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2005		During 2005		
						Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
34	Yamuna	Chillaghat	Uttar Pradesh	99.00	100.00	105.16	06.09.1978	100.54	17-19/08.07.	5	4	80.00
35	Yamuna	Naini	Uttar Pradesh	83.74	84.74	87.99	08.09.1978	83.45	16-20/ 9.07	0	0	
36	Sahibi	Dhansa Regulator @	NCT Delhi	211.44	212.44	213.58	06.08.1977	210.85	08/26.09.	0	0	
37	Chambal	Gandhisagar Dam	Madhya Pradesh							0	0	
38	Betwa	Mohana	Uttar Pradesh	121.66	122.66	133.69	11.09.1983	120.97	24/ 06.07.	0	0	
39	Betwa	Sahjina	Uttar Pradesh	103.54	104.54	108.67	12.09.1983	101.38	17-19/ 08.07.	0	0	
40	Ken	Banda	Uttar Pradesh	103.00	104.00	113.28	14.09.1992	113.29	11-14/ 07.07.	22	22	100.00
41	Gomati	Lucknow (Hanuman setu)	Uttar Pradesh	108.5	109.5	110.85	10.09.1971	105.82	06/29.08.	0	0	
42	Gomati	Jaunpur	Uttar Pradesh	73.07	74.07	77.74	22.09.1971	69.69	12-15/21.09.	0	0	
43	Sai	Rae- Bareilly	Uttar Pradesh	100.00	101.00	104.81	17.09.1982	98.71	08/24.09.	0	0	
44	Ghaghra	Elgin Bridge	Uttar Pradesh	105.07	106.07	107.18	14.09.1983	106.66	/2427.09.	65	61	93.85
45	Ghaghra	Ayodhya	Uttar Pradesh	91.73	92.73	93.65	19.08.1998	93.16	23/23.08.	80	77	96.25
46	Ghaghra	Turtipar	Uttar Pradesh	63.01	64.01	66.00	28.08.1998	64.24	06/25.08.	47	46	97.87
47	Ghaghra	Darauli	Bihar	59.82	60.82	61.74	29.08.1998	60.88	15/23.08-06/27.08	43	43	100.00
48	Ghaghra	Gangpur Siswan	Bihar	56.04	57.04	58.01	18.09.1983	56.61	08-14/ 27.08.	5	5	100.00
49	Ghaghra	Chhapra	Bihar	52.68	53.68	54.59	03.09.1982	51.73	18-24/ 26.08.	0	0	
50	Rapti	Balrampur	Uttar Pradesh	103.62	104.62	105.25	11.09.2000	104.55	21/23.07.	17	17	100.00
51	Rapti	Bansi	Uttar Pradesh	83.90	84.90	85.82	21.08.1998	84.21	24/22.07.	11	10	90.91
52	Rapti	Gorakhpur (Birdghat)	Uttar Pradesh	73.98	74.98	77.54	23.08.1998	74.90	15/24.07.	15	15	100
53	Sone	Inderpuri	Bihar	107.20	108.20	108.85	23.08.1975	107.00	11/2.7.&15-17/3.7	0	0	
54	Sone	Koelwar	Bihar	54.52	55.52	58.88	20.07.1971	55.25	08-10/ 04.07	9	7	77.78
55	Sone	Maner	Bihar	51.00	52.00	53.79	10.09.1976	51.56	22/26.08-08/27.08	5	5	100.00
56	PunPun	Sripalpur	Bihar	49.60	50.60	53.91	19.09.1976	51.76	12-14/ 26.08.	7	7	100.00
57	Gandak	Khadda	Uttar Pradesh	95.00	96.00	97.50	23.07.2002	96.00	29/ 19.08.	246	226	91.87
58	Gandak	Chatia	Bihar	68.15	69.15	70.04	26.07.2002	67.62	18/ 28.08.	0	0	
59	Gandak	Rewaghat	Bihar	53.41	54.41	55.41	17.09.1986	53.72	07-14/ 29.08	9	9	100.00
60	Gandak	Hazipur	Bihar	49.32	50.32	50.93	1948	49.19	21/26.08-11/27.08	0	0	
61	Burhi Gandak	Lalbeghiaghat	Bihar	62.20	63.20	67.09	30.07.1975	63.92	17/ 28.08.	15	13	86.67
62	Burhi Gandak	Muzaffarpur (Sikandarpur)	Bihar	51.53	52.53	54.29	15.08.1987	52.92	06/ 01.09.	14	14	100.00
63	Burhi Gandak	Samastipur	Bihar	45.02	46.02	49.36	15.08.1987	47.34	03/ 04.09.	16	16	100.00
64	Burhi Gandak	Rosera	Bihar	41.63	42.63	46.35	16.08.1987	44.43	11/ 04.09.	20	20	100.00
65	Burhi Gandak	Khagaria	Bihar	35.56	36.56	39.22	1976	37.31	18/ 28.08.	31	31	100.00
66	Bagmati	Benibad	Bihar	47.68	48.68	50.01	2004	49.75	08/ 29.08.	81	78	96.30
67	Bagmati	Hayaghat	Bihar	44.72	45.72	48.96	14.08.1987	47.02	16/ 02.09.	33	32	96.97
68	Adhwara Group	Kamtaul	Bihar	49.00	50.00	52.99	12.08.1987	51.07	11/ 30.08.	32	31	96.88
69	Adhwara Group	Ekmighat	Bihar	45.94	46.94	49.27	14.08.1987	47.75	17/ 02.09.	35	35	100.00
70	Kamla Balan	Jhanjharpur	Bihar	49.00	50.00	52.73	11.08.1987	52.28	17/ 27.08.	58	58	100.00

Flood Forecasting Information (Basinwise and Riverwise) in India during Flood Season 2005.

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						Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
71	Kosi	Basua	Bihar	46.75	47.75	48.76	21.07.1996	48.42	21/ 27.08.	242	235	97.11
72	Kosi	Baltara	Bihar	32.85	33.85	36.40	15.08.1987	35.00	17/ 29.08.	65	65	100.00
73	Kosi	Kursela	Bihar	29.00	30.00	32.04	06.09.1998	31.10	02/ 29.08	64	64	100.00
74	Mahananda	Dhengraghat	Bihar	34.65	35.65	38.09	1958	36.18	06/ 27.08	38	36	94.74
75	Mahananda	Jhawa	Bihar	30.40	31.40	33.51	14.08.1987	31.52	18/ 28.08.	65	65	100.00
76	Mayurakshi	Massanjore Dam	Jharkhand	FRL = 121.31		122.67	25.09.1999	116.99	10-13/25.07	7	7	100.00
77	Mayurakshi	Tilpara Barrage	West Bengal	PL= 62.79		67.05	27.09.1978	62.79	Many times	7	7	100.00
78	Mayurakshi	Narayanpur	West Bengal	26.99	27.99	29.69	27.09.1995	25.81	18-19/ 15.07	0	0	
79	Ajoy	Gheropara	West Bengal	38.42	39.42	43.94	27.09.1978	38.33	18-21/ 15.07	0	0	
80	Damodar	Tenughat Dam	Jharkhand	FRL = 268.83		265.56	17.09.1985	260.36	08/04.08	14	14	100.00
81	Damodar	Panchet Dam	Jharkhand	FRL = 132.59		132.89	02.10.1959	125.72	12-15/26.09	50	50	100.00
82	Damodar	Durgapur Barrage	West Bengal	PL = 64.47		64.47	31.10.2002	64.47	Many times	33	33	100.00
83	Barakar	Maithon Dam	Jharkhand	FRL= 150.88		151.79	02.10.1959	145.62	18-24/26.09	21	19	90.48
84	Mundeshwari	Harinkhola	West Bengal	11.80	12.80	14.58	29.09.1978	9.46	15-22/17.07.	0	0	
85	Kangsabati	Kangsabati Dam	West Bengal	FRL=134.11		134.71	02.09.1978	128.05	06-14/27.09	10	10	100.00
86	Kangsabati	Mohanpur	West Bengal	24.73	25.73	29.87	02.09.1978	22.74	11-14/ 21.08	0	0	
	Brahmaputra Basin											
87	Brahmaputra	Dibrugrah	Assam	103.24	104.24	106.48	03.09.1998	105.75	19-21/ 27.08.	324	324	100.00
88	Brahmaputra	Neamatighat	Assam	84.04	85.04	87.37	11.07.1991	86.15	07-10/ 25.08.	91	90	98.90
89	Brahmaputra	Tezpur	Assam	64.23	65.23	66.59	27.08.1988	65.72	18-24/ 26.08-01-18/ 27.08	59	58	98.31
90	Brahmaputra	Guwahati	Assam	48.68	49.68	51.37	29.08.1988	49.50	07-21/ 29.08	15	15	100.00
91	Brahmaputra	Goalpara	Assam	35.27	36.27	37.43	31.07.1954	36.37	24/ 28.08-06/ 30.08	40	40	100.00
92	Brahmaputra	Dhubri	Assam	27.62	28.62	30.36	28.08.1988	29.10	23/26.08-05/29.08	131	131	100.00
93	Burhidihing	Naharkatia	Assam	119.40	120.40	122.69	17.06.1973	119.35	01-07/14.07.	0	0	
94	Burhidihing	Chenimari (Khowang)	Assam	101.11	102.11	103.92	25.08.1988	103.45	07-11/15.07.	29	26	89.66
95	Desang	Nanglamoraghat	Assam	93.46	94.46	96.49	06.09.1998	95.85	13-18/27.08.	22	21	95.45
96	Dikhow	Shivsagar	Assam	91.40	92.40	95.62	08.07.1974	93.49	07-09/26.08.	33	27	81.82
97	Subansiri	Badatighat	Assam	81.53	82.53	86.84	28.06.1972	82.66	08-13/26.08.	30	30	100.00
98	Dhansiri (S)	Golaghat	Assam	88.50	89.50	91.30	11.10.1986	90.36	10-12/21.08.	25	20	80.00
99	Dhansiri (S)	Numaligarh	Assam	76.42	77.42	79.87	24.09.1985	78.80	05-09/21.08.	140	138	98.57
100	Jiabharali	N.T.Road Crossing	Assam	76	77	78.25	28.06.1999	77.85	06-09/24.08.	209	191	91.39
101	Kopili	Kampur	Assam	59.50	60.50	61.86	16.06.1973	59.49	15/26.06.	0	0	
102	Kopili	Dharmatul	Assam	55.00	56.00	57.68	24.05.1988	54.98	07-18/29.08.	0	0	
103	Puthimari	N.H.Road Crossing	Assam	50.81	51.81	54.92	20.06.1993	54.37	06-07/20.07.	219	212	96.80

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						Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
104	Pagladiya	N.T.Road Crossing	Assam	51.75	52.75	55.38	15.09.1984	54.36	21/19.07.	61	56	91.80
105	Beki	Road Bridge	Assam	44.10	45.10	46.20	04.08.2000	45.32	11-12/19.07.	240	240	100.00
106	Manas	N.H.Road Crossing	Assam	47.81	48.42	50.08	15.09.1984	48.12	16-20/05.10.	9	9	100.00
107	Sankosh	Golakganj	Assam	28.94	29.94	30.91	21.07.1993	30.20	04-05/19.07.	92	91	98.91
108	Raidak-I	Tufanganj	West Bengal	34.22	35.30	36.36	21.07.1993	34.81	06-07/17.07.	11	11	100.00
109	Torsa	Ghughumari	West Bengal	39.80	40.41	41.46	03.08.2000	40.38	23/19.07-01-20.07.	10	8	80.00
110	Jaldhaka	NH-31	West Bengal	80.00	80.90	81.33	28.07.1972	80.27	01/20.07.	15	15	100.00
111	Jaldhaka	Mathabhanga	West Bengal	48.20	48.70	49.60	29.07.1972	48.68	16-17/19.07.	5	5	100.00
112	Tista	Domohani	West Bengal	85.65	85.95	86.78	13.06.1971	85.99	18/20.07.	35	35	100.00
113	Tista	Mekhliganj	West Bengal	65.45	65.95	66.45	13.07.1996	65.62	19-22/07.08.	12	12	100.00
	Barak & Meghna Basins											
114	Barak	APGhat	Assam	18.63	19.63	21.84	01.08.1989	18.57	15-16/21.07.	0	0	
115	Katakhal	Matizuri	Assam	19.27	20.27	22.58	09.08.2002	21.73	18-19/08.07.	16	15	93.75
116	Kushiyara	Karimganj	Assam	13.94	14.94	16.36	23.07.1993	15.07	09-15/25.07.	58	58	100.00
117	Manu	Kailashar	Tripura	24.34	25.34	25.79	1993	25.52	18-19/21.09.	2	0	0.00
118	Gumti	Sonamura	Tripura	11.50	12.50	14.42	1993	11.34	18-20/29.09.	0	0	
	Eastern Rivers (Excluding Mahanadi)											
119	Subernarekna	Rajghat	Orissa	9.45	10.36	12.20	07.08.1997	8.97	01/22.09.	0	0	
120	Burhabalang	N.H.5 Road Bridge	Orissa	7.21	8.13	9.50	12.10.1973	8.10	23/23.10.	15	13	86.67
121	Baitarni	Anandpur	Orissa	37.44	38.36	41.20	19.08.1975	39.38	21/29.06.	21	20	95.24
122	Baitarni	Akhuapada	Orissa	18.29	19.20	21.95	16.08.1960	18.87	12/30.06.	13	13	100.00
123	Brahmani	Jenapur Ex.Way	Orissa	22.00	23.00	24.78	20.08.1975	23.26	04/ 31.07.	5	5	100.00
124	Rushikuluya	Purushottampur	Orissa	15.83	16.83	19.65	04.11.1990	16.66	21/ 13.09.	20	19	95.00
125	Vamsadhara	Gunupur	Orissa	83.00	84.00	88.75	17.09.1980	84.83	18/ 18.09.	18	15	83.33
126	Vamsadhara	Kashinagar	Orissa	53.60	54.60	58.93	18.09.1980	55.67	21/ 18.09.	50	48	96.00
127	Vamsadhara	Gotta Barrage	Andhra Pradesh	FRL34.84	MWL47.4	39.92	07.10.1999	38.10	Many times	21	18	85.71
	Mahanadi Basin											
128	Mahanadi	Hirakud Dam	Orissa	FRL=192.02		192.30	30.01.1998	192.02	Many times	65	63	96.92
129	Mahanadi	Naraj	Orissa	25.41	26.41	27.61	31.08.1982	25.14	24/ 31.07.	18	16	88.89
130	Mahanadi	Alipingal Devi	Orissa	10.85	11.76	12.90	17.07.2001	11.33	09/ 01.08.	3	3	100.00
131	Mahanadi	Nimapara	Orissa	9.85	10.76	11.60	31.08.1982	10.23	17/01.08.	2	2	100.00
	Godavari Basin											
132	Godavari	Kopergaon	Maharashtra	490.90	493.68	499.17	1969	495.04	08/ 23.09.	107	102	95.33
133	Godavari	Jaikwadi Dam	Maharashtra	FRL=463.91		464.69	12.10.1990	463.91	13/28.09.	19	15	78.95
134	Godavari	Gangakhed	Maharashtra	374.00	375.00	377.57	1947	374.13	21-24/22.09.	5	4	80.00
135	Godavari	Nanded	Maharashtra	353.00	354.00	355.65	1983	354.70	22/27.07-04/28.07.	11	11	100.00
136	Godavari	Sriramasagar (Pochampad)	Andhra Pradesh	FRL=332.54		332.72	13.10.1990	332.54	31.07-29.08 & 09.09-15.10	22	20	90.91

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						Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
137	Godavari	Kaleswaram	Andhra Pradesh	103.50	104.75	107.05	1986	102.65	10/30.07	0	0	
138	Godavari	Eturunagaram	Andhra Pradesh	73.29	75.79	77.66	1990	73.44	06/ 20.09.	11	11	100.00
139	Godavari	Dummagudam	Andhra Pradesh	53.00	55.00	60.25	16.08.1986	53.44	14-15/20.09.	6	5	83.33
140	Godavari	Bhdrachalam	Andhra Pradesh	45.72	48.77	55.66	16.08.1987	49.35	17-18/ 20.09.	43	42	97.67
141	Godavari	Kunavaram	Andhra Pradesh	37.74	39.24	51.30	16.08.1988	42.46	24/20.09-01/ 21.09.	15	15	100.00
142	Godavari	Rajamundri	Andhra Pradesh	17.66	19.51	20.48	16.08.1989	18.91	24/20.09-02/ 21.09.	16	13	81.25
143	Godavari	Dowlaiswaram	Andhra Pradesh	14.25	16.08	18.36	16.08.1990	16.58	04-10/ 21.09	28	27	96.43
144	Wardha	Balharsha	Maharashtra	171.50	174.00	176.00	1986	173.22	14/ 29.07	15	15	100.00
145	Wainganga	Bhandara	Maharashtra	244.00	244.50	249.10	07.09.1994	250.90	21-23/16.09.	46	41	89.13
146	Wainganga	Pauni	Maharashtra	231.50	232.50	237.12	07.09.1994	230.56	21/15.09-06/16.09.	35	33	94.29
147	Manjira	Singur Dam	Andhra Pradesh	FRL=523.60		523.60	1999	523.52	06/09.11	2	2	100.00
148	Manjira	Nizamsagar Dam	Andhra Pradesh	FRL=428.24		428.24	1999	427.33	06/03.11	1	1	100.00
149	Indravati	Jagdalpur	Chhatisgarh	539.50	540.80	544.68	1973	540.71	10/14.09	19	17	89.47
	Krishna Basin:											
150	Bhima	Deongaon	Karnataka	400.00	407.00	406.30	29.08.1997	406.61	15/ 07.08	39	34	87.18
151	Krishna	Alamati Dam	Karnataka	FRL=519.60		519.60	18.09.2002	519.56	24/27.10	121	118	97.52
152	Krishna	Narayanpur Dam	Karnataka	FRL=492.25		492.11	29.10.1997	492.03	01/06.10	94	93	98.94
153	Krishna	Priyadarshini	Andhra Pradesh	FRL=318.52		316.50	21.10.1993	316.55	18/02.09	145	143	98.62
154	Krishna	Srisailam Dam	Andhra Pradesh	FRL=269.75		269.93	13.10.1990	269.75	09/16.08	165	162	98.18
155	Krishna	Prakashan Barrage (Vijayawada)	Andhra Pradesh	FRL=18.30		21.50	07.10.1903	18.88	03/21.09	160	157	98.13
156	Tungbhadra	Tungabhadra Dam	Karnataka	FRL=497.74		497.74	05.10.1992	497.74	02/23.08	129	129	100.00
157	Tungabhadra	Mantralayam	Andhra Pradesh	310.00	312.00	315.80	19.11.1992	312.20	17/13.10	17	14	82.35
	Southern River System:											
158	Pennar	Nellore*	Andhra Pradesh	15.91	17.28	18.70	30.11.1982	15.69	12/30.10	13	11	84.62
	Western River Systems:											
159	Banas	Dantiwada Dam	Gujarat	182.88	185.06	186.04	01.09.1973	175.02	05/27.09	0	0	
160	Sabarmati	Dharoi Dam	Gujarat	187.45	192.25	189.63	03.09.1990	189.59	02/30.09	11	9	81.82
161	Sabarmati	Ahmedabad (Shubhash Bridge)	Gujarat	44.09	45.34	46.85	18.07.1993	42.80	14/ 02.06	1	0	0.00
162	Mahi	Kadana Dam	Gujarat	126.19	127.71	127.74	09.09.1969	127.64	11/04.10	4	4	100.00
163	Mahi	Wanakbori	Gujarat	71.00	72.54	74.77	24.08.1990	71.24	06/ 29.07	0	0	
164	Naramada	Mandla	Madhya Pradesh	437.20	437.80	439.40	18.08.1974	438.08	16-19/ 06.08	7	7	100.00
165	Naramada	Hoshangabad	Madhya Pradesh	292.83	293.83	300.90	30.08.1973	293.35	05-14/ 05.07	3	3	100.00
166	Naramada	Garudeswar	Gujarat	30.48	31.09	41.65	06.09.1970	21.11	05-10/ 05.08	0	0	
167	Naramada	Bharuch	Gujarat	6.71	7.31	12.65	07.09.1970	6.20	06/ 20.09	0	0	
168	Tapi	Hatnur Dam	Maharashtra	212.02	214.00	214.00	12.10.1969	214.00	02/04.10	47	47	100.00
169	Tapi	Ukai Dam	Gujarat	102.41	105.16	105.51	08.10.1990	104.30	14-15/27.09 & 18-21/30.09	28	28	100.00

Flood Forecasting Information (Basinwise and Riverwise) in India during Flood Season 2005.

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						Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
170	Tapi	Surat	Gujarat	8.50	9.50	12.01	1968	4.40	15/ 17.09	0	0	
171	Damanganga	Madhuban Dam	Gujarat	79.86	82.4	80.60	27.09.1993	80.00	06/04.10-06/07.10	39	39	100.00
172	Damanganga	Vapi Town	Gujarat	18.20	19.20	20.72	1976	18.20	05/ 23.09	0	0	
173	Damanganga	Daman	Dadra & Nagar Haveli	2.6	3.4	2.40	02.07.1981	2.20	15/ 22.07	0	0	
									Total Forecasts	5618	5423	96.53
									Level Forecasts	4323	4162	96.28
									Inflow Forecast	1295	1261	97.37

Forecast could not be issued at Srinagar on Alaknanda River as the site was converted into new forecasting site recently.
+Although the water level was below the warning level at Kanpur site on the Genga river, the forecasts were issued on the request of local authorities.

@ No forecast has been issued for Dhansa regulator on Sahibi river since 1998.

Annex-1B

Flood Forecasting Information (Basinwise and Riverwise) in India during Flood Season 2006												
Sl.No.	Name of the river	Name of FF site	Name of State	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2006		During 2006		
						Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY: HH)	No.of Forecasts issued	No.of Forecasts within limits	Percentage of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
	Ganga Basin											
1	Alaknanda	Srinagar	Uttaranchal	539.00	540.00	536.85	9/5/1995	534.25	31/08/06: 11	0	0	
2	Ganga	Rishikesh	Uttaranchal	339.50	340.50	341.72	9/5/1995	338.99	31/08/06: 17	0	0	
3	Ganga	Haridwar	Uttaranchal	293.00	294.00	296.23	9/2/1978	292.98	28/07/06: 20	0	0	
4	Ganga	Narora Barrage	Uttar Pradesh	PL= 180.79 at D/S		180.18	9/6/1978	179.12	15/08/06: 01	46	46	100
5	Ganga	Kannauj	Uttar Pradesh	124.90	125.97	126.24	8/29/1998	124.29	05/09/06: 18	0	0	
6	Ganga	Ankinghat	Uttar Pradesh	123.00	124.00	124.31	9/9/1978	122.39	05/09/06: 20	0	0	
7	Ganga	Kanpur	Uttar Pradesh	113.00	114.00	113.47	9/2/1967	111.7	06/09/06: 18	0	0	
8	Ganga	Dalmau	Uttar Pradesh	98.35	99.36	99.84	8/31/1973	97.35	07/09/06: 17	0	0	
9	Ganga	Phphamau	Uttar Pradesh	83.73	84.73	87.98	9/8/1978	83	06/09/06: 10	0	0	
10	Ganga	Allahabad Chhatnag	Uttar Pradesh	83.73	84.73	88.03	9/8/1978	82.26	06/09/06: 12	0	0	
11	Ganga	Mirzapur	Uttar Pradesh	76.72	77.72	80.34	9/9/1978	75.46	06/09/06: 22	0	0	
12	Ganga	Varanasi	Uttar Pradesh	70.26	71.26	73.90	9/9/1978	69.92	07/09/06: 05	0	0	
13	Ganga	Ghazipur	Uttar Pradesh	62.11	63.11	65.22	9/9/1978	63.17	07/09/06: 18	5	5	100
14	Ganga	Buxar	Bihar	59.32	60.32	62.09	1948	59.766	07/09/06: 18	3	3	100
15	Ganga	Ballia	Uttar Pradesh	56.62	57.62	60.25	9/14/2003	58.53	08/09/06: 03	21	21	100
16	Ganga	Patna Gandhighat	Bihar	49.45	50.45	52.52	8/23/1975	48.489	07/09/06: 22	21	21	100
17	Ganga	Patna Dighaghat	Bihar	47.6	48.6	50.27	8/14/1994	49.55	08/09/06: 08	5	5	100
18	Ganga	Hathidah	Bihar	40.76	41.76	43.15	8/7/1971	41.555	09/09/06: 09	21	21	100
19	Ganga	Munger	Bihar	38.33	39.33	40.99	9/19/1978	37.81	09/09/06: 18	0	0	
20	Ganga	Bhagalpur	Bihar	32.68	33.68	34.20	9/17/2003	33.04	29/08/06: 18	11	11	100
21	Ganga	Kahalgaon	Bihar	30.09	31.09	32.67	9/17/2003	31.48	29/08/06: 18	32	32	100
22	Ganga	Sahibgunj	Jharkhand	26.25	27.25	30.91	1998	27.82	30/08/06: 00	59	59	100
23	Ganga	Farakka	West Bengal	21.25	22.25	25.14	9/7/1998	22.67	31/09/06: 03	90	89	98.9
24	Ramganga	Moradabad	Uttar Pradesh	189.60	190.60	192.88	9/3/1978	189.9	27/07/06: 08	1	0	0
25	Ramganga	Bareilly	Uttar Pradesh	162.07	163.07	182.88	8/6/1978	160.57	05/09/06: 00	0	0	
26	Yamuna	Tajewala Weir	Haryana	PL=323.70		328.27	9/3/1978	0		0	0	
27	Yamuna	Mawi	Uttar Pradesh	230.00	230.85	232.45	9/26/1988	230.01	24/07/06: 13	1	0	0
28	Yamuna	Delhi Rly Bridge	NCT Delhi	204.00	204.83	207.49	9/6/1978	204	28/07/06: 07	0	0	
29	Yamuna	Mathura	Uttar Pradesh	164.20	165.20	169.73	9/8/1978	164.4	13/08/06: 04	5	5	100
30	Yamuna	Agra	Uttar Pradesh	151.40	152.40	154.76	9/9/1978	148.72	14/08/06: 12	0	0	
31	Yamuna	Etawa	Uttar Pradesh	120.92	121.92	126.13	9/11/1978	117.61	05/09/06: 04	0	0	
32	Yamuna	Auraiya	Uttar Pradesh	112.00	113.00	118.19	8/25/1996	113.74	04/09/06: 23	8	8	100
33	Yamuna	Kalpi	Uttar Pradesh	107.00	108.00	112.98	8/25/1996	108.62	05/09/06: 05	5	4	80
34	Yamuna	Hamirpur	Uttar Pradesh	102.63	103.63	108.59	9/12/1983	104.04	05/09/06: 06	5	5	100
35	Yamuna	Chillaghat	Uttar Pradesh	99.00	100.00	105.16	9/6/1978	95.55	05/09/06: 20	3	3	100
36	Yamuna	Naini	Uttar Pradesh	83.74	84.74	87.99	9/8/1978	82.91	06/09/06: 15	0	0	
37	Sahibi	Dhansa	NCT Delhi	211.44	212.44	213.58	8/6/1977	209.3	08/09/06: 08	0	0	
38	Chambal	Gandhisagar Dam	Madhya Pradesh	399.90				0		8	7	87.5

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						Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY: HH)	No.of Forecasts issued	No.of Forecasts within limits	Percentage of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
39	Betwa	Mohana	Uttar Pradesh	121.66	122.66	133.69	9/11/1983	122	03/09/06: 00	2	2	100
40	Betwa	Sahijina	Uttar Pradesh	103.54	104.54	108.67	9/12/1983	104.05	05/09/06: 02	4	3	75
41	Ken	Banda	Uttar Pradesh	103.00	104.00	113.28	9/14/1992	101.5	01/08/06: 23	0	0	
42	Gomati	Lucknow HanumanSetu	Uttar Pradesh	108.5	109.5	110.85	9/10/1971	106.29	17/07/06: 00	0	0	
43	Gomati	Jaunpur	Uttar Pradesh	73.07	74.07	77.74	9/22/1971	70.56	09/07/06: 13	0	0	
44	SAI	Raibareli	Uttar Pradesh	100.00	101.00	104.81	9/17/1982	99.194	29/07/06: 06	0	0	
45	Ghaghra	Elgin Bridge	Uttar Pradesh	105.07	106.07	107.18	9/14/1983	106.68	29/08/06: 12	64	60	93.8
46	Ghaghra	Ayodhya	Uttar Pradesh	91.73	92.73	93.65	8/19/1998	93.32	30/08/06: 18	66	65	98.5
47	Ghaghra	Turtipar	Uttar Pradesh	63.01	64.01	66.00	8/28/1998	64.31	02/09/06: 16	38	36	94.7
48	Ghaghra	Darauli	Bihar	59.82	60.82	61.74	8/29/1998	60.7	31/08/06: 18	32	32	100
49	Ghaghra	Gangpur Siswan	Bihar	56.04	57.04	58.01	9/18/1983	56.675	02/09/06: 02	6	6	100
50	Ghaghra	Chhapra	Bihar	52.68	53.68	54.59	9/3/1982	51.55	08/09/06: 08	0	0	
51	Rapti	Balrampur	Uttar Pradesh	103.62	104.62	105.25	9/11/2000	104.49	30/08/06: 14	7	5	71.4
52	Rapti	Bansi	Uttar Pradesh	83.90	84.90	85.82	8/21/1998	83.985	02/09/06: 17	5	4	80
53	Rapti	Gorakpur Birdghat	Uttar Pradesh	73.98	74.98	77.54	8/23/1998	73.69	03/09/06: 03	0	0	
54	Sone	Inderpuri	Bihar	107.20	108.20	108.85	8/23/1975	106.35	27/06/06: 05	0	0	
55	Sone	Koelwar	Bihar	54.52	55.52	58.68	7/20/1971	54.824	27/08/06: 06	3	3	100
56	Sone	Maner	Bihar	51.00	52.00	53.79	9/10/1976	51.3	08/09/06: 05	6	6	100
57	PunPun	Sripalpur	Bihar	49.60	50.60	53.91	9/18/1976	52.975	29/09/06: 10	32	32	100
58	Gandak	Khadda	Uttar Pradesh	95.00	96.00	97.50	7/23/2002	96.2	26/08/06: 21	296	282	95.3
59	Gandak	Chatia	Bihar	68.15	69.15	70.04	7/26/2002	68.03	30/08/06: 19	0	0	
60	Gandak	Rewaghat	Bihar	53.41	54.41	55.41	9/17/1988	53.485	31/08/06: 02	6	6	100
61	Gandak	Hazipur	Bihar	49.32	50.32	50.93	1948	48.84	27/08/06: 18	0	0	
62	Burhi Gandak	Lalbeghiaghat	Bihar	62.20	63.20	67.09	7/30/1975	62.56	17/07/06: 00	7	7	100
63	Burhi Gandak	Muzaffarpur Sikandarpur	Bihar	51.53	52.53	54.29	8/15/1987	52.23	29/09/06: 06	8	8	100
64	Burhi Gandak	Samastipur	Bihar	45.02	46.02	49.38	8/15/1987	45.4	20/07/06: 00	7	7	100
65	Burhi Gandak	Rosera	Bihar	41.63	42.63	46.35	8/16/1967	42.9	20/07/06: 08	16	16	100
66	Burhi Gandak	Khagaria	Bihar	35.58	36.58	39.22	1976	36.55	28/08/06: 23	22	22	100
67	Bagmati	Benibad	Bihar	47.68	48.68	50.01	2004	49.66	28/09/06: 17	116	114	98.3
68	Bagmati	Hayaghat	Bihar	44.72	45.72	48.96	8/14/1987	46.34	03/10/06: 02	29	29	100
69	Adhwara Group	Kamtaul	Bihar	49.00	50.00	52.99	8/12/1987	51.1	30/09/06: 00	42	42	100
70	Adhwara Group	Ekmighat	Bihar	45.94	46.94	49.27	8/14/1987	47.56	04/10/06: 14	31	29	93.5
71	Kamla Balan	Jhanjharpur	Bihar	49.00	50.00	52.73	8/11/1987	51.31	26/09/06: 07	52	52	100
72	Kosi	Basua	Bihar	46.75	47.75	48.76	7/21/1996	48.42	27/09/06: 02	283	270	95.4
73	Kosi	Baltara	Bihar	32.85	33.85	36.40	8/15/1987	34.57	28/09/06: 01	80	80	100
74	Kosi	Kursela	Bihar	29.00	30.00	32.04	9/8/1958	30.52	29/08/06: 18	43	43	100
75	Mahananda	Dhengraghat	Bihar	34.65	35.65	38.09	1968	36.09	26/09/06: 18	37	36	97.3
76	Mahananda	Jhawa	Bihar	30.40	31.40	33.51	8/14/1987	31.22	26/09/06: 18	39	39	100
77	Mayurakshi	Massanjore Dam	Jharkhand	FRL = 121.31		122.87	9/25/1999	118.99	22/09/06: 10	11	10	90.9
78	Mayurakshi	Tilpara Barrage	West Bengal	PL= 62.79		67.05	9/27/1978	62.79		20	20	100
79	Mayurakshi	Narayanpur	West Bengal	26.99	27.99	29.69	9/27/1995	25.81	26/09/06: 03	13	10	76.9
80	Ajoy	Gheropara	West Bengal	38.42	39.42	43.94	9/27/1978	38.33	24/09/06: 04	10	7	70

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1	2	3	4	5	6	7	8	9	10	11	12	13
81	Damodar	Tenughat Dam	Jharkhand	FRL = 268.83		265.56	9/17/1985	260.96	23/09/06: 23	68	67	98.5
82	Damodar	Panchet Dam	Jharkhand	FRL = 132.59		132.89	10/2/1959	125.72	25/09/06: 09	93	93	100
83	Damodar	Durgapur Barrage	West Bengal	PL = 64.47		64.47	10/31/2002	64.47		81	81	100
84	Barakar	Maithon Dam	Jharkhand	FRL= 150.88		151.78	10/2/1959	145.62		57	54	94.7
85	Mundeshwari	Harinkhola	West Bengal	11.80	12.80	14.58	9/29/1978	9.46	24/09/06: 15	6	5	83.3
86	Kangsabati	Kangsabati Dam	West Bengal	FRL=134.11		134.71	9/2/1978	128.05	04/10/06: 09	54	53	98.1
87	Kangsabati	Mohanpur	West Bengal	24.73	25.73	29.87	9/2/1978	22.74	24/09/06: 00	3	2	66.7
	Brahmaputra Basin											
88	Brahmaputra	Dibrugrah	Assam	103.24	104.24	106.48	9/3/1998	105.57	13/06/06: 01	324	324	100
89	Brahmaputra	Neamatighat	Assam	84.04	85.04	87.37	7/11/1991	86.1	13/06/06: 13	88	85	96.6
90	Brahmaputra	Tezpur	Assam	64.23	65.23	66.59	8/27/1988	65.26	14/06/06: 12	39	39	100
91	Brahmaputra	Guwahati	Assam	48.68	49.68	51.37	8/29/1988	48.7	15/06/06: 08	2	2	100
92	Brahmaputra	Goalpara	Assam	35.27	36.27	37.42	7/31/1954	35.53	16/06/06: 04	7	6	85.7
93	Brahmaputra	Dhubri	Assam	27.62	28.62	30.36	8/28/1988	28.45	16/06/06: 20	90	90	100
94	Burhidihing	Naharkatia	Assam	119.40	120.40	122.69	8/17/1973	117.8	16/07/06: 01	0	0	
95	Burhidihing	Khowang	Assam	101.11	102.11	103.92	8/25/1988	101.81	02/06/06: 15	26	25	96.2
96	Desang	Nanglamoraghat	Assam	93.46	94.46	96.49	9/6/1998	94.93	20/07/06: 01	30	30	100
97	Dikhow	Shivsagar	Assam	91.40	92.40	95.62	7/8/1974	93.63	23/07/06: 00	38	38	100
98	Subansiri	Badatighat	Assam	81.53	82.53	86.84	8/28/1972	82	14/06/06: 02	20	19	95
99	Dhansiri (S)	Golaghat	Assam	88.50	89.50	91.30	10/11/1988	89.65	19/07/06: 11	262	254	96.9
100	Dhansiri (S)	Numaligarh	Assam	75.42	77.42	79.87	9/24/1985	76.31	19/07/06: 16	87	87	100
101	Jiabharali	Jiabharali_NTX	Assam	76	77	78.25	6/26/1998	77.7	14/09/06: 09	10	10	100
102	Kopili	Kampur	Assam	59.50	60.50	61.86	6/18/1973	61.39	02/06/06: 01	11	11	100
103	Kopili	Dharmatul	Assam	55.00	56.00	57.68	5/24/1988	55.43	03/06/06: 03	13	13	100
104	Puthimari	Puthimari_NHX	Assam	50.81	51.81	54.92	6/20/1993	53.65	13/06/06: 12	249	244	98
105	Pagladiya	Pagladia_NTX	Assam	51.75	52.75	55.38	9/15/1984	53.06	13/06/06: 06	26	22	84.6
106	Beki	Beki NHX	Assam	44.10	45.10	46.20	8/4/2000	45.32	26/07/06: 12	253	253	100
107	Manas	Manas NHX	Assam	47.81	46.42	50.09	9/15/1984	47.84	08/09/06: 21	1	1	100
108	Sankosh	Golakganj	Assam	28.94	29.94	30.91	7/21/1993	29.65	29/06/06: 01	72	71	98.6
109	Raidak-I	Tufanganj	West Bengal	34.22	35.30	36.36	7/21/1993	34.97	29/06/06: 05	8	7	87.5
110	Torsa	Ghughumari	West Bengal	39.80	40.41	41.46	8/3/2000			0	0	
111	Jaldhaka	NH-31	West Bengal	80.00	80.90	81.33	7/28/1972	80.05	09/09/06: 06	6	6	100
112	Jaldhaka	Mathabhanga	West Bengal	46.20	46.70	49.60	7/29/1972	48.97	08/07/06: 00	4	4	100
113	Tista	Domohani	West Bengal	85.65	85.95	86.78	6/13/1971	85.75	13/09/06: 07	6	6	100
114	Tista	Mekhliganj	West Bengal	65.45	65.95	66.45	7/13/1996	* 65.72	09/09/06: 22	18	18	100
	Barak & Meghna Basins											
115	Barak	APGhat	Assam	18.83	19.83	21.84	8/1/1989	20.64	13/06/06: 18	17	14	82.4
116	Katakhal	Matizuri	Assam	19.27	20.27	22.58	8/9/2002	22.47	02/06/06: 04	34	31	91.2
117	Kushiyara	Karimganj	Assam	13.94	14.94	16.39	7/23/1993	16.39	14/06/06: 01	87	86	98.9
118	Manu	Kailashar	Tripura	24.34	25.34	25.79	1993	24.5	01/06/06: 22	2	2	100
119	Gumti	Sonamura	Tripura	11.50	12.50	14.42	1993	11.72	11/06/06: 07	2	2	100
	Eastern Rivers (Excluding Mahanadi)											
120	Subernarekha	Rajghat	Orissa	9.45	10.36	12.20	8/7/1997	12	31/07/06: 23	48	46	95.8
121	Burhabalang	NH_5 Road Bridg	Orissa	7.21	8.13	9.50	10/12/1973	8.02	05/09/06: 21	13	13	100
122	Baitarni	Anandpur	Orissa	37.44	38.36	41.20	8/19/1975	38.95	22/08/06: 21	19	15	78.9

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1	2	3	4	5	6	7	8	9	10	11	12	13
123	Baitarni	Akhuapada	Orissa	18.29	19.20	21.95	8/16/1960	18.81	23/08/06: 18	20	19	95
124	Brahmani	Jenapur	Orissa	22.00	23.00	24.78	8/20/1975	23.36	24/08/06: 12	4	3	75
125	Rushikulya	Purushottampur	Orissa	16.83	16.83	19.65	11/4/1950	17.6	04/07/06: 06	16	12	75
126	Vamsadhara	Gunupur	Orissa	83.00	84.00	88.75	9/17/1980	85.25	03/07/06: 11	44	32	72.7
127	Vamsadhara	Kashinagar	Orissa	53.60	54.60	56.93	9/18/1980	56.35	03/07/06: 15	220	202	91.8
128	Vamsadhara	Gotta Barrage	Andhra Pradesh	FRL34.84	MWL47.4	39.92	10/7/1999	0		43	37	86
	Mahanadi Basin											
129	Mahanadi	Hirakud Dam	Orissa	FRL=192.02		192.30	1/30/1998	0		57	53	93
130	Mahanadi	Naraj	Orissa	25.41	26.41	27.61	8/31/1982	25.7	01/09/06: 03	39	35	89.7
131	Mahanadi	Alipingal Devi	Orissa	10.85	11.76	12.90	7/17/2001	12.4	01/09/06: 13	7	5	71.4
132	Mahanadi	Nimapara	Orissa	9.85	10.76	11.60	8/31/1982	10.85	01/09/06: 14	8	6	75
	Godavari Basin											
133	Godavari	Kopergaon	Maharashtra	490.99	493.68	499.17	1969	498.2	10/08/06: 06	83	69	83.1
134	Godavari	Jaikwadi Dam	Maharashtra	FRL=463.91		464.69	10/12/1990	463.91	05/10/06: 06	29	25	86.2
135	Godavari	Gangakhed	Maharashtra	374.00	375.00	377.57	1947	377.24	14/08/06: 23	44	41	93.2
136	Godavari	Nanded	Maharashtra	353.00	354.00	355.65	1983	357.1	06/08/06: 17	31	27	87.1
137	Godavari	Sriram Sagar	Andhra Pradesh	FRL=332.54		332.72	10/13/1990	332.54	19/08/06: 22	36	33	91.7
138	Godavari	Kaleswaram	Andhra Pradesh	103.50	104.75	107.05	1986	104.54	06/08/06: 00	27	24	88.9
139	Godavari	Eturunagaram	Andhra Pradesh	73.29	75.79	77.66	1990	76.59	06/08/06: 07	94	76	80.9

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						Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY HH)	No.of Forecasts issued	No.of Forecasts within limits	Percentage of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
140	Godavari	Dummagudam	Andhra Pradesh	53.00	55.00	60.25	8/16/1986	57.87	06/08/06: 16	75	63	84
141	Godavari	Bhadrachalam	Andhra Pradesh	45.72	48.77	55.66	8/16/1987	53	05/08/06: 23	110	105	95.5
142	Godavari	Kunavaram	Andhra Pradesh	37.74	39.24	51.30	8/16/1986	46.27	07/08/07: 05	91	87	95.6
143	Godavari	Rajamundri	Andhra Pradesh	17.68	19.51	20.48	8/16/1989	19.8	07/08/06: 07	49	41	83.7
144	Godavari	Dowlaiswaram	Andhra Pradesh	14.25	16.08	18.38	8/16/1990	17.62	07/08/06: 08	115	106	92.2
145	Wardha	Balharsha	Maharashtra	171.50	174.00	176.00	1986	175.89	08/08/06: 06	55	53	96.4
146	Wainganga	Bhandara	Maharashtra	244.00	244.50	250.80	9/16/2006	250.22	15/08/06: 20	35	32	91.4
147	Wainganga	Pauni	Maharashtra	231.50	232.50	237.12	9/7/1994	229.68	16/08/06: 01	35	34	97.1
148	Manjira	Singur Dam	Andhra Pradesh	FRL=523.60		523.60	1990	523.6	06/10/06: 06	5	3	60
149	Manjira	Nizamsagar Dam	Andhra Pradesh	FRL=428.24		428.24	1995	428.24	09/10/06: 18	2	2	100
150	Indravati	Jagdalpur	Chhatisgarh	539.50	540.80	544.68	1973	543.37	05/07/06: 07	72	69	95.8
	Krishna Basin:											
151	Krishna	Arjunward	Maharashtra	542.07	543.29	543.69	8/5/2005			0	0	
152	Krishna	Alamati Dam	Karnataka	FRL=519.60		519.60	9/18/2002	519.6	15/09/06: 06	105	104	99
153	Krishna	Narayanpur Dam	Karnataka	FRL=492.25		492.11	10/29/1997	491.7	16/09/06: 11	94	92	97.9
154	Krishna	Priyadarshini	Andhra Pradesh	FRL=318.52		316.50	10/21/1993	316.65	16/09/06: 05	144	142	98.6
155	Krishna	Srisailam Dam	Andhra Pradesh	FRL=269.75		269.93	10/13/1990	269.75	22/09/06: 01	149	148	99.3
156	Krishna	Prakasham Barrage	Andhra Pradesh	FRL=18.30		21.50	10/7/1903	18.23	17/09/06: 05	112	111	99.1
157	Bhima	Deongaon	Karnataka	400.00	407.00	406.30	8/29/1997	407.34	13/08/06: 03	46	41	89.1
158	Tungbhadra	Tungabhadra Dam	Karnataka	FRL=497.74		497.74	10/5/1992	497.74	18/09/06: 18	127	127	100
159	Tungbhadra	Mantralayam	Andhra Pradesh	310.00	312.00	315.80	11/19/1992	312.06	15/08/06: 12	12	10	83.3
	Southern River System:											
160	Pennar	Nellore	Andhra Pradesh	15.91	17.28	18.70	11/30/1982	14.04	26/07/06: 08	0	0	
	Western River Systems:											
161	Banas	Dantiwada Dam	Gujarat	182.88	185.06	186.04	9/1/1973	0		18	17	94.4
162	Sabarmati	Dharoi Dam	Gujarat	187.45	192.25	189.03	9/3/1990	0		34	31	91.2
163	Sabarmati	Ahmedabad Shubhash Bridge	Gujarat	44.09	45.34	46.85	7/18/1993	47.45	19/08/06: 08	15	14	93.3
164	Mahi	Kadana Dam	Gujarat	126.19	127.71	127.74	9/9/1989	0		61	60	98.4
165	Mahi	Wanakbori	Gujarat	71.00	72.54	74.77	8/24/1990	76.1	12/08/06: 04	41	35	85.4
166	Naramada	Mandla	Madhya Pradesh	437.20	437.80	439.40	8/18/1974	437.92		2	2	100
167	Naramada	Hoshangabad	Madhya Pradesh	292.83	293.83	300.90	8/30/1973	294.8		9	9	100
168	Naramada	Garudeswar	Gujarat	30.46	31.09	41.65	9/8/1970	31.2	07/08/06: 11	1	1	100
169	Naramada	Bharuch	Gujarat	6.71	7.31	12.65	9/7/1970	9.7	07/08/06: 10	26	24	92.3
170	Tapi	Hatnur Dam	Maharashtra	212.02	214.00	214.00	10/12/1985	214	07/10/06: 23	45	41	91.1
171	Tapi	Ukai Dam	Gujarat	102.41	105.16	105.51	10/8/1990	105.48	10/08/06: 03	72	72	100
172	Tapi	Surat	Gujarat	8.50	9.50	12.01	1968	12.5	09/08/06: 07	27	26	96.3
173	Damanganga	Madhuban Dam	Gujarat	79.86	82.4	80.60	9/27/1993	80	14/10/06: 20	22	21	95.5
174	Damanganga	Vapi Town	Gujarat	18.20	19.20	20.72	1976	17.5	06/08/06: 16	0	0	
175	Damanganga	Daman	Dadra & Nagar Ha	2.6	3.4	2.40	7/2/1961	2	10/08/06: 15	0	0	
								Total Forecasts		6663	6377	95.71
								Level Forecasts		5070	4827	95.21
								Inflow Forecast		1593	1550	97.30

Annex-1C

Flood Forecasting Information (Basinwise and Riverwise) in India during Flood Season 2007

Sl. No.	Name of the river	Name of FF site	Name of State	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2007		During 2007		
						Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY; HH)	No.of Forecasts issued	No.of Forecasts within limits	Percentage of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
	Ganga Basin											
1	Alaknanda	Srinagar	Uttaranchal	539.00	540.00	536.85	9/5/1995	534.60	15/08/07: 06	0	0	
2	Ganga	Rishikesh	Uttaranchal	339.50	340.50	341.72	9/5/1995	339.67	15/08/07: 18	2	2	100
3	Ganga	Haridwar	Uttaranchal	293.00	294.00	296.23	9/2/1978	595.05	14/08/07: 22	8	5	62.5
4	Ganga	Narora Barrage	Uttar Pradesh*	PL= 180.79 at D/S		180.18	9/6/1978	178.92	19/08/07: 16	68	67	98.5
5	Ganga	Kannauj	Uttar Pradesh	124.97	125.97	126.24	8/29/1998	125.56	23/08/07: 03	9	9	100
6	Ganga	Ankinghat	Uttar Pradesh	123.00	124.00	124.31	9/9/1978	123.39	22/08/07: 15	6	6	100
7	Ganga ##	Kanpur	Uttar Pradesh	113.00	114.00	113.47	9/2/1967	112.73	22/08/07: 23	19	19	100
8	Ganga	Dalmau	Uttar Pradesh	98.36	99.36	99.64	8/3/1973	98.71	24/08/07: 06	4	4	100
9	Ganga	Phphamau	Uttar Pradesh	83.73	84.73	87.98	9/8/1978	79.31	26/08/07: 07	0	0	
10	Ganga	Allahabad Chhatnag	Uttar Pradesh	83.73	84.73	88.03	9/8/1978	76.71	26/08/07: 08	0	0	
11	Ganga	Mirzapur	Uttar Pradesh	76.72	77.72	80.34	9/9/1978	69.32	26/08/07: 19	0	0	
12	Ganga	Varanasi	Uttar Pradesh	70.26	71.26	73.90	9/9/1978	64.49	27/08/07: 08	0	0	
13	Ganga	Ghazipur	Uttar Pradesh	62.11	63.11	65.22	9/9/1978	58.47	28/08/07: 06	0	0	
14	Ganga	Buxar	Bihar	59.32	60.32	62.09	1948	56.15	17/08/07: 18	0	0	
15	Ganga	Ballia	Uttar Pradesh	56.62	57.62	60.25	9/14/2003	55.73	17/08/07: 09	0	0	
16	Ganga	Patna (Dighaghat)	Bihar	49.45	50.45	52.52	8/23/1975	49.66	07/08/07: 06	11	11	100
17	Ganga	Patna (Gandhighat)	Bihar	47.60	48.60	50.27	8/14/1994	48.50	11/09/07: 07	51	51	100
18	Ganga	Hathidah	Bihar	40.76	41.76	43.15	8/7/1971	41.49	11/09/07: 07	49	49	100
19	Ganga	Munger	Bihar	38.33	39.33	40.99	9/19/1976	38.04	21/08/07: 19	0	0	
20	Ganga	Bhagalpur	Bihar	32.68	33.68	34.20	9/17/2003	33.28	22/08/07: 16	32	32	100
21	Ganga	Kahalgaon	Bihar	30.09	31.09	32.87	9/17/2003	31.74	13/09/07: 16	77	77	100
22	Ganga	Sahibgunj	Jharkhand	26.25	27.25	30.91	1998	28.60	23/08/07: 06	88	88	100
23	Ganga	Farakka	West Bengal	21.25	22.25	25.14	9/7/1998	23.40	14/09/07: 07	166	160	96.4
24	Ramganga	Moradabad	Uttar Pradesh	189.60	190.60	192.68	9/3/1978	190.31	17/08/07: 06	11	7	63.6
25	Ramganga	Bareilly	Uttar Pradesh	162.70	163.70	162.88	8/6/1978	161.44	17/08/07: 18	0	0	
26	Yamuna	Tajewala Weir	Haryana	PL=323.70		328.27	9/3/1978	334.5	13/08/07: 11	0	0	
27	Yamuna	Mawi	Uttar Pradesh	230.00	230.85	232.45	9/26/1988	230.32	14/08/07: 15	4	4	100
28	Yamuna	Delhi Rly Bridge	NCT Delhi	204.00	204.83	207.49	9/6/1978	204.74	15/08/07: 11	4	3	75
29	Yamuna	Mathura	Uttar Pradesh	164.20	165.20	169.73	9/8/1978	162.70	19/08/07: 19	0	0	
30	Yamuna	Agra	Uttar Pradesh	151.40	152.40	154.76	9/9/1978	148.88	19/08/07: 07	0	0	
31	Yamuna	Etawa	Uttar Pradesh	120.92	121.92	126.13	9/11/1978	117.63	21/08/07: 07	0	0	
32	Yamuna	Auraiya	Uttar Pradesh	112.00	113.00	118.19	8/25/1996	106.77	12/07/07: 07	0	0	
33	Yamuna	Kalpi	Uttar Pradesh	107.00	108.00	112.98	8/25/1996	101.78	12/07/07: 08	0	0	
34	Yamuna	Hamirpur	Uttar Pradesh	102.63	103.63	108.59	9/12/1983	95.32	12/07/07: 23	0	0	
35	Yamuna	Chilaghat	Uttar Pradesh	99.00	100.00	105.16	9/5/1978	90.45	14/07/07: 00	0	0	
36	Yamuna	Naini	Uttar Pradesh	83.74	84.74	87.99	9/8/1978	77.31	26/08/07: 11	0	0	
37	Sahibi	Dhansa	NCT Delhi	211.44	212.44	213.56	8/6/1977	210.28	19/09/07: 06	0	0	

Flood Forecasting Information (Basinwise and Riverwise) in India during Flood Season 2007

Sl. No.	Name of the river	Name of FF site	Name of State	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2007		During 2007		
						Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY: HH)	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
38	Chambal	Gandhisagar Dam	Madhya Pradesh							8	3	37.5
39	Betwa	Mohana	Uttar Pradesh	121.66	122.66	133.69	9/11/1983	111.94	25/08/07: 18	0	0	
40	Betwa	Sahjina	Uttar Pradesh	103.54	104.54	108.67	9/12/1983	94.05	13/07/07: 06	0	0	
41	Ken	Banda	Uttar Pradesh	103.00	104.00	113.28	9/14/1992	98.72	23/08/07: 18	0	0	
42	Gomati	Lucknow HanumanSetu	Uttar Pradesh	108.50	109.50	110.85	9/10/1971	105.76	05/09/07: 15	0	0	
43	Gomati	Jaunpur	Uttar Pradesh	73.07	74.07	77.74	9/22/1971	69.01	04/08/07: 12	0	0	
44	SAI	Raibareli	Uttar Pradesh	100.00	101.00	104.81	9/17/1982	97.85	05/08/07: 08	0	0	
45	Ghaghra	Elgin Bridge	Uttar Pradesh	105.07	106.07	107.18	9/14/1983	107.12	31/07/08: 17	83	81	97.6
46	Ghaghra	Ayodhya	Uttar Pradesh	91.73	92.73	93.65	8/19/1998	93.74	02/08/07: 01	88	87	98.9
47	Ghaghra	Turtipar	Uttar Pradesh	63.01	64.01	66.00	8/28/1998	65.04	05/08/07: 18	73	72	98.6
48	Ghaghra	Darauli	Bihar	59.82	60.82	61.74	8/29/1998	61.04	06/08/07: 05	58	58	100
49	Ghaghra	Gangpur Siswan	Bihar	56.04	57.04	58.01	9/18/1983	57.12	06/08/07: 00	27	27	100
50	Ghaghra	Chhapra	Bihar	52.68	53.68	54.59	9/3/1982	50.72	19/08/07: 10	0	0	
51	Rapti	Balrampur	Uttar Pradesh	103.62	104.62	105.25	9/11/2000	104.98	30/07/07: 13	31	27	87.1
52	Rapti	Bansi	Uttar Pradesh	83.90	84.90	85.82	8/21/1998	85.23	04/08/07: 23	35	32	91.4
53	Rapti	Gorakpur Birdghat	Uttar Pradesh	73.98	74.98	77.54	8/23/1998	76.75	04/08/07: 07	56	54	96.4
54	Sone	Inderpuri	Bihar	107.20	108.20	108.85	8/23/1975	105.10	14/08/07: 19	0	0	
55	Sone	Koelwar	Bihar	54.52	55.52	58.88	7/20/1971	53.12	15/08/07: 12	0	0	
56	Sone	Maner	Bihar	51.00	52.00	53.79	9/10/1976	50.79	07/08/07: 16	0	0	
57	PunPun	Sripalpur	Bihar	49.60	50.60	53.91	9/18/1976	53.33	03/10/07: 08	54	51	94.4
58	Gandak	Khadda	Uttar Pradesh	95.00	96.00	97.50	7/23/2002	96.56	06/09/07: 17	223	206	92.4
59	Gandak	Chatia	Bihar	68.15	69.15	70.04	7/26/2002	70.00	19/08/07: 16	43	43	100
60	Gandak	Rewaghat	Bihar	53.41	54.41	55.41	9/17/1986	54.94	10/09/07: 09	36	36	100
61	Gandak	Hazipur	Bihar	49.32	50.32	50.93	1948	49.00	10/09/07: 19	0	0	
62	Burhi Gandak	Lalbeghiaghat	Bihar	62.20	63.20	67.09	7/30/1975	65.03	20/08/07: 03	42	41	97.6
63	Burhi Gandak	Muzaffarpur Sikandarpur	Bihar	51.53	52.53	54.29	8/15/1987	54.09	22/08/07: 03	75	73	97.3
64	Burhi Gandak	Samastipur	Bihar	45.02	46.02	49.38	8/15/1987	49.25	03/08/07: 06	81	81	100
65	Burhi Gandak	Rosera	Bihar	41.63	42.63	46.35	8/16/1987	46.05	02/08/07: 19	80	79	98.8
66	Burhi Gandak	Khagaria	Bihar	35.58	36.58	39.22	1976	37.21	23/08/07: 00	73	73	100
67	Bagmati	Benibad	Bihar	47.68	48.68	50.01	7/12/2004	49.86	01/08/07: 10	123	122	99.2
68	Bagmati	Hayaghat	Bihar	44.72	45.72	48.96	8/14/1987	46.67	02/08/07: 08	82	82	100
69	Adhwara Group	Kamtaul	Bihar	49.00	50.00	52.99	8/12/1987	51.70	29/07/07: 17	89	89	100
70	Adhwara Group	Ekmighat	Bihar	45.94	46.94	49.52	7/12/2004	49.39	02/08/07: 06	93	90	96.8
71	Kamla Balan	Jhanjharpur	Bihar	49.00	50.00	53.01	7/10/2004	52.66	27/07/07: 20	95	94	98.9
72	Kosi	Basua	Bihar	46.75	47.75	48.87	7/11/2004	48.68	27/07/07: 22	300	288	96
73	Kosi	Baltara	Bihar	32.85	33.85	38.40	8/15/1987	35.67	02/08/07: 06	99	99	100
74	Kosi	Kursela	Bihar	29.00	30.00	32.04	9/6/1998	31.20	13/09/07: 17	83	83	100
75	Mahananda	Dhengraghat	Bihar	34.65	35.65	38.09	1968	36.80	29/07/07: 20	56	56	100
76	Mahananda	Jhawa	Bihar	30.40	31.40	33.51	8/14/1987	32.02	09/09/07: 00	103	100	97.1

Flood Forecasting Information (Basinwise and Riverwise) in India during Flood Season 2007

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						Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY: HH)	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
77	Mayurakshi	Massanjore Dam	Jharkhand	FRL = 121.31		122.87	9/25/1999	121.31	27/09/07: 17	19	19	100
78	Mayurakshi	Tilpara Barrage	West Bengal	PL= 62.79		67.05	9/27/1978	62.79	02/10/07: 13	24	24	100
79	Mayurakshi	Narayanpur	West Bengal	26.99	27.99	29.69	9/27/1995	28.72	26/09/07: 03	7	7	100
80	Ajoy	Gheropara	West Bengal	38.42	39.42	43.94	9/27/1978	41.00	26/09/07: 08	13	11	84.6
81	Damodar	Tenughat Dam	Jharkhand	FRL = 268.83		265.56	9/17/1985	260.65	30/09/07: 05	77	76	98.7
82	Damodar	Panchet Dam	Jharkhand	FRL = 132.59		132.89	10/2/1959	131.00	25/09/07: 23	101	101	100
83	Damodar	Durgapur Barrage	West Bengal	PL = 64.47		64.47	10/31/2002	64.465		100	100	100
84	Barakar	Maithon Dam	Jharkhand	FRL= 150.88		151.79	10/2/1959	150.37	25/09/07: 10	82	82	100
85	Mundeshwari	Harinkhola	West Bengal	11.80	12.80	14.58	9/29/1978	14.40	26/09/07: 10	24	23	95.8
86	Kangsabati	Kangsabati Dam	West Bengal	FRL=134.11		134.71	9/2/1978	134.32	18/08/07: 20	55	54	98.2
87	Kangsabati	Mohanpur	West Bengal	24.73	25.73	29.87	9/2/1978	27.06	19/08/07: 13	7	7	100
	Brahmaputra Basin											
88	Brahmaputra	Dibrugrah	Assam	103.24	104.24	106.48	9/3/1998	105.93	30/07/07: 04	307	307	100
89	Brahmaputra	Neamatighat	Assam	84.04	85.04	87.37	7/11/1991	86.66	30/07/07: 23	117	116	99.1
90	Brahmaputra	Tezpur	Assam	64.23	65.23	66.59	8/27/1988	65.95	10/09/07: 13	59	59	100
91	Brahmaputra	Guwahati	Assam	48.68	49.68	51.46	7/21/2004	50.05	29/07/07: 00	33	32	97
92	Brahmaputra	Goalpara	Assam	35.27	36.27	37.43	7/31/1954	36.75	29/07/07: 19	53	52	98.1
93	Brahmaputra	Dhubri	Assam	27.62	28.62	30.36	8/28/1988	29.62	30/07/07: 16	173	173	100
94	Burhidihing	Naharkatia	Assam	119.40	120.40	122.69	6/17/1973	118.80	16/06/07: 13	0	0	
95	Burhidihing	Khowang	Assam	101.11	102.11	103.92	8/25/1988	103.86	28/07/07: 09	58	57	98.3
96	Desang	Nanglamoraghat	Assam	93.46	94.46	96.49	9/6/1988	96.27	07/09/07: 05	116	112	96.6
97	Dikhow	Shivsagar	Assam	91.40	92.40	95.62	7/8/1974	93.62	23/07/07: 14	71	69	97.2
98	Subansiri	Badatighat	Assam	81.53	82.53	86.84	6/28/1972	82.90	27/07/07: 17	75	73	97.3
99	Dhansiri (S)	Golaghat	Assam	88.50	89.50	91.30	10/11/1986	90.36	03/09/07: 21	76	75	98.7
100	Dhansiri (S)	Numaligarh	Assam	76.42	77.42	79.87	9/24/1985	79.34	08/09/07: 09	219	219	100
101	Jiabharali	Jiabharali_NTX	Assam	76.00	77.00	78.25	6/26/1998	78.50	26/07/07: 14	296	288	97.3
102	Kopilli	Kampur	Assam	55.00	56.00	58.09	7/21/2004	61.76	11/09/07: 04	28	28	100
103	Kopilli	Dharmatul	Assam	55.00	56.00	58.09	7/21/2004	57.49	12/09/07: 01	90	89	98.9
104	Puthimari	Puthimari_NHX	Assam	50.81	51.81	54.92	6/20/1993	55.04	27/07/07: 21	311	297	95.5
105	Pagladiya	Pagladia_NTX	Assam	51.75	52.75	55.45	7/8/2004	53.94	27/07/07: 00	56	53	94.6
106	Beki	Beki NHX	Assam	44.10	45.10	46.20	8/4/2000	45.89	30/07/07: 15	331	331	100
107	Manas	Manas NHX	Assam	47.81	48.42	50.08	9/15/1984	48.05	30/07/07: 02	10	10	100
108	Sankosh	Golakganj	Assam	28.94	29.94	30.91	7/21/1993	30.95	08/09/07: 03	100	96	96
109	Raidak-I	Tufanganj	West Bengal	34.22	35.30	36.36	7/21/1993	35.93	08/09/07: 08	33	30	90.9
110	Torsa	Ghughumari	West Bengal	39.80	40.41	41.46	8/3/2000	40.65	29/07/07: 04	30	29	96.7
111	Jaldhaka	NH-31	West Bengal	80.00	80.90	81.33	7/28/1972	80.50	07/09/07: 17	21	21	100
112	Jaldhaka	Mathabhanga	West Bengal	48.20	48.70	49.60	7/29/1972	49.85	07/09/07: 21	34	34	100
113	Tista	Domohani	West Bengal	39.80	40.41	41.46	8/3/2000	66.50	07/09/07: 16	35	33	94.3
114	Tista	Mekhliganj	West Bengal	34.22	35.30	36.36	7/21/1993	66.35	07/09/07: 21	56	56	100
	Barak & Meghna Basins											
115	Barak	APGhat	Assam	18.83	19.83	21.84	8/1/1989	21.42	09/09/07: 22	69	69	100
116	Katakhal	Matizuri	Assam	19.27	20.27	22.63	6/25/2004	22.73	10/09/07: 04	101	99	98

Flood Forecasting Information (Basinwise and Riverwise) in India during Flood Season 2007

Sl. No.	Name of the river	Name of FF site	Name of State	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2007		During 2007		
						Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY: HH)	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
117	Kushiyara	Karimganj	Assam	13.94	14.94	16.39	6/13/2006	15.55	09/09/07: 22	168	168	100
118	Manu	Kailashar	Tripura	24.34	25.34	25.79	6/7/1993	25.56	10/09/07: 01	7	3	42.9
119	Gumti	Sonamura	Tripura	11.50	12.50	14.42	7/23/1993	13.50	23/07/07: 03	62	42	67.7
	Eastern Rivers (Excluding Mahanadi)											
120	Subernarekna	Rajghat	Orissa	9.45	10.36	12.20	8/7/1997	12.38	07/07/07: 00	35	33	94.3
121	Burhabalang	NH_5 _Road Bridge	Orissa	7.21	8.13	9.50	10/12/1973	9.10	23/09/07: 22	18	14	77.8
122	Baitarni	Anandpur	Orissa	37.44	38.36	41.20	8/19/1975	39.94	13/08/07: 21	34	29	85.3
123	Baitarni	Akhuapada	Orissa	17.83	17.83	21.95	8/16/1960	19.96	07/07/07: 15	24	23	95.8
124	Brahmani	Jenapur	Orissa	22.00	23.00	24.78	8/20/1975	22.72	28/09/07: 11	16	15	93.8
125	Rushikuluya	Purushottampur	Orissa	15.83	16.83	19.65	11/4/1990	17.50	07/08/07: 08	12	12	100
126	Vamsadhara	Gunupur	Orissa	83.00	84.00	88.75	9/17/1980	87.45	07/08/07: 04	15	13	86.7
127	Vamsadhara	Kashinagar	Orissa	53.60	54.60	58.93	9/18/1980	56.90	07/08/07: 09	88	86	97.7
128	Vamsadhara	Gotta Barrage	Andhra Pradesh	FRL34.84	MWL47.4	39.92	10/7/1999	38.9	05/10/07: 11	17	13	76.5
	Mahanadi Basin											
129	Mahanadi	Hirakud Dam	Orissa	FRL=192.02		192.30	1/30/1998	192.1	22/09/07: 03	100	97	97
130	Mahanadi	Naraj	Orissa	25.41	26.41	27.61	8/31/1982	25.82	09/08/07: 09	6	6	100
131	Mahanadi	Alipingal Devi	Orissa	10.85	11.76	12.90	7/17/2001	9.81	25/09/07: 11	0	0	
132	Mahanadi	Nimapara	Orissa	9.85	10.76	11.60	8/31/1982	8.80	25/09/07: 17	0	0	
	Godavari Basin	**Godavari Basin:**										
133	Godavari	Kopergaon	Maharashtra	490.90	493.68	499.17	1969	492.20	09/08/07: 16	26	25	96.2
134	Godavari	Jaikwadi Dam	Maharashtra	FRL=463.91		464.69	10/12/1990	463.91	01/10/07: 08	6	6	100
135	Godavari	Gangakhed	Maharashtra	374.00	375.00	377.57	1947	370.42	22/09/07: 15	0	0	
136	Godavari	Nanded	Maharashtra	353.00	354.00	355.65	1983	346.50	23/09/07: 01	0	0	
137	Godavari	Sriram Sagar	Andhra Pradesh	FRL=332.54		332.72	10/13/1990	332.05	10/10/07: 09	6	6	100
138	Godavari	Kaleswaram	Andhra Pradesh	103.50	104.75	107.05	1986	103.33	09/08/07: 14	0	0	
139	Godavari	Eturunagaram	Andhra Pradesh	73.29	75.79	77.66	1990	74.84	09/08/07: 14	21	20	95.2
140	Godavari	Dummagudam	Andhra Pradesh	53.00	55.00	60.25	1986	54.70	10/08/07: 01	17	17	100

Flood Forecasting Information (Basinwise and Riverwise) in India during Flood Season 2007

Sl. No.	Name of the river	Name of FF site	Name of State	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2007		During 2007		
						Level (m)	Date/ Month/ Year	Level (m)	Date and Time DD/MM/YY: HH)	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
141	Godavari	Bhadrachalam	Andhra Pradesh	45.72	48.77	55.66	1986	48.98	10/08/07: 05	22	21	95.5
142	Godavari	Kunavaram	Andhra Pradesh	37.74	39.24	51.30	1986	39.56	10/08/07: 19	15	14	93.3
143	Godavari	Rajamundri	Andhra Pradesh	17.68	19.51	20.48	1986	17.33	11/08/07: 06	0	0	
144	Godavari	Dowlaiswaram	Andhra Pradesh	14.25	16.08	18.35	1986	15.27	10/08/07: 23	21	21	100
145	Wardha	Ballharsha	Maharashtra	171.50	174.00	176.00	1986	171.31	07/09/07: 19	0	0	
146	Wainganga	Bhandara	Maharashtra	244.00	244.50	250.90	2005	242.00	09/07/07: 00	0	0	
147	Wainganga	Pauni	Maharashtra	226.73	227.73	232.35	9/7/1994	226.00	08/08/07: 09	0	0	
148	Manjira	Singur Dam	Andhra Pradesh	FRL=523.60		523.60	1999	522.07	06/10/07: 07	2	2	100
149	Manjira	Nizamsagar Dam	Andhra Pradesh	FRL=428.24		428.24	1999	424.07	15/10/07: 22	0	0	
150	Indravati	Jagdalpur	Chhatisgarh	539.50	540.80	544.68	1973	542.06	08/08/07: 12	33	32	97
	Krishna Basin:											
151	Krishna	Arjunward	Maharashtra							0	0	
152	Krishna	Alamati Dam	Karnataka	FRL=519.60		519.60	9/18/2002	519.60	21/08/07: 18	86	85	96.6
153	Krishna	Narayanpur Dam	Karnataka	FRL=492.25		492.11	10/29/1997	491.68	15/09/07: 06	80	76	95
154	Krishna	Priyadarshini	Andhra Pradesh	FRL=318.52		318.50	10/21/1993	317.30	21/07/07: 08	161	156	96.9
155	Krishna	Srisailam Dam	Andhra Pradesh	FRL=269.75		269.93	10/13/1990	269.75	21/09/07: 15	178	172	96.6
156	Krishna	Prakasham Barrage	Andhra Pradesh	FRL=18.30		21.50	10/7/1903	18.25	21/09/07: 00	170	163	95.9
157	Bhima	Deongaon	Karnataka	402.00	404.50	407.34	8/13/2006	401.60	22/09/07: 00	0	0	
158	Tungbhadra	Tungabhadra Dam	Karnataka	FRL=497.74		497.74	10/5/1992	497.74	17/09/07: 08	166	159	95.8
159	Tungbhadra	Mantralayam	Andhra Pradesh	310.00	312.00	315.80	11/19/1992	314.20	19/09/07: 15	27	25	92.6
	Southern River System:											
160	Pennar	Nellore	Andhra Pradesh	15.91	17.28	18.70	11/30/1982	16.46	30/10/07: 11	1	1	100
	Western River Systems:											
161	Banas	Dantiwada Dam	Gujarat	182.88	185.06	186.04	9/1/1973	182.01	27/09/07: 13	3	2	66.7
162	Sabarmati	Dharoi Dam	Gujarat	187.45	192.25	189.63	9/3/1990	189.48	15/10/07: 08	12	12	100
163	Sabarmati	Ahmedabad Shubhash Bridge	Gujarat	44.09	45.34	46.85	7/18/1993	45.65	10/07/07: 00	2	2	100
164	Mahi	Kadana Dam	Gujarat	126.19	127.71	127.74	9/9/1989	127.71	27/09/07: 15	16	16	100
165	Mahi	Wanakbori	Gujarat	71.00	72.54	74.77	8/24/1990	73.30	10/07/07: 01	15	11	73.3
166	Naramada	Mandla	Madhya Pradesh	437.20	437.80	439.41	8/16/1974	435.27	06/09/07: 16	0	0	
167	Naramada	Hoshangabad	Madhya Pradesh	292.83	293.83	300.90	8/30/1973	291.75	09/07/07: 03	0	0	
168	Naramada	Garudeswar	Gujarat	30.48	31.09	41.65	9/6/1970	22.50	08/08/07: 22	0	0	
169	Naramada	Bharuch ($$)	Gujarat	6.71	7.31	12.65	9/7/1970	6.80	09/08/07: 16	0	0	
170	Tapi	Hatnur Dam	Maharashtra	212.02	214.00	214.00	10/12/1989	214.01	14/10/07: 09	101	95	94.1
171	Tapi	Ukai Dam	Gujarat	102.41	105.16	105.51	10/8/1990	104.91	11/10/07: 01	48	45	95.5
172	Tapi	Surat	Gujarat	8.50	9.50	12.01	8/3/2004	6.20	10/07/07: 12	0	0	
173	Damanganga	Madhuban Dam	Gujarat	79.86	82.40	80.60	9/27/1993	79.80	15/10/07: 17	19	19	100
174	Damanganga	Vapi Town	Gujarat	18.20	19.20	23.76	1976	17.15	09/08/07: 01	0	0	
175	Damanganga	Daman	Dadra & Nagar Hav	2.60	3.40	4.00	8/3/2004	2.20	02/07/07: 17	0	0	
								Total Forecasts		8223	7990	97.17
								Level Forecasts		6516	6339	97.28
								Inflow Forecast		1707	1651	96.72

Annex- 2A

Flood Forecasting Information (Statewise) in India during Flood Season 2005

Sl. No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2005		During 2005		
					Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecasts within limits	Percentage of accuracy
1	2	3	4	5	6	7	8	9	10	11	12
	Andhra Pradesh										
1	Vamsadhara	Gotta Barrage	FRL34.84 MWL47.4		39.92	07.10.1999	38.10	Many times	21	18	85.71
2	Godavari	Sriramsagar (Pochampad)	FRL=332.54		332.72	13.10.1990	332.54	31.07-29.08 & 09.09-15.10	22	20	90.91
3	Godavari	Kaleswaram	103.50	104.75	107.05	1986	102.55	10/30.07	0	0	
4	Godavari	Eturunagaram	73.29	75.79	77.68	1990	73.44	06/ 20.09	11	11	100.00
5	Godavari	Dummagudam	53.00	55.00	60.25	16.08.1986	53.44	14-15/20.09	6	5	83.33
6	Godavari	Bhdrachalam	45.72	48.77	55.66	16.08.1986	49.35	17-18/ 20.09.	43	42	97.67
7	Godavari	Kunavaram	37.74	39.24	51.30	16.08.1986	42.46	24/20.09-01/ 21.09	15	15	100.00
8	Godavari	Rajamundri	17.68	19.51	20.48	16.08.1986	18.91	24/20.09-02/ 21.09	16	13	81.25
9	Godavari	Dowlaiswaram	14.25	16.08	18.36	16.08.1986	16.58	04-10/ 21.09	28	27	96.43
10	Manjira	Singur Dam	FRL=523.60		523.60	1999	523.52	06/09.11	2	2	100.00
11	Manjira	Nizamsagar Dam	FRL=426.24		426.24	1999	427.33	06/03.11	1	1	100.00
12	Krishna	Priyadarshini	FRL=318.52		316.50	21.10.1993	316.55	18/02.09	145	143	98.62
13	Krishna	Srisailam Dam	FRL=269.75		269.93	13.10.1990	269.75	09/16.08	165	162	98.18
14	Krishna	Prakashan Barrage (Vijayawada)	FRL=18.30		21.5	07.10.1903	18.68	03/21.09	160	157	98.13
15	Tungabhadra	Mantralayam	310.00	312.00	315.80	19.11.1992	312.20	17/13.10	17	14	82.35
16	Pennar	Nellore *	15.91	17.26	18.70	30.11.1982	15.69	12/30.10	13	11	84.62
	Assam										
17	Brahmaputra	Dibrugrah	103.24	104.24	106.46	03.09.1998	105.75	19-21/ 27.08	324	324	100.00
18	Brahmaputra	Neamatighat	84.04	85.04	87.37	11.07.1991	86.15	07-10/ 25.08	91	90	98.90
19	Brahmaputra	Tezpur	64.23	65.23	66.59	27.08.1988	65.72	18-24/ 26.08-01-18/ 27.08	59	58	98.31
20	Brahmaputra	Guwahati	48.68	49.68	51.37	29.08.1988	49.60	07-21/ 29.08	15	15	100.00
21	Brahmaputra	Goalpara	35.27	36.27	37.43	31.07.1954	36.37	24/ 28.08-06/ 30.08	40	40	100.00
22	Brahmaputra	Dhubri	27.62	28.62	30.38	28.08.1988	29.10	23/28.08-05/29.08	131	131	100.00
23	Burhidihing	Naharkatia	119.40	120.40	122.69	17.06.1973	119.35	01-07/14.07	0	0	
24	Burhidihing	Chenimari (Khowang)	101.11	102.11	103.92	25.08.1988	103.45	07-11/15.07	29	26	89.66
25	Desang	Nangiamoraghat	93.46	94.46	96.49	06.09.1998	95.85	13-18/27.08	22	21	95.45
26	Dikhow	Shivsagar	91.40	92.40	95.62	08.07.1974	93.49	07-09/26.08	33	27	81.82
27	Subansiri	Badatighat	81.53	82.53	86.84	28.06.1972	82.66	08-13/26.08	30	30	100.00
28	Dhansiri (S)	Golaghat	88.50	89.50	91.30	11.10.1965	90.36	10-12/21.08	25	20	80.00
29	Dhansiri (S)	Numaligarh	76.42	77.42	79.87	24.09.1985	78.80	05-09/21.08	140	136	98.57
30	Jiabhoroli	N.T.Road Crossing	76.00	77.00	78.25	26.06.1998	77.85	06-09/24.08	209	191	91.39
31	Kopili	Kampur	59.50	60.50	61.66	16.06.1973	59.49	15/26.06	0	0	
32	Kopili	Dharmatul	55.00	56.00	57.68	24.05.1988	54.98	07-18/29.08	0	0	
33	Puthimari	N.H.Road Crossing	50.81	51.81	54.92	20.06.1993	54.37	06-07/20.07	219	212	96.80
34	Pagladiya	N.T.Road Crossing	51.75	52.75	55.38	15.09.1984	54.36	21/19.07	61	56	91.80
35	Beki	Road Bridge	44.10	45.10	46.20	04.08.2000	45.32	11-12/19.07	240	240	100.00
36	Manas	N.H.Road Crossing	47.81	48.42	50.08	15.09.1984	48.12	16-20/05.10	9	9	100.00
37	Sankosh	Golaikganj	28.94	29.94	30.91	21.07.1993	30.20	04-05/19.07	92	91	98.91
38	Barak	APGhat	18.83	19.83	21.84	01.06.1989	18.57	15-18/21.07	0	0	
39	Katakhal	Matizuri	19.27	20.27	22.58	09.08.2002	21.73	18-19/08.07	16	15	93.75
40	Kushiyara	Karimganj	13.94	14.94	16.36	23.07.1993	15.07	09-15/25.07	58	58	100.00
	Bihar										
41	Ganga	Buxar	59.32	60.32	62.09	1948	59.70	21/10.07-08/11.07	4	4	100.00
42	Ganga	Patna (Dighaghat)	49.45	50.45	52.52	23.08.1975	49.99	24/26.08- 06/27.08	4	4	100.00
43	Ganga	Patna (Gandhighat)	47.60	48.60	50.27	14.08.1994	48.79	09-14/27.08	21	21	100.00
44	Ganga	Hathidah	40.76	41.76	43.15	07.08.1971	41.64	18/27.08-04/28.08	10	10	100.00
45	Ganga	Munger	38.33	39.33	40.99	19.09.1976	38.27	07-18/ 28.08	0	0	
46	Ganga	Bhagalpur	32.68	33.68	34.20	17.09.2003	33.47	16/28.08- 18/29.08	8	8	100.00
47	Ganga	Colgong/ Kahalgaon	30.09	31.09	32.87	17.09.2003	32.14	21/28.08- 24/29.08	56	56	100.00
48	Ghaghra	Darauli	59.62	60.62	61.74	29.08.1998	60.88	15/23.08-06/27.08	43	43	100.00
49	Ghaghra	Gangpur Siwan	56.04	57.04	58.01	18.09.1983	56.61	08-14/ 27.08	5	5	100.00
50	Ghaghra	Chhapra	52.68	53.68	54.59	03.09.1982	51.73	18-24/ 26.08	0	0	
51	Gandak	Chatia	68.15	69.15	70.04	26.07.2002	67.82	18/ 28.08	0	0	
52	Gandak	Rewaghat	53.41	54.41	55.41	17.09.1986	53.72	07-14/ 29.08	9	9	100.00
53	Gandak	Hazipur	49.32	50.32	50.93	1948	49.19	21/26.08-11/27.08	0	0	
54	Burhi Gandak	Lalbeghaghat	62.20	63.20	67.09	30.07.1975	63.92	17/ 28.08	15	13	86.67

Flood Forecasting Information (Statewise) in India during Flood Season 2005

Sl. No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2005		During 2005		
					Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12
55	Burhi Gandak	Muzaffarpur (Sikandarpur)	51.53	52.53	54.29	15.08.1987	52.92	06/ 01.09	14	14	100.00
56	Burhi Gandak	Samastipur	45.02	46.02	49.38	15.08.1987	47.34	03/ 04.09	16	16	100.00
57	Burhi Gandak	Rosera	41.63	42.63	46.35	16.08.1987	44.43	11/ 04.09	20	20	100.00
58	Burhi Gandak	Khagaria	35.58	36.58	39.22	1978	37.31	18/ 28.08	31	31	100.00
59	Bagmati	Benibad	47.68	48.68	49.72	26.07.2002	49.75	08/ 29.08	81	78	96.30
60	Bagmati	Hayaghat	44.72	45.72	48.96	14.08.1987	47.02	16/ 02.09	33	32	96.97
61	Adhwara Group	Kamtaul	49.00	50.00	52.99	12.08.1987	51.07	11/ 30.08	32	31	96.88
62	Adhwara Group	Ekmighat	45.94	46.94	49.27	14.08.1987	47.75	17/ 02.09	35	35	100.00
63	Kamla Balan	Jhanjharpur	49.00	50.00	52.73	11.08.1987	52.28	17/ 27.08	58	58	100.00
64	Kosi	Basua	46.75	47.75	48.76	21.07.1996	48.42	21/ 27.08	242	235	97.11
65	Kosi	Baltara	32.85	33.85	36.40	15.08.1987	35.00	17/ 29.08	65	65	100.00
66	Kosi	Kursela	29.00	30.00	32.04	06.09.1998	31.10	02/ 29.08	64	64	100.00
67	Mahananda	Dhengraghat	34.85	35.85	38.09	1968	36.18	06/ 27.08	38	36	94.74
68	Mahananda	Jhawa	30.40	31.40	33.51	14.08.1987	31.52	18/ 28.08	65	65	100.00
69	Sone	Inderpuri	107.20	108.20	108.85	23.08.1975	107.00	11/2.7 &15-17/3.7	0	0	
70	Sone	Koelwar	54.52	55.52	58.88	20.07.1971	55.25	08-10/ 04.07	9	7	77.78
71	Sone	Maner	51.00	52.00	53.79	10.09.1976	51.56	22/26.08-08/27.08	5	5	100.00
72	PuriPun	Sripalpur	49.60	50.60	53.91	18.09.1976	51.76	12-14/ 26.08	7	7	100.00
	Chattisgarh										
73	Indravati	Jagdalpur	539.50	540.80	544.68	1973	540.71	10/14.09	18	17	89.47
	Union Territory of Dadra &Nagar haveli										
74	Damanganga	Daman $	2.60	3.40	2.40	02.07.1981	2.20	15/ 22.07	0	0	
	Gujarat										
75	Banas	Danitwada Dam	182.88	185.06	186.04	01.09.1973	175.02	05/27.09	0	0	
76	Sabarmati	Dharoi Dam	187.45	192.25	189.63	03.09.1990	189.59	02/30.09	11	9	81.82
77	Sabarmati	Ahmedabad (Shubhash Bridge)	44.09	45.34	46.85	18.07.1993	42.80	14/ 02.08	1	0	0.00
78	Mahi	Kadana Dam	126.19	127.71	127.74	09.09.1989	127.64	11/04.10	4	4	100.00
79	Mahi	Wanakbori	71.00	72.54	74.77	24.08.1990	71.24	06/ 29.07	0	0	
80	Narmada	Garudeswar	30.48	31.09	41.65	06.09.1970	21.11	05-10/ 05.08	0	0	
81	Narmada	Bharuch	6.71	7.31	12.65	07.09.1970	6.20	08/ 20.09	0	0	
82	Tapi	Ukai Dam	102.41	105.16	105.51	06.10.1990	104.30	14-15/27.09 & 18-21/30.09	28	28	100.00
83	Tapi	Surat	8.50	9.50	12.01	1968	4.40	15/ 17.09	0	0	
84	Damanganga	Madhuban Dam	79.86	82.40	80.60	27.09.1993	80.00	06/04.10-06/07.10	39	39	100.00
85	Damanganga	Vapi Town	18.20	19.20	20.72	1976	18.20	05/ 23.09	0	0	
	Haryana										
86	Yamuna	Tajewala Weir	PL=323.70		328.27	03.09.1978	325.50	05.07	0	0	
	Jharkhand										
87	Mayuraksh	Massanjore Dam	FRL = 121.31		122.67	25.09.1999	118.99	10-13/25.07	7	7	100.00
88	Damodar	Tenughat Dam	FRL = 268.83		265.56	17.09.1985	260.36	08/04.08	14	14	100.00
89	Damodar	Panchet Dam	FRL = 132.59		132.89	02.10.1959	125.72	12-15/26.08	50	50	100.00
90	Barakar	Maithon Dam	FRL= 150.88		151.79	02.10.1959	145.62	18-24/26.09	21	19	90.48
	Karnataka										
91	Bhima	Deongaon	404.46	407.00	406.30	29.08.1997	406.61	15/ 07.08	39	34	87.18
92	Krishna	Alamati Dam	FRL=519.60		519.60	18.09.2002	519.58	24/27.10	121	118	97.52
93	Krishna	Narayanpur Dam	FRL=492.25		492.11	29.10.1997	492.03	01/06.10	94	93	98.94
94	Tungbhadra	Tungabhadra Dam	FRL=497.74		497.74	05.10.1992	497.74	02/23.08	129	129	100.00
	Madhya Pradesh										
95	Narmada	Mandla	437.20	437.80	439.40	18.08.1974	438.08	18-19/ 06.08	7	7	100.00
96	Narmada	Hoshangabad	292.63	293.83	300.90	30.08.1973	293.35	05-14/ 06.07	3	3	100.00
	Maharashtra										
97	Godavari	Kopergaon	490.90	493.68	499.17	1969	495.04	06/ 23.09	107	102	95.33
98	Godavari	Jaikwadi Dam	FRL=463.91		464.69	12.10.1990	463.91	13/28.09	19	15	78.95
99	Godavari	Gangakhed	374.00	375.00	377.57	1947	374.13	21-24/22.09	5	4	80.00
100	Godavari	Nanded	353.00	354.00	355.65	1983	354.70	22/27.07-04/28.07	11	11	100.00
101	Wardha	Balharsha	171.50	174.00	176.00	1986	173.22	14/ 29.07	15	15	100.00
102	Wainganga	Bhandara	244.00	244.50	249.10	07.09.1994	250.90	21-23/16.09	46	41	89.13
103	Wainganga	Pauni	231.50	232.50	237.12	07.09.1994	230.56	21/15.09-06/16.09	35	33	94.29
104	Tapi	Hatnur Dam	212.02	214.00	214.00	12.10.1989	214.00	02/04.10	47	47	100.00
	National Capital Region: Delhi										
105	Yamuna	Delhi Rly Bridge	204.00	204.83	207.49	06.09.1978	204.86	10/18.07	14	13	92.86
106	Sahibi	Dhansa Regulator @	211.44	212.44	213.58	06.08.1977	210.85	08/26.09	0	0	
	Orissa										
107	Subernarekha	Rajghat	9.45	10.36	12.20	07.08.1997	8.97	01/22.09	0	0	
108	Burhabalang	N.H.5 Road Bridge	7.21	8.13	9.50	12.10.1973	8.10	23/23.10	15	13	86.67

Flood Forecasting Information (Statewise) In India during Flood Season 2005

Sl. No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2005		During 2005		
					Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12
109	Badami	Anandpor	37.44	38.36	41.20	19.08.1975	39.38	21/29.08	21	20	95.24
110	Badami	Akhuapada	18.29	19.20	21.95	16.08.1960	18.87	12/30.06	13	13	100.00
111	Brahmani	Jenapur Ex Way	22.00	23.00	24.78	20.08.1975	23.26	04/ 31.07	5	5	100.00
112	Mahanadi	Hirakud Dam	FRL=192.02		192.30	30.01.1998	192.07	Many times	65	63	96.92
113	Mahanadi	Naraj	26.41	26.41	27.61	31.08.1982	26.14	24/ 31.07	18	16	88.89
114	Mahanadi	Alipingal Devi	10.85	11.76	12.90	17.07.2001	11.33	09/ 01.08	3	3	100.00
115	Mahanadi	Nimapara	9.85	10.76	11.60	31.08.1982	10.23	17/01.08	2	2	100.00
116	Ruhikuduya	Purushottampur	16.83	16.83	19.65	04.11.1990	16.66	21/ 13.09	20	19	95.00
117	Vamsadhara	Gunupur	83.00	84.00	88.75	17.09.1980	84.83	18/ 18.09	18	15	83.33
118	Vamsadhara	Kashinagar	53.60	54.60	58.93	18.09.1980	55.67	21/ 18.09	50	48	96.00
	Tripura										
119	Manu	Kailashar	24.34	25.34	25.79	1993	25.52	18-19/21.09	2	0	0.00
120	Gumti	Sonamura	11.50	12.50	14.42	1993	11.34	18-20/29.08	0	0	
	Uttar Pradesh										
121	Ganga	Narora Barrage	PL= 180.79		180.18	06.09.1978	179.39	19/28.09	80	73	91.25
122	Ganga	Kannauj	124.90	125.97	126.24	29.8.98	126.07	04/03.10	14	14	100.00
123	Ganga	Ankinghat	123.00	124.00	124.31	09.09.1978	123.59	08/03.10	18	18	94.73684
124	Ganga	Kanpur +	113.00	114.00	115.47	02.09.1967	112.95	22/03.10	35	35	100.00
125	Ganga	Dalmau	98.36	99.36	99.84	03.08.1973	98.95	21/03.10	16	16	100.00
126	Ganga	Phaphamau	83.73	84.73	87.98	08.09.1978	83.58	17-20/09.07	0	0	
127	Ganga	Allahabad (Chhatnag)	83.73	84.73	88.03	08.9.1978	82.81	14-20/08.07	0	0	
128	Ganga	Mirzapur	76.72	77.72	80.34	09.09.1978	76.09	22-24/09.07	0	0	
129	Ganga	Varanasi	70.26	71.26	73.90	09.09.1978	70.45	04-11/10.07	2	2	100.00
130	Ganga	Ghazipur	62.11	63.11	65.22	09.09.1978	63.38	12-18/10.07	4	4	100.00
131	Ganga	Ballia	56.62	57.62	60.25	14.09.2003	58.46	05-08/11.07	22	22	100.00
132	Ramganga	Moradabad	189.60	190.60	192.68	03.09.1978	191.26	12/27.09	16	16	100.00
133	Ramganga	Bareilly	162.70	163.70	162.88	06.8.1978	162.16	24/28.09	1	1	100.00
134	Yamuna	Mawi	230.00	230.85	232.45	26.09.1988	230.94	01/ 08.07	14	13	92.86
135	Yamuna	Mathura	164.20	165.20	169.73	08.09.1978	164.86	22/20.07	21	19	90.48
136	Yamuna	Agra	151.40	152.40	154.76	09.09.1978	149.84	10-13/ 22.07	0	0	
137	Yamuna	Etawa	120.92	121.92	126.13	11.09.1978	118.99	10-13/ 22.07	0	0	
138	Yamuna	Auraiya	112.00	113.00	118.19	25.08.1996	118.99	12-18/ 23.07	0	0	
139	Yamuna	Kalpi	107.00	108.00	112.98	25.08.1996	103.28	15-23/ 18.07	0	0	
140	Yamuna	Hamirpur	102.83	103.63	108.59	12.09.1983	101.15	23-24/ 8.07	0	0	
141	Yamuna	Chitlaghat	99.00	100.00	105.16	09.09.1978	100.54	17-19/08.07	5	4	
142	Yamuna	Naini	83.74	84.74	87.99	08.09.1978	83.45	15-20/ 9.07	0	0	
143	Betwa	Mohana	121.66	122.66	133.69	11.09.1983	120.97	24/ 06.07	0	0	
144	Betwa	Sahjina	103.54	104.54	109.67	12.09.1983	101.38	17-19/ 08.07	0	0	
145	Ken	Banda	103.00	104.00	113.28	14.09.1992	113.29	11-14/ 07.07	22	22	100.00
146	Gomati	Lucknow (Hanuman setu)	108.50	109.50	110.85	10.09.1971	105.82	06/29.08	0	0	
147	Gomati	Jaunpur	73.07	74.07	77.74	22.09.1971	69.69	12-15/21.09	0	0	
148	Sai	Rae- Bareilly	100.00	101.00	104.81	17.09.1982	96.71	08/24.09	0	0	
149	Ghaghra	Elgin Bridge	105.07	106.07	107.18	14.09.1983	106.66	/2427.09	65	61	93.85
150	Ghaghra	Ayodhya	91.73	92.73	93.65	19.08.1998	93.18	23/23.08	80	77	96.25
151	Ghaghra	Turtipar	63.01	64.01	66.00	28.08.1998	64.24	06/25.08	47	46	97.87
152	Rapti	Bairampur	103.62	104.62	105.25	11.09.2000	104.55	21/23.07	17	17	100.00
153	Rapti	Banai	83.90	84.90	85.82	21.08.1998	84.21	24/22.07	11	10	90.91
154	Rapti	Gorakhpur (Birdghat)	73.98	74.98	77.54	23.08.1998	74.90	15/24.07	15	15	100.00
155	Gandak	Khadda	95.00	96.00	97.50	23.07.2002	96.00	23/ 19.08	246	226	91.87
	Uttarakhand										
156	Ganga	Rishikesh	339.50	340.50	341.72	05.09.1995	340.00	18/25.09	3	3	100.00
157	Ganga	Haridwar	293.00	294.00	296.23	02.09.1978	294.97	09/25.09	45	35	77.78
158	Alaknanda	Srinagar #	539.00	540.00	536.85	05.09.1995	534.55	07 / 29.07	0	0	
	West Bengal										
159	Ganga	Farakka	21.25	22.25	25.14	07.09.1998	24.43	06/30.08- 24/31.08	64	64	100.00
160	Mayurakshi	Tilpara Barrage	PL= 62.79		67.05	27.09.1978	62.79	Many times	7	7	100.00
161	Mayurakshi	Narayanpur	26.99	27.99	29.69	27.09.1995	25.81	18-19/ 15.07	0	0	
162	Ajoy	Ghiropara	38.42	39.42	43.94	27.09.1978	38.33	18-21/ 15.07	0	0	

Flood Forecasting Information (Statewise) In India during Flood Season 2005

Sl. No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level - 2005		During 2005		
					Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecasts within limits	Percentage of accuracy
1	2	3	4	5	6	7	8	9	10	11	12
163	Damodar	Durgapur Barrage	PL = 64.47		64.47	31.10.2002	64.47	Many times	33	33	100.00
164	Mundeshwari	Harinkhola	11.60	12.60	14.58	29.09.1978	9.46	16-22/17.07	0	0	
165	Kangsabati	Kangsabati Dam	FRL=134.11		134.71	02.09.1978	132.45	24/ 07.10	10	10	100.00
166	Kangsabati	Mohanpur	24.73	25.73	29.87	02.09.1978	25.10	04-05/ 21.08	0	0	
167	Raidak-I	Tufanganj	34.22	35.30	36.36	21.07.1993	34.81	06-07/17.07	11	11	100.00
168	Torsa	Ghughumari	39.80	40.41	41.46	03.08.2000	40.38	23/19.07-01-20.07	10	8	80.00
169	Jaldhaka	NH-31	80.00	80.90	81.33	28.07.1972	80.27	01/20.07	15	15	100.00
170	Jaldhaka	Mathabhanga	48.20	48.70	49.60	29.07.1972	48.68	16-17/19.07	5	5	100.00
171	Tista	Domohani	85.65	85.95	86.78	13.06.1971	85.99	18/20.07,	35	35	100.00
172	Tista	Mekhliganj	85.45	85.95	86.45	13.07.1996	85.62	19-22/07.08	12	12	100.00
173	Chambal	Gandhisagar dam							0	0	
								Total Forecasts	5618	5423	96.53
								Level Forecasts	4913	4769	97.07
								Inflow Forecast	705	654	92.77

@ No forecast has been issued for Dhansa regulator on Sahibi river since 1998.
+Although the water level was below the warning level at Kanpur site on the Ganga river, the forecasts were issued on the request of local authorities.

Forecast could not be issued at Srinagar on Alaknanda river as the site was converted into new forecasting site recently.

Annex- 2B

Flood Forecasting Information (Statewise) In India during Flood Season 2006

Sl.No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2006		During 2006		
					Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecasts within limits	Percent-age of accuracy
1	2	3	4	5	6	7	8	9	10	11	12
	Andhra Pradesh										
1	Vamsadhara	Gotta Barrage	FRL34.84	MWL47.4	39.92	10/7/1990	0		43	37	86
2	Godavari	Sriram Sagar	FRL=332.54		332.72	10/13/1990	332.54	19/08/06: 22	36	33	91.7
3	Godavari	Kaleswaram	103.50	104.75	107.05	1986	104.54	04/08/06: 00	27	24	88.9
4	Godavari	Eturunagaram	73.29	75.79	77.66	1990	76.59	06/08/06: 07	94	76	80.9
5	Godavari	Dummagudam	53.00	55.00	60.25	8/16/1986	57.87	06/08/06: 16	75	63	84
6	Godavari	Bhadrachalam	45.72	48.77	55.66	8/16/1987	53	06/08/06: 23	110	105	95.5
7	Godavari	Kunavaram	37.74	39.24	51.30	8/16/1986	46.27	07/08/07: 05	91	87	95.6
8	Godavari	Rajamundri	17.68	19.51	20.48	8/16/1989	19.8	07/08/06: 07	49	41	83.7
9	Godavari	Dowaleiswaram	14.25	16.68	18.36	8/16/1990	17.62	07/08/06: 08	115	106	92.2
10	Manjira	Singur Dam	FRL=523.60		523.60	1999	523.6	06/10/06: 06	5	3	60
11	Manjira	Nizamsagar Dam	FRL=428.24		428.24	1999	428.24	09/10/06: 18	2	2	100
12	Krishna	Priyadarshini	FRL=318.52		316.50	10/21/1993	316.85	16/09/06: 05	144	142	98.6
13	Krishna	Srisailam Dam	FRL=269.75		269.93	10/13/1990	269.75	22/09/06: 01	148	148	99.3
14	Krishna	Prakasham Barrage	FRL=18.30		21.50	10/7/1903	18.23	17/09/06: 05	112	111	99.1
15	Tungbhadra	Mantralayam	310.00	312.00	315.80	11/19/1992	312.06	15/08/06: 12	12	10	83.3
16	Pennar	Nellore	15.91	17.28	18.70	11/30/1982	14.04	28/07/06: 09	0	0	
	Assam										
17	Brahmaputra	Dibrugrah	103.24	104.24	106.48	9/3/1998	105.57	13/06/06: 01	324	324	100
18	Brahmaputra	Neamatighat	84.04	85.04	87.37	7/11/1991	86.1	13/06/06: 13	88	85	96.6
19	Brahmaputra	Tezpur	64.23	65.23	66.59	8/27/1988	65.26	14/06/06: 12	39	39	100
20	Brahmaputra	Guwahati	48.68	49.68	51.37	8/29/1988	48.7	15/06/06: 06	2	2	100
21	Brahmaputra	Goalpara	35.27	36.27	37.43	7/31/1954	35.53	16/06/06: 04	7	6	85.7
22	Brahmaputra	Dhubri	27.62	28.62	30.36	8/28/1988	28.45	16/06/06: 20	90	90	100
23	Buthidihing	Naharkatia	119.40	120.40	122.69	8/17/1973	117.8	15/07/06: 01	0	0	
24	Burhidihing	Khowang	101.11	102.11	103.92	8/25/1988	101.81	02/06/06: 15	26	25	96.2
25	Dessing	Nangtamoraghat	93.46	94.46	96.49	9/6/1998	94.93	20/07/06: 01	30	30	100
26	Dikhow	Shivsagar	91.40	92.40	95.62	7/6/1974	93.63	23/07/06: 00	38	38	100
27	Subansiri	Badatighat	81.53	82.53	86.84	6/28/1972	82	14/06/06: 02	20	19	95
28	Dhansiri (S)	Golaghat	88.50	89.50	91.30	10/11/1988	89.65	19/07/06: 11	262	254	96.9
29	Dhansiri (S)	Nuthalgarh	76.42	77.42	79.67	9/24/1985	78.31	19/07/06: 16	67	67	100
30	Jiabharali	Jiabharali_NTX	76.00	77.00	78.25	6/26/1998	77.7	14/09/06: 09	10	10	100
31	Kopili	Kampur	59.50	60.50	61.86	6/16/1973	61.39	02/06/06: 01	11	11	100
32	Kopili	Dharmatul	55.00	56.00	57.68	5/24/1988	55.43	03/06/06: 03	13	13	100
33	Puthimari	Puthimari_NHX	50.81	51.81	54.92	6/20/1993	53.65	13/06/06: 12	249	244	98
34	Pagladiya	Pagladia_NTX	51.75	52.75	55.38	9/15/1984	53.09	13/06/06: 06	26	22	84.6
35	Beki	Beki NHX	44.10	45.10	46.20	8/4/2000	45.32	26/07/06: 12	253	253	100
36	Manas	Manas NHX	47.81	48.42	50.08	9/15/1984	47.84	08/09/06: 21	1	1	100
37	Sankosh	Golakganj	28.94	29.94	30.91	7/21/1993	29.65	29/06/06: 01	72	71	98.6
38	Barak	APGhat	18.83	19.83	21.84	8/1/1989	20.64	13/06/06: 18	17	14	82.4
39	Katakhal	Mattzuri	19.27	20.27	22.58	8/9/2002	22.47	02/06/06: 04	34	31	91.2
40	Kushiyara	Karimganj	13.94	14.94	16.36	7/23/1993	16.39	14/06/06: 01	87	86	98.9
	Bihar										
41	Ganga	Buxar	59.32	60.32	62.09	1948	59.786	07/09/06: 18	3	3	100
42	Ganga	Patna Gandhighat	49.45	50.45	52.52	8/23/1975	48.489	07/09/06: 22	21	21	100
43	Ganga	Patna Dighaghat	47.6	48.6	50.27	8/14/1994	49.55	08/09/06: 08	5	5	100
44	Ganga	Hathidah	40.76	41.76	43.15	8/7/1971	41.555	09/09/06: 09	21	21	100
45	Ganga	Munger	38.33	39.33	40.99	9/19/1978	37.81	09/09/06: 18	0	0	
46	Ganga	Bhagalpur	32.68	33.68	34.20	9/17/2003	33.04	29/08/06: 18	11	11	100
47	Ganga	Kahalgaon	30.09	31.09	32.87	9/17/2003	31.48	29/08/06: 18	32	32	100
48	Ghaghra	Darauli	59.82	60.82	61.74	8/29/1998	60.7	31/06/06: 18	32	32	100
49	Ghaghra	Gangpur Siswan	56.04	57.04	58.01	9/18/1983	56.675	02/09/06: 02	6	6	100
50	Ghaghra	Chhapra	52.68	53.68	54.59	9/3/1982	51.55	08/09/06: 08	0	0	
51	Gandak	Chatia	68.15	69.15	70.04	7/26/2002	68.03	30/08/06: 19	0	0	
52	Gandak	Rewaghat	53.41	54.41	55.41	9/17/1986	53.485	31/08/06: 02	6	6	100
53	Gandak	Hazipur	49.32	50.32	50.93	1948	48.84	27/08/06: 18	0	0	
54	Burhi Gandak	Lalbeghiaghat	62.20	63.20	67.09	7/30/1975	62.56	17/07/06: 00	7	7	100
55	Burhi Gandak	Muzaffarpur Sikandarpur	51.53	52.53	54.29	8/15/1987	52.23	29/09/06: 06	8	8	100
56	Burhi Gandak	Samastipur	45.02	46.02	49.38	8/15/1987	45.4	20/07/06: 09	7	7	100
57	Burhi Gandak	Rosera	41.63	42.63	46.35	8/16/1987	42.9	20/07/06: 08	16	16	100
58	Burhi Gandak	Khagaria	35.58	36.58	39.22	1976	36.55	28/08/06: 23	22	22	100
59	Bagmati	Benibad	47.68	48.68	50.01	2004	49.66	28/09/06: 17	116	114	98.3
60	Bagmati	Hayaghat	44.72	45.72	46.96	8/14/1987	46.34	03/10/06: 02	29	29	100
61	Adhwara Group	Kamtaul	49.00	50.00	52.99	8/12/1987	51.1	30/09/06: 00	42	42	100
62	Adhwara Group	Ekmighat	45.94	46.94	49.27	8/14/1987	47.56	04/10/06: 14	31	28	90.5
63	Kamla Balan	Jhanjharpur	49.00	50.00	52.73	8/11/1987	51.31	26/09/06: 07	52	52	100
64	Kosi	Baltua	46.75	47.75	48.76	7/21/1996	48.42	27/09/06: 02	283	270	95.4
65	Kosi	Ballara	32.85	33.85	36.40	8/15/1987	34.57	28/09/06: 01	80	80	100
66	Kosi	Kursela	29.00	30.00	32.04	9/6/1998	30.52	29/08/06: 18	43	43	100
67	Mahananda	Dhengraghat	34.65	35.65	38.09	1968	36.09	26/09/06: 18	37	36	97.3
68	Mahananda	Jhawa	30.40	31.40	33.51	8/14/1987	31.22	26/08/06: 18	39	39	100
69	Sone	Inderpuri	107.20	108.20	108.85	8/23/1975	106.35	27/08/06: 05	0	0	
70	Sone	Koelwar	54.52	55.52	58.86	7/29/1971	54.824	27/08/06: 06	3	3	100
71	Sone	Maner	51.00	52.00	53.79	9/10/1976	51.3	08/09/06: 05	6	6	100
72	PunPun	Sripalpur	49.60	50.60	53.91	9/18/1976	52.975	29/09/06: 10	32	32	100

Sl.No	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level 2006		During 2006		
					Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecasts within limits	Percentage of accuracy
1	2	3	4	5	6	7	8	9	10	11	12
	Chhatisgarh										
73	Indravati	Jagdalpur	539.50	540.80	544.68	1973	543.37	05/07/06: 07	72	69	95.8
	Dadra & Nagar Haveli										
74	Damanganga	Daman	2.6	3.4	2.40	7/2/1981	2	10/08/06: 15	0	0	
	Gujarat										
75	Banas	Danliwada Dam	182.88	185.06	186.04	9/11/1973	0		18	17	94.4
76	Sabarmati	Dharoi Dam	187.45	192.25	189.63	9/3/1990	0		34	31	91.2
77	Sabarmati	Ahmedabad Shubhash Bridge	44.09	45.34	46.85	7/18/1993	47.45	19/09/06: 06	15	14	93.3
78	Mahi	Kadana Dam	126.19	127.71	127.74	9/9/1989	0		61	60	98.4
79	Mahi	Wanakbori	71.00	72.54	74.77	8/24/1990	76.1	12/08/06: 04	41	35	85.4
80	Narmada	Garudeswar	30.48	31.09	41.65	9/6/1970	31.2	07/08/06: 11	1	1	100
81	Narmada	Bharuch	6.71	7.31	12.65	9/7/1970	9.7	07/08/06: 10	26	24	92.3
82	Tapi	Ukai Dam	102.41	105.16	105.51	10/8/1990	105.483	10/08/06: 03	72	72	100
83	Tapi	Surat	8.50	9.50	12.91	1968	12.5	09/08/06: 07	27	26	96.3
84	Damanganga	Madhuban Dam	79.86	82.4	80.60	9/27/1993	80	14/10/06: 20	22	21	95.5
85	Damanganga	Vapi Town	18.20	19.20	20.72	1976	17.6	08/09/06: 16	0	0	
	Haryana										
16	Yamuna	Tajewala Weir	PL=323.70		328.27	9/3/1978	0		0	0	
	Jharkhand										
87	Ganga	Sahibguni	26.25	27.25	30.91		27.82	30/08/06: 00	59	59	100
88	Mayurakshi	Massanjore Dam	FRL = 121.31		122.67	9/25/1999	118.99	22/09/06: 10	11	10	90.9
89	Damodar	Tenughat Dam	FRL = 268.83		265.56	9/17/1995	260.36	23/09/06: 23	68	67	98.5
90	Damodar	Panchet Dam	FRL = 132.59		132.89	10/2/1959	125.72	25/09/06: 09	93	93	100
91	Barakar	Maithon Dam	FRL= 150.98		151.79	10/2/1959	145.62		57	54	94.7
	Karnataka										
92	Krishna	Alamati Dam	FRL=519.60		519.60	8/18/2002	519.6	15/09/06: 06	105	104	99
93	Krishna	Narayanpur Dam	FRL=492.25		492.11	10/29/1997	491.7	16/09/06: 11	94	92	97.9
94	Bhima	Deongaon	400.00	407.00	406.30	8/29/1997	407.34	13/08/06: 03	46	41	89.1
95	Tungbhadra	Tungabhadra Dam	FRL=497.74		497.74	10/5/1992	497.74	18/09/06: 18	127	127	100
	Madhya Pradesh										
96	Chambal	Gandhisagar Dam					0		8	7	87.5
97	Narsmada	Mandla	437.20	437.80	439.40	8/18/1974	437.92		2	2	100
98	Narsmada	Hoshangabad	292.83	293.83	300.90	8/30/1973	294.8		9	9	100
	Maharashtra										
99	Godavari	Kopergaon	490.90	493.68	499.17	1969	498.2	10/08/06: 06	83	69	83.1
100	Godavari	Jaikwadi Dam	FRL=463.91		464.69	10/12/1990	463.91	05/10/06: 06	29	25	86.2
101	Godavari	Gangakhed	374.00	375.00	377.57	1947	377.24	14/08/06: 23	44	41	93.2
102	Godavari	Nanded	353.00	354.00	355.65	1983	357.1	06/08/06: 17	31	27	87.1
103	Wardha	Balharsha	171.50	174.00	176.00	1986	175.89	09/08/06: 06	55	53	96.4
104	Wainganga	Bhandara	244.00	244.50	250.90	9/16/2006	250.22	15/08/06: 20	35	32	91.4
105	Wainganga	Pauni	231.50	232.50	237.12	9/7/1994	229.58	16/08/06: 01	35	34	97.1
106	Krishna	Arjunwad							0	0	
107	Tapi	Hatnur Dam	212.02	214.00	214.00	10/12/1989	214	07/10/06: 23	45	41	91.1
	NCT Delhi										
108	Yamuna	Delhi Rly Bridge	204.00	204.83	207.49	9/6/1978	204	28/07/06: 07	0	0	
109	Sahibi	Dhansa	211.44	212.44	213.58	8/6/1977	209.3	08/09/06: 08	0	0	
	Orissa										
110	Subernarekha	Rajghat	9.45	10.36	12.20	8/7/1997	12	31/07/06: 23	48	46	95.8
111	Burhabalang	NH_5_Road Bridge	7.21	8.13	9.50	10/12/1973	8.02	05/09/06: 21	13	13	100
112	Baitarni	Anandpur	37.44	38.36	41.20	8/19/1975	38.95	22/08/06: 21	19	15	78.9
113	Baitarni	Akhuapada	18.29	19.20	21.95	8/16/1960	18.81	23/08/06: 18	20	19	95
114	Brahmani	Jenapur	22.00	23.00	24.78	8/20/1975	23.36	24/08/06: 12	4	3	75
115	Rushikuluya	Purushottampur	15.83	16.83	19.65	11/4/1990	17.6	04/07/06: 06	16	12	75
116	Vamsadhara	Gunupur	83.00	84.00	88.75	9/17/1980	85.25	03/07/06: 11	44	32	72.7
117	Vamsadhara	Kashinagar	53.60	54.60	58.93	9/18/1980	56.35	03/07/06: 15	220	202	91.8
118	Mahanadi	Hirakud Dam	FRL=192.02		192.30	1/30/1998	0		57	53	93
119	Mahanadi	Naraj	25.41	26.41	27.61	8/31/1982	26.7	01/09/06: 03	39	35	89.7
120	Mahanadi	Alipingal Devi	10.85	11.76	12.90	7/17/2001	12.4	01/09/06: 13	7	5	71.4
121	Mahanadi	Nimapara	9.85	10.76	11.60	8/31/1982	10.86	01/09/06: 14	8	6	75
	Tripura										
122	Manu	Kailashar	24.34	25.34	25.79	1993	24.5	01/06/06: 22	2	2	100
123	Gumti	Sonamura	11.50	12.50	14.42	1993	11.72	11/06/06: 07	2	2	100
	Uttar Pradesh										
124	Ganga	Narora Barrage	PL= 180.79 at D/S		180.18	9/8/1978	179.12	15/06/06: 01	46	46	100
125	Ganga	Kannauj	124.90	125.97	126.24	8/29/1998	124.295	05/09/06: 18	0	0	
126	Ganga	Ankinghat	123.00	124.00	124.31	9/9/1978	122.39	05/09/06: 20	0	0	
127	Ganga	Kanpur	113.00	114.00	113.47	9/2/1967	111.7	06/09/06: 16	0	0	
128	Ganga	Dalmau	98.36	99.36	99.84	8/3/1973	97.35	07/09/06: 17	0	0	
129	Ganga	Phphamau	83.73	84.73	87.98	9/8/1978	83	06/09/06: 10	0	0	
130	Ganga	Allahabad Chhatnag	83.73	84.73	88.03	9/8/1978	82.26	06/09/06: 12	0	0	
131	Ganga	Mirzapur	76.72	77.72	80.34	9/9/1978	75.46	06/09/06: 22	0	0	
132	Ganga	Varanasi	70.26	71.26	73.90	9/9/1978	69.92	07/09/06: 05	0	0	
133	Ganga	Ghazipur	62.11	63.11	65.22	9/9/1978	63.17	07/09/06: 18	5	5	100
134	Ganga	Ballia	56.62	57.62	60.25	9/14/2003	58.53	08/09/06: 03	21	21	100
135	Ramganga	Moradabad	189.60	190.60	192.68	9/3/1978	189.9	27/07/06: 08	1	0	0
136	Ramganga	Bareilly	162.07	163.07	162.88	8/5/1978	160.57	05/09/06: 00	0	0	

Sl.No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2006		During 2006		
					Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecasts within limits	Percentage of accuracy
1	2	3	4	5	6	7	8	9	10	11	12
137	Yamuna	Mawi	230.00	230.85	232.45	9/26/1998	230.01	24/07/06: 13	1	0	0
138	Yamuna	Mathura	164.20	165.20	169.73	9/8/1978	164.4	13/08/06: 04	5	5	100
139	Yamuna	Agra	151.40	152.40	154.76	9/9/1978	148.72	14/08/06: 12	0	0	
140	Yamuna	Etawa	120.92	121.92	126.13	9/11/1978	117.81	05/09/06: 04	0	0	
141	Yamuna	Auraiya	112.00	113.00	118.19	8/25/1996	113.74	04/09/06: 23	6	6	100
142	Yamuna	Kalpi	107.00	109.00	112.98	8/25/1996	108.92	05/09/06: 05	5	4	80
143	Yamuna	Hamirpur	102.63	103.63	108.59	9/12/1983	104.04	05/09/06: 06	5	5	100
144	Yamuna	Chilaghat	99.00	100.00	105.16	9/8/1978	95.55	05/09/06: 20	3	3	100
145	Yamuna	Naini	83.74	84.74	87.99	9/8/1978	82.91	06/09/06: 15	0	0	
146	Betwa	Mohana	121.66	122.66	133.69	9/11/1983	122	03/09/06: 00	2	2	100
147	Ken	Banda	103.00	104.00	113.28	9/14/1992	101.5	01/08/06: 23	0	0	
148	Gomati	Lucknow HanumanSetu	108.5	109.5	110.85	9/10/1971	106.29	17/07/06: 00	0	0	
149	Gomati	Jaunpur	73.07	74.07	77.74	9/22/1971	70.56	09/07/06: 13	0	0	
150	Sai	Raibareli	100.00	101.00	104.81	9/17/1982	99.194	28/07/06: 06	0	0	
151	Ghaghra	Elgin Bridge	105.07	106.07	107.18	9/14/1983	106.676	29/08/06: 12	64	60	93.8
152	Ghaghra	Ayodhya	91.73	92.73	93.65	8/19/1998	93.32	30/08/06: 18	66	65	98.5
153	Ghaghra	Turtipar	63.01	64.01	66.00	8/28/1998	64.31	02/09/06: 16	38	36	94.7
154	Rapti	Bakampur	103.62	104.62	105.25	9/11/2000	104.49	30/08/06: 14	7	5	71.4
155	Rapti	Bansi	83.90	84.90	86.82	8/21/1998	83.985	02/09/06: 17	5	4	80
156	Rapti	Gorakpur Birdghat	73.98	74.98	77.54	8/23/1998	73.69	03/09/06: 03	0	0	
157	Gandak	Khadda	95.00	96.00	97.50	7/23/2002	96.2	26/08/06: 21	296	282	95.3
158	Betwa	Sahjina	103.54	104.54	108.67	9/12/1983	104.05	05/09/06: 02	4	3	75
	Uttaranchal										
159	Alaknanda	Srinagar	538.00	540.00	536.85	9/5/1995	534.25	31/08/06: 11	5	5	
160	Ganga	Rishikesh	339.50	340.50	341.72	9/5/1895	338.98	31/08/06: 17	0	0	
161	Ganga	Haridwar	293.00	294.00	296.23	9/2/1978	292.98	28/07/06: 20	0	0	
	West Bengal										
162	Ganga	Farakka	21.25	22.25	23.14	9/7/1998	22.67	31/08/06: 03	90	89	98.9
163	Mayurakshi	Tilpara Barrage	PL= 62.79		67.05	8/27/1978	62.79		20	20	100
164	Mayurakshi	Narayanpur	26.99	27.99	29.69	9/27/1995	25.81	26/09/06: 03	13	10	76.9
165	Ajoy	Gheropara	38.42	39.42	43.94	9/27/1978	38.33	24/09/06: 04	10	7	70
166	Damodar	Durgapur Barrage	PL = 64.47		64.47	10/31/2002	64.47		81	81	100
167	Mundeshwari	Harinkhola	11.80	12.80	14.58	9/29/1978	9.46	24/09/06: 15	8	5	83.3
168	Kangsabati	Kangsabati Dam	FRL=134.11		134.71	9/2/1978	128.05	04/10/06: 09	54	53	98.1
169	Kangsabati	Mohanpur	24.73	25.73	29.87	9/2/1978	22.74	24/09/06: 00	3	2	66.7
170	Raidak-I	Tufanganj	34.22	35.30	36.36	7/21/1993	34.97	29/06/06: 05	8	7	87.5
171	Torsa	Ghughumari	39.80	40.41	41.46	8/3/2000			0	0	
172	Jaldhaka	NH-31	80.00	80.90	81.33	7/28/1972	80.05	09/09/06: 08	6	6	100
173	Jaldhaka	Mathabhanga	48.20	48.70	49.60	7/29/1972	48.97	08/07/06: 00	4	4	100
174	Tista	Domohani	85.65	85.95	86.78	6/13/1971	85.75	13/09/06: 07	6	6	100
175	Tista	Mekhliganj	65.45	65.95	66.45	7/13/1996	65.72	09/09/06: 22	18	18	100
							Total Forecasts		**6663**	**6377**	**95.71**
							Level Forecasts		**5070**	**4827**	**95.21**
							Inflow Forecast		**1593**	**1550**	**97.30**

Annex- 2C

Flood Forecasting Information (Statewise) In India during Flood Season 2007

Sl.No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2007		During 2007		
					Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecasts within limits	Percentage of accuracy
1	2	3	4	5	6	7	8	9	10	11	12
	Andhra Pradesh										
1	Vismadhara	Gotta Barrage	FRL34.84	MWL47.4	39.92	10/7/1990	38.90	05/10/07: 11	17	13	86
2	Godavari	Sriram Sagar	FRL=332.54		332.72	10/13/1990	332.05	10/10/07: 09	6	6	100
3	Godavari	Kalmnagam	103.56	104.75	107.05	1986	103.33	09/08/07: 14	0	0	0
4	Godavari	Eturnthagaram	73.29	75.79	77.66	1990	74.84	03/08/07: 14	21	20	95.2
5	Godavari	Dummagudem	53.00	55.00	60.25	8/10/1986	54.70	10/08/07: 01	17	17	100
6	Godavari	Bhadrachalam	45.72	48.77	55.66	8/16/1986	48.98	10/08/07: 05	22	21	95.5
7	Godavari	Kunavaram	37.74	39.24	51.30	8/16/1986	39.56	10/08/07: 19	15	14	93.3
8	Godavari	Rajamundri	17.68	19.51	20.48	8/16/1986	17.33	11/08/07: 00	0	0	0
9	Godavari	Dowlaswaram	14.25	16.08	18.36	8/16/1986	15.27	10/08/07: 23	21	21	100
10	Manjira	Singur Dam	FRL=523.60		523.60	1999	522.07	09/10/07: 07	2	0	0
11	Manjira	Nizamsagar Dam	FRL=428.24		428.24	1999	424.07	15/10/07: 22	0	0	0
12	Krishna	Priyadarshini	FRL=318.52		316.50	10/21/1990	317.30	21/07/07: 06	181	156	86.0
13	Krishna	Srisailam Dam	FRL=269.75		269.93	10/13/1990	269.75	21/08/07: 15	178	172	96.6
14	Krishna	Prakasham Barrage	FRL=18.30		21.50	10/7/1903	18.25	21/09/07: 00	170	163	95.9
15	Tungbhadra	Mantralayam	310.00	312.00	315.80	11/19/1962	314.20	19/09/07: 15	27	25	92.6
16	Pennar	Nellore	15.91	17.29	18.70	30-11-1882	16.46	30/11/07: 11	1	1	100
	Assam										
17	Brahmaputra	Dibrugrah	103.24	104.24	106.48	9/3/1998	105.93	30/07/07: 04	307	307	100
18	Brahmaputra	Neamatighat	84.04	85.04	87.37	7/11/1991	86.66	30/07/07: 23	117	116	99.1
19	Brahmaputra	Tezpur	64.23	65.23	66.59	8/27/1988	65.95	10/09/07: 13	59	59	100
20	Brahmaputra	Guwahati	48.68	49.68	51.46	7/21/2004	50.05	29/07/07: 00	33	32	97
21	Brahmaputra	Goalpara	35.27	36.27	37.43	7/31/1954	36.75	29/07/07: 19	53	52	98.1
22	Brahmaputra	Dhubri	27.62	28.62	30.36	8/29/1988	29.62	30/07/07: 16	173	173	100
23	Barhidihing	Naharkatia	119.40	120.40	122.59	9/17/1973	116.80	16/06/07: 13	0	0	0
24	Barhidihing	Khowang	101.11	102.11	103.92	8/25/1988	103.86	28/07/07: 09	59	57	98.3
25	Dessng	Nangiamoraghat	93.46	94.46	96.49	8/5/1988	96.27	07/09/07: 05	116	112	96.6
26	Dikhow	Shivsagar	91.40	92.40	95.62	7/8/1974	93.82	23/07/07: 14	71	69	97.2
27	Subansiri	Badatighat	81.53	82.53	86.84	6/28/1972	82.90	27/07/07: 17	75	73	97.3
28	Dhansiri (S)	Golaghat	88.50	89.50	91.30	10/11/1986	90.36	03/09/07: 21	76	75	98.7
29	Dhansiri (S)	Numaligarh	76.42	77.42	79.87	9/24/1985	79.34	08/09/07: 09	219	219	100
30	Jiabharali	Jiabharali_NTX	76.00	77.00	78.25	6/26/1998	78.50	26/07/07: 14	296	288	97.3
31	Kopili	Kampur	55.00	56.00	58.09	7/21/2004	61.76	11/09/07: 04	28	28	100
32	Kopili	Dharmatul	55.00	56.00	58.09	7/21/2004	57.49	12/09/07: 01	90	89	98.9
33	Puthimari	Puthimari_NHX	50.81	51.81	54.92	6/20/1995	55.04	27/07/07: 21	311	297	95.5
34	Pagladiya	Pagladia_NTX	51.75	52.75	55.45	7/8/2004	53.94	27/07/07: 00	56	53	94.6
35	Beki	Beki NHX	44.10	45.10	46.20	8/4/2000	45.89	30/07/07: 15	331	331	100
36	Manas	Manas NHX	47.81	48.42	50.08	9/15/1984	48.05	30/07/07: 02	10	10	100
37	Sankosh	Golakganj	28.94	29.94	30.91	7/21/1993	30.95	08/09/07: 03	100	96	96
38	Barak	APGhat	18.83	19.83	21.84	8/1/1988	21.42	09/09/07: 22	69	69	100
39	Katakhal	Matizuri	19.27	20.27	22.63	6/25/2004	22.73	10/09/07: 04	101	99	98
40	Kushiyara	Karimganj	13.94	14.94	16.39	6/13/2004	16.55	09/09/07: 22	168	168	100
	Bihar										
41	Ganga	Buxar	59.32	60.32	62.09	1948	56.15	17/08/07: 18	0	0	0
42	Ganga	Patna (Dighaghat)	49.45	50.45	52.52	8/23/1975	49.86	07/08/07: 06	11	11	100
43	Ganga	Patna (Gandhighat)	47.60	48.60	50.27	8/14/1994	48.50	11/00/07: 07	51	51	100
44	Ganga	Hathidah	40.76	41.76	43.15	8/7/1971	41.49	11/00/07: 07	49	49	100
45	Ganga	Munger	38.33	39.33	40.99	9/19/1978	38.04	21/08/07: 19	0	0	0
46	Ganga	Bhagalpur	32.58	33.68	34.20	9/17/2000	33.28	22/08/07: 16	32	32	100
47	Ganga	Kahalgaon	30.09	31.09	32.67	9/17/2000	31.74	13/00/07: 10	77	77	100
48	Ghaghra	Darauli	59.82	60.82	61.74	8/29/1998	61.04	06/08/07: 05	58	58	100
49	Ghaghra	Gangpur Siswan	56.04	57.04	58.01	9/18/1980	57.12	06/08/07: 00	27	27	100
50	Ghaghra	Chhapra	52.68	53.68	54.59	9/3/1982	50.72	19/08/07: 10	0	0	0
51	Gandak	Chatia	68.15	69.15	70.04	7/20/2002	70.00	19/08/07: 10	43	43	100
52	Gandak	Rewaghat	53.41	54.41	55.41	9/17/1998	54.94	10/00/07: 09	36	36	100
53	Gandak	Hajipur	49.32	50.32	50.93	5/1/1905	49.00	10/00/07: 19	0	0	0
54	Burhi Gandak	Lalbeghiaghat	62.20	63.20	67.09	7/30/1975	65.03	20/08/07: 03	42	41	97.6
55	Burhi Gandak	Muzaffarpur Sikandarpur	51.53	52.53	54.29	8/15/1987	54.09	22/08/07: 09	75	73	97.3
56	Burhi Gandak	Samastipur	45.02	46.02	49.38	8/15/1987	49.25	03/08/07: 06	81	81	100
57	Burhi Gandak	Rosera	41.63	42.63	46.35	8/16/1987	46.06	02/08/07: 19	80	79	98.8
58	Burhi Gandak	Khagaria	35.58	36.58	39.22	1976	37.21	23/08/07: 00	73	73	100
59	Bagmati	Benibad	47.68	48.68	50.01	7/12/2004	49.86	01/08/07: 10	123	122	99.2
60	Bagmati	Hayaghat	44.72	45.72	48.96	8/14/1987	48.67	02/08/07: 08	82	82	100
61	Adhwara Group	Kamtaul	49.00	50.00	52.99	8/12/1987	51.70	20/07/07: 17	89	89	100
62	Adhwara Group	Ekmighat	45.94	46.94	49.52	7/12/2004	49.39	02/08/07: 08	93	80	86.8
63	Kamla Balan	Jhanjharpur	49.00	50.00	53.01	7/10/2004	52.66	27/07/07: 20	95	94	98.9
64	Kosi	Baisai	46.75	47.75	48.87	7/11/2004	48.58	27/07/07: 22	300	288	96
65	Kosi	Baltara	32.65	33.65	36.40	8/15/1987	35.67	02/08/07: 06	99	99	100
66	Kosi	Kursela	29.00	30.00	32.04	9/6/1998	31.20	13/09/07: 17	83	83	100
67	Mahananda	Dhengraghat	34.55	35.65	38.09	9/21/1995	36.80	29/07/07: 20	56	56	100
68	Mahananda	Jtawa	30.40	31.40	33.51	8/14/1987	32.02	06/09/07: 00	103	100	97.1
69	Sone	Indrapuri	107.20	108.20	108.85	8/23/1975	105.10	14/08/07: 19	0	0	0
70	Sone	Koelwar	54.52	55.52	58.88	7/20/1971	53.12	15/08/07: 12	0	0	0
71	Sone	Maner	51.00	52.00	53.75	9/10/1978	50.79	07/08/07: 15	0	0	0
72	PunPun	Sripalpur	49.60	50.60	53.91	9/18/1976	53.33	03/10/07: 08	54	51	94.4

Sl.No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level 2007		During 2007		
					Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecast s within limits	Percent age of accurac y
1	2	3	4	5	6	7	8	9	10	11	12
	Chhattisgarh										
73	Indravati	Jagdalpur	539.50	540.80	544.68	1973	542.06	08/08/07: 12	33	32	97
	Dadra & Nagar Haveli										
74	Damanganga	Daman	2.60	3.40	4.00	8/3/2004	2.20	02/07/07: 11	0	0	0
	Gujarat										
75	Banas	Dantiwada Dam	182.88	185.00	186.04	8/1/1973	182.01	27/08/07: 13	3	2	66.7
76	Sabarmati	Dharoi Dam	187.45	192.25	189.63	9/3/1990	189.48	15/10/07: 08	12	12	100
77	Sabarmati	Ahmedabad Shubhash Br	44.69	45.34	46.85	7/18/1973	45.65	10/07/07: 00	2	2	100
78	Mahi	Kadana Dam	126.19	127.71	127.74	9/9/1968	127.71	27/09/07: 15	16	16	100
79	Mahi	Wanakbori	71.00	72.54	74.77	8/24/1990	73.30	10/07/07: 01	15	11	73.3
80	Narmada	Garudeswar	30.48	31.08	41.65	9/8/1970	22.50	06/08/07: 22	0	0	0
81	Narmada	Bharuch (SS)	6.71	7.31	12.65	9/7/1970	8.80	09/08/07: 16	0	0	0
82	Tapi	Ukai Dam	102.41	105.16	105.51	10/8/1990	104.91	11/10/07: 01	48	46	95.8
83	Tapi	Surat	8.50	9.50	12.01	8/3/2004	5.20	10/07/07: 12	0	0	0
84	Damanganga	Madhuban Dam	79.86	82.46	86.60	9/27/1993	79.80	15/10/07: 17	19	19	100
85	Damanganga	Vapi Town	18.20	19.20	23.76	5/29/1905	17.15	09/08/07: 01	0	0	0
	Haryana										
86	Yamuna	Tajewala Weir	FL=323.70		326.27	9/9/1978	334.50	39307.46	0	0	0
	Jharkhand										
87	Ganga	Sahibganj	26.25	27.25	30.91	1956	28.60	23/08/07: 06	88	88	100
88	Mayurakshi	Massanjore Dam	FRL = 121.31		122.87	9/25/1999	121.31	27/09/07: 17	19	19	100
89	Damodar	Tenughat Dam	FRL = 268.83		265.56	9/17/1985	260.65	30/09/07: 05	77	76	98.7
90	Damodar	Panchet Dam	FRL = 132.59		132.89	10/2/1959	131.00	25/09/07: 23	101	101	100
91	Barakar	Maithon Dam	FRL= 150.88		151.79	10/2/1959	150.37	25/09/07: 10	82	82	100
	Karnataka										
92	Krishna	Alamatti Dam	FRL=519.60		519.69	9/19/2002	519.60	21/08/07: 18	88	85	96.6
93	Krishna	Narayanpur Dam	FRL=492.25		492.11	10/29/1997	491.68	15/09/07: 06	80	76	95
94	Bhima	Deongaon	402.00	404.50	407.34	8/13/2006	401.66	22/09/07: 00	0	0	0
95	Tunghbadra	Tungabhadra Dam	FRL=497.74		497.74	10/5/1992	497.74	17/09/07: 08	166	159	95.8
	Madhya Pradesh										
96	Chambal	Gandhisagar Dam	0	0	0		0	0	8	3	37.5
97	Narmada	Mandla	437.20	437.80	439.41	8/18/1974	435.27	06/09/07: 16	0	0	0
98	Narmada	Hoshangabad	292.93	293.93	300.90	8/30/1973	291.75	09/07/07: 03	0	0	0
	Maharashtra										
99	Godavari	Kopergaon	490.90	493.68	499.17	1969	492.20	09/08/07: 16	26	25	96.2
100	Godavari	Jaikwadi Dam	FRL=463.9	0.00	464.89	10/12/1990	463.91	01/10/07: 08	6	6	100
101	Godavari	Gangakhed	374.00	375.00	377.57	1947	370.42	22/09/07: 15	0	0	0
102	Godavari	Nanded	353.00	354.00	355.65	1983	346.50	23/09/07: 01	0	0	0
103	Wardha	Bothansha	171.50	174.00	176.00	1988	171.31	07/09/07: 19	0	0	0
104	Wainganga	Bhandara	244.00	244.50	250.00	9/16/2005	242.00	09/07/07: 00	0	0	0
105	Wainganga	Pauni	226.73	227.73	232.35	9/7/1994	226.00	08/08/07: 09	0	0	0
106	Krishna	Arjunward	0	0	0		0	0	0	0	0
107	Tapi	Hatnur Dam	217.02	214.00	214.00	10/12/1985	214.01	14/10/07: 09	101	95	94.1
	NCT Delhi										
108	Yamuna	Delhi Rly Bridge	204.00	204.83	207.49	9/6/1978	204.74	15/08/07: 11	4	3	75
109	Sahibi	Dhansa	211.44	212.44	213.58	8/8/1977	210.28	19/09/07: 08	0	0	0
	Orissa										
110	Subernarekha	Rajghat	9.45	10.36	12.20	8/7/1997	12.38	07/07/07: 00	35	33	94.3
111	Burhabalang	NH 5 Road Bridge	7.21	8.13	9.50	10/12/1973	8.10	23/09/07: 22	18	14	77.8
112	Baitarni	Anandpur	37.44	38.36	41.20	8/19/1975	39.94	13/08/07: 21	34	29	85.3
113	Baitarni	Akhuapada	17.83	17.83	21.95	8/16/1960	19.96	07/07/07: 15	24	23	95.8
114	Brahmani	Jenapur	22.00	23.00	24.78	8/20/1975	22.72	28/09/07: 11	16	15	93.8
115	Rushikulya	Purushottampur	15.83	16.83	19.65	11/4/1990	17.50	07/08/07: 06	12	12	100
116	Vamsadhara	Gunupur	83.00	84.00	88.75	9/17/1980	87.45	07/08/07: 04	15	13	86.7
117	Vamsadhara	Kashinagar	53.60	54.60	58.93	9/18/1980	56.90	07/08/07: 09	88	86	97.7
118	Mahanadi	Hirakud Dam	FRL=192.02	0.00	192.30	1/30/1996	192.15	39347.13	100	97	97
119	Mahanadi	Naraj	25.41	26.41	27.61	8/31/1982	25.82	09/08/07: 09	6	6	100
120	Mahanadi	Alipingal Devi	10.85	11.76	12.90	7/17/2001	9.81	25/09/07: 11	0	0	0
121	Mahanadi	Nimapara	9.85	10.76	11.60	8/31/1982	8.80	25/09/07: 17	0	0	0
	Tripura										
122	Manu	Kailashar	24.34	25.34	25.79	6/7/1993	25.56	10/09/07: 01	7	3	42.9
123	Gumti	Sonamura	11.50	12.50	14.42	7/23/1989	13.50	23/07/07: 03	62	42	67.7
	Uttar Pradesh										
124	Ganga	Narora Barrage	FL= 180.71	0	180.18	9/6/1978	178.92	19/08/07: 16	68	67	98.5
125	Ganga	Kannauj	124.97	125.97	126.24	8/29/1998	125.56	23/08/07: 03	9	9	100
126	Ganga	Ankinghat	123	124	124.31	9/9/1978	123.39	22/08/07: 15	8	8	100
127	Ganga ##	Kanpur	113	114	113.47	9/2/1957	112.73	22/08/07: 23	19	19	100
128	Ganga	Dalmau	98.36	99.36	99.84	8/3/1973	98.71	24/08/07: 06	4	4	100
129	Ganga	Phphamau	83.73	84.73	87.98	9/8/1978	79.31	26/08/07: 07	0	0	0
130	Ganga	Allahabad Chhatnag	83.73	84.73	88.03	9/8/1978	78.71	26/08/07: 08	0	0	0
131	Ganga	Mirzapur	76.72	77.72	80.34	9/9/1978	69.32	26/08/07: 19	0	0	0
132	Ganga	Varanasi	70.26	71.26	73.9	9/9/1978	64.49	27/08/07: 08	0	0	0
133	Ganga	Ghazipur	62.11	63.11	65.22	9/9/1978	58.47	28/08/07: 06	0	0	0
134	Ganga	Ballia	56.62	57.62	60.25	9/14/2003	55.73	17/08/07: 09	0	0	0
135	Ramganga	Moradabad	189.60	190.69	192.68	9/3/1978	190.31	17/08/07: 06	11	7	63.6
136	Ramganga	Bareilly	162.70	163.70	162.88	8/6/1978	161.44	17/08/07: 18	0	0	0
137	Yamuna	Mewi	230.00	230.85	232.45	9/26/1988	230.32	14/08/07: 15	4	4	100
138	Yamuna	Mathura	164.20	165.20	169.73	9/8/1978	162.70	19/08/07: 19	0	0	0
139	Yamuna	Agra	151.40	152.40	154.76	9/9/1978	148.88	19/08/07: 07	0	0	0
140	Yamuna	Etawa	120.92	121.92	126.13	9/11/1978	117.83	21/08/07: 07	0	0	0
141	Yamuna	Auraiya	112.00	113.00	118.19	8/25/1998	106.77	12/07/07: 07	0	0	0

Sl.No.	Name of the river	Name of FF site	Warning Level (m)	Danger level (m)	Highest Flood Level		Maximum Level -2007		During 2007		
					Level (m)	Date/ Month/ Year	Level (m)	Time (from-to) / Date/ Month	No.of Forecasts issued	No.of Forecast s within limits	Percent age of accurac y
1	2	3	4	5	6	7	8	9	10	11	12
142	Yamuna	Kalpi	107.00	108.00	112.98	8/25/1998	101.78	12/07/07: 06	0	0	0
143	Yamuna	Hamirpur	102.63	103.63	108.59	9/12/1983	95.32	12/07/07: 23	0	0	0
144	Yamuna	Chilaghat	99.00	100.00	105.16	9/8/1978	99.45	14/07/07: 00	0	0	0
145	Yamuna	Naini	83.74	84.74	87.99	9/8/1978	77.31	26/08/07: 11	0	0	0
146	Betwa	Mohana	121.66	122.66	133.69	9/11/1983	111.94	25/08/07: 18	0	0	0
147	Betwa	Sahjina	103.54	104.54	108.67	9/12/1983	94.65	13/07/07: 06	0	0	0
148	Ken	Banda	103.00	104.00	113.28	9/14/1992	98.72	23/08/07: 18	0	0	0
149	Gomati	Lucknow HanumanSetu	108.50	109.50	110.65	9/10/1971	105.76	05/09/07: 15	0	0	0
150	Gomati	Jaunpur	73.07	74.07	77.74	9/22/1971	69.01	04/08/07: 12	0	0	0
151	Sai	Raibareli	100.00	101.00	104.61	9/17/1982	97.65	05/08/07: 08	0	0	0
152	Ghaghra	Elgin Bridge	105.07	106.07	107.18	9/14/1983	107.12	31/07/08: 17	83	81	97.6
153	Ghaghra	Ayodhya	91.73	92.73	93.65	8/19/1998	90.74	02/08/07: 01	98	97	98.9
154	Ghaghra	Turtipar	63.01	64.01	66.00	8/28/1998	65.04	05/08/07: 18	73	72	98.6
155	Rapti	Balrampur	103.62	104.62	105.25	9/11/2000	104.99	30/07/07: 13	31	27	87.1
156	Rapti	Bansi	83.90	84.90	85.82	8/21/1998	85.23	04/08/07: 23	35	32	91.4
157	Rapti	Gonakpur Birdghat	73.98	74.98	77.54	8/23/1998	76.75	04/08/07: 07	56	54	96.4
158	Gandak	Khadda	95.00	96.00	97.50	7/23/2002	86.56	06/09/07: 17	223	206	92.4
	Uttaranchal										
159	Alaknanda	Srinagar	539.00	540.00	536.85	9/5/1995	534.60	15/08/07: 06	0	0	0
160	Ganga	Rishikesh	339.50	340.50	341.72	9/5/1995	339.67	15/08/07: 18	2	2	100
161	Ganga	Haridwar	293.00	294.00	296.23	9/2/1978	595.05	14/08/07: 22	8	5	62.5
	West Bengal										
162	Ganga	Farakka	21.55	22.25	25.14	9/7/1998	23.40	14/09/07: 07	166	160	96.4
163	Mayurakshi	Tilpara Barrage	PL= 62.79	0.00	67.05	9/27/1978	62.79	02/10/07: 13	24	24	100
164	Mayurakshi	Narayanpur	26.99	27.99	29.69	9/27/1995	28.72	25/09/07: 03	7	7	100
165	Ajoy	Sherpara	38.42	39.42	43.94	9/27/1978	41.00	26/09/07: 08	13	11	84.6
166	Damodar	Durgapur Barrage	PL = 64.47		64.47	10/31/2002	64.47	0.00	100	100	100
167	Mundeshwari	Harinkhola	11.80	12.80	14.58	9/29/1978	14.40	26/09/07: 10	24	23	95.8
168	Kangsabati	Kangsabati Dam	FRL=134.1	0.00	134.71	9/2/1978	134.32	18/08/07: 20	55	54	98.2
169	Kangsabati	Mohanpur	24.73	25.73	29.87	9/2/1978	27.06	18/09/07: 13	7	7	100
170	Rupnarayan	Tufanganj	34.22	35.30	36.38	7/21/1903	35.90	08/09/07: 08	33	30	90.9
171	Torsa	Ghughumari	39.80	40.41	41.46	8/3/2000	40.85	29/07/07: 04	30	29	96.7
172	Jaldhaka	NH-31	80.00	80.90	81.33	7/28/1972	80.50	07/09/07: 17	21	21	100
173	Jaldhaka	Mathabhanga	48.20	48.70	49.60	7/29/1972	49.85	07/09/07: 21	34	34	100
174	Teesta	Domohani	39.80	40.41	41.46	8/3/2000	86.50	07/09/07: 16	35	33	94.3
175	Teesta	Mekhliganj	34.22	35.30	36.38	7/21/1903	86.35	07/09/07: 21	56	56	100
							Total Forecasts		8223	7988	97.14
							Level Forecasts		5070	4827	95.21
							Inflow Forecast		1593	1550	97.30

Annex- 3A

Performance of Flood Forecasting Stations (Divisionwise) in India during Flood Season 2005

Sl. No	Division	Level Forecasts only					Inflow Forecasts only					Total Forecast Stations				
		Stns.	F/c issued for	Total	Within Limit	Accu-racy (%)	Stns.	F/c issued for	Total	Within Limit	Accu-racy (%)	Stns.	F/c issued for	Total	Within Limit	Accu-racy (%)
1	Himalayan Ganga Divn, Dehradun	3	2	48	38	79.17	0	0	0	0		3	2	48	38	79.17
2	Middle Ganga Division 1, Lucknow	6	6	235	226	96.17	0	0	0	0		6	6	235	226	96.17
3	Middle Ganga Division 2, Lucknow	6	6	101	100	99.01	1	1	80	73	91.25	8	7	181	173	95.58
4	Middle Ganga Division 3, Varanasi	7	3	28	28	100.00	0	0	0	0		7	3	28	28	100.00
5	Middle Ganga Division 4, Patna	17	16	1055	1019	96.59	0	0	0	0		17	16	1055	1019	96.59
6	Middle Ganga Division 5, Patna	17	13	245	243	99.18	0	0	0	0		17	13	245	243	99.18
7	Upper Yamuna Divn, Delhi	4	3	49	45	91.84	1	0	0	0		5	3	49	45	91.84
8	Lower Yamuna Divn, Agra	10	2	27	26	96.30	0	0	0	0		10	2	27	26	96.30
9	Damodar Divn, Asansol	4	0	0	0		7	7	142	140	98.59	11	7	142	140	98.59
10	Upper Brahmaputra Divn, Dibrugarh	13	10	962	925	96.15	0	0	0	0		13	10	962	925	96.15
11	Middle Brahmaputra Divn, Guwahati	9	7	411	396	96.35	0	0	0	0		9	7	411	396	96.35
12	Lower Brahmaputra Divn, Jalpaiguri	10	10	560	557	99.46	0	0	0	0		10	10	560	557	99.46
13	Eastern Rivers Divn, Bhubaneswar	11	10	165	154	93.33	1	0	21	18	85.71	12	10	186	172	92.47
14	Mahanadi Divn, Burla	0	0	0	0		1	1	65	63	96.92	1	1	65	63	96.92
15	Upper Godavari Divn, Hyderabad	3	3	123	117	95.12	4	4	44	38	86.36	7	7	167	155	92.81
16	Lower Godavari Divn, Hyderabad	11	10	234	219	93.59	0	0	0	0		11	10	234	219	93.59
17	Lower Krishna Divn, Hyderabad	3	3	69	59	85.51	6	6	814	802	98.53	9	9	883	861	97.51
18	Mahi Divn, Ahmedabad	4	1	1	0	0.00	3	2	15	13	86.67	7	3	16	13	81.25
19	Tapi Divn,Surat	3	0	0	0		3	3	114	114	100.00	6	3	114	114	100.00
20	Narmada Divn, Bhopal	2	2	10	10	100.00	0	0	0	0		2	2	10	10	100.00
21	Chambal Division, Jaipur	0	0	0	0		1	0	0	0		1	0	0	0	
	Total	**145**	**107**	**4323**	**4162**	**96.28**	**28**	**24**	**1295**	**1261**	**97.37**	**173**	**131**	**5618**	**5423**	**96.53**

Annex- 3B

Performance of Flood Forecasting Stations (Divisionwise) in India during Flood Season 2006

Sl. No	Division	Level Forecasts only					Inflow Forecasts only					Total Forecast Stations				
		Stns.	F/c issued for	Total	Within Limit	Accu-racy	Stns.	F/c issued for	Total	Within Limit	Accu-racy	Stns.	F/c issued for	Total	Within Limit	Accu-racy
1	Himalayan Ganga Divn, Dehradun	3	0	0	0		0	0	0	0		3	0	0	0	
2	Middle Ganga Division 1, Lucknow	6	6	180	170	94.44	0	0	0	0		6	6	180	170	94.44
3	Middle Ganga Division 2, Lucknow	8	1	1	0	0.00	1	1	46	46	100.00	9	2	47	46	97.87
4	Middle Ganga Division 3, Varanasi	7	4	26	26	100.00	0	0	0	0		7	4	26	26	100.00
5	Middle Ganga Division 4, Patna	17	13	1108	1076	97.11	0	0	0	0		17	13	1108	1076	97.11
6	Middle Ganga Division 5, Patna	18	15	327	326	99.69	0	0	0	0		18	15	327	326	99.69
7	Upper Yamuna Divn, Delhi	4	3	6	5	83.33	1	0	0	0		5	3	6	5	83.33
8	Chambal Division, Jaipur	0	0	0	0		1	1	8	7	87.50	1	1	8	7	87.50
9	Lower Yamuna Divn, Agra	10	2	25	23	92.00	0	0	0	0		10	2	25	23	92.00
10	Damodar Divn, Asansol	4	0	32	24		7	7	384	378	98.44	11	7	416	402	96.63
11	Upper Brahmaputra Divn, Dibrugarh	13	10	948	935	98.63	0	0	0	0		13	10	948	935	98.63
12	Middle Brahmaputra Divn, Guwahati	9	7	426	409	96.01	0	0	0	0		9	7	426	409	96.01
13	Lower Brahmaputra Divn, Jalpaiguri	10	10	458	456	99.56	0	0	0	0		10	10	458	456	99.56
14	Eastern Rivers Divn, Bhubaneswar	11	10	438	388	88.58	1	1	43	37		12	11	481	425	88.36
15	Mahanadi Divn, Burla	0	0	0	0		1	1	57	53	92.98	1	1	57	53	92.98
16	Upper Godavari Divn, Hyderabad	3	3	158	137	86.71	4	4	72	63	87.50	7	7	230	200	86.96
17	Lower Godavari Divn, Hyderabad	11	10	758	690	91.03	0	0	0	0		11	10	758	690	91.03
18	Lower Krishna Divn, Hyderabad	4	3	58	51	87.93	6	6	731	724	99.04	10	9	789	775	98.23
19	Mahi Divn, Ahmedabad	2	1	56	49	87.50	3	2	113	108	95.58	5	3	169	157	92.90
20	Tapi Divn,Surat	5	0	54	51	0.00	3	3	139	134	96.40	8	3	193	185	95.85
21	Narmada Divn, Bhopal	2	2	11	11	100.00	0	0	0	0	0.00	2	2	11	11	100.00
	Total	**147**	**100**	**5070**	**4827**	**95.21**	**28**	**26**	**1593**	**1550**	**97.30**	**175**	**126**	**6663**	**6377**	**95.71**

Annex- 3C

Performance of Flood Forecasting Stations (Divisionwise) in India during Flood Season 2007

Sl. No	Division	Level Forecasts only					Inflow Forecasts only					Total Forecast Stations				
		Stns.	F/c issued for	Total	Within Limit	Accu-racy	Stns.	F/c issued for	Total	Within Limit	Accu-racy	Stns.	F/c issued for	Total	Within Limit	Accu-racy
1	Himalayan Ganga Divn, Dehradun	3	0	10	7	70.00	0	0	0	0		3	0	10	7	70.00
2	Middle Ganga Division 1, Lucknow	6	6	366	353	96.45	0	0	0	0		6	6	366	353	96.45
3	Middle Ganga Division 2, Lucknow	8	1	49	45	91.84	1	1	68	67	98.53	9	2	117	112	95.73
4	Middle Ganga Division 3, Varanasi	7	4	0	0		0	0	0	0		7	4	0	0	
5	Middle Ganga Division 4, Patna	17	13	1740	1699	97.64	0	0	0	0		17	13	1740	1699	97.64
6	Middle Ganga Division 5, Patna	18	15	649	640	98.61	0	0	0	0		18	15	649	640	98.61
7	Upper Yamuna Divn, Delhi	4	3	8	7	87.50	1	0	0	0		5	3	8	7	87.50
8	Chambal Division, Jaipur	0	0	0	0		1	1	8	3	37.50	1	1	8	3	37.50
9	Lower Yamuna Divn, Agra	10	2	0	0		0	0	0	0		10	2	0	0	
10	Damodar Divn, Asansol	4	0	51	48	94.12	7	7	458	456	99.56	11	7	509	504	99.02
11	Upper Brahmaputra Divn, Dibrugarh	13	10	1512	1492	98.68	0	0	0	0		13	10	1512	1492	98.68
12	Middle Brahmaputra Divn, Guwahati	9	7	860	815	94.77	0	0	0	0		9	7	860	815	94.77
13	Lower Brahmaputra Divn, Jalpaiguri	10	10	823	813	98.78	0	0	0	0		10	10	823	813	98.78
14	Eastern Rivers Divn, Bhubaneswar	11	10	248	231	93.15	1	1	17	13		12	11	265	244	92.08
15	Mahanadi Divn, Burla	0	0	0	0		1	1	100	97	97.00	1	1	100	97	97.00
16	Upper Godavari Divn, Hyderabad	3	3	26	25	96.15	4	4	14	14	100.00	7	7	40	39	97.50
17	Lower Godavari Divn, Hyderabad	11	10	129	125	96.90	0	0	0	0		11	10	129	125	96.90
18	Lower Krishna Divn, Hyderabad	4	3	28	26	92.86	6	6	843	811	96.20	10	9	871	837	96.10
19	Mahi Divn, Ahmedabad	2	1	17	13	76.47	3	2	31	30	96.77	5	3	48	43	89.58
20	Tapi Divn,Surat	5	0	0	0		3	3	168	160	95.24	8	3	168	160	95.24
21	Narmada Divn, Bhopal	2	2	0	0		0	0	0	0	0.00	2	2	0	0	
	Total	147	100	6516	6339	97.28	28	26	1707	1651	96.72	175	126	8223	7990	97.17

Annex-4

List of Real Time Data Stations and Wireless Control Stations (Wireless stations in CWC) during Flood Season 2005-07

1	UBD Dibrugarh	Badatighat		36	MBD Guwahati	Guwahati_Circle	*	71	LBD Jalpaiguri	Gazaldoba	
2	UBD Dibrugarh	Bhalukpong		37	MBD Guwahati	Guwahati_DC		72	LBD Jalpaiguri	Ghugumari	
3	UBD Dibrugarh	Binubar		38	MBD Guwahati	Guwahati_Div	*	73	LBD Jalpaiguri	Golokganj	
4	UBD Dibrugarh	Bokajan		39	MBD Guwahati	Guwahati_Pandu		74	LBD Jalpaiguri	Hashimara	
5	UBD Dibrugarh	Chenimari (Khowang)		40	MBD Guwahati	Chowki		75	LBD Jalpaiguri	Jalpaiguri	*
6	UBD Dibrugarh	Chouldhowaghat		41	MBD Guwahati	DRF		76	LBD Jalpaiguri	Kahnitar	
7	UBD Dibrugarh	Desangpani		42	MBD Guwahati	Melabazar		77	LBD Jalpaiguri	Kokrajhar	
8	UBD Dibrugarh	Dharamtul		43	MBD Guwahati	N.T.Rd.Xing		78	LBD Jalpaiguri	Majithar	
9	UBD Dibrugarh	Dholla Bazar		44	MBD Guwahati	Nalbari	*	79	LBD Jalpaiguri	Mathabhanga	
10	UBD Dibrugarh	Dibrugarh_Div	*	45	MBD Guwahati	NH Rd.Xing		80	LBD Jalpaiguri	Mathanguri	
11	UBD Dibrugarh	Dibrugarh_Sd	*	46	MBD Guwahati	Amarpur		81	LBD Jalpaiguri	Mekhliganj	
12	UBD Dibrugarh	Dillighat		47	MBD Guwahati	Amraghat		82	LBD Jalpaigun	Murti	
13	UBD Dibrugarh	Gelabil		48	MBD Guwahati	Annapurnaghat		83	LBD Jalpaiguri	N.H.31_Jaldhaka	
14	UBD Dibrugarh	Golaghat		49	MBD Guwahati	Badarpurghat		84	LBD Jalpaiguri	Nagrakata	
15	UBD Dibrugarh	Itanagar	*	50	MBD Guwahati	Chotabekra		85	LBD Jalpaiguri	NH Rd.Xing_Ale	
16	UBD Dibrugarh	Jorhat	*	51	MBD Guwahati	Dholai		86	LBD Jalpaiguri	NH Rd.Xing	
17	UBD Dibrugarh	Kabu Basti_Kambang		52	MBD Guwahati	Gharmura		87	LBD Jalpaiguri	Panbari	
18	UBD Dibrugarh	Kampur		53	MBD Guwahati	Karimganj		88	LBD Jalpaigun	Rangpo	
19	UBD Dibrugarh	Kheronighat		54	MBD Guwahati	Lakhipur		89	LBD Jalpaigun	Sankalan	
20	UBD Dibrugarh	KM65-Yingkiang		55	MBD Guwahati	Manughat		90	LBD Jalpaiguri	Sankosh LRP	
21	UBD Dibrugarh	Margherita		56	MBD Guwahati	Matizuri		91	LBD Jalpaiguri	Saralpara	
22	UBD Dibrugarh	Miao		57	MBD Guwahati	Silchar	*	92	LBD Jalpaiguri	Sevoke	
23	UBD Dibrugarh	Motipur		58	MBD Guwahati	Kailashahar		93	LBD Jalpaiguri	Siliguri	*
24	UBD Dibrugarh	N.T.Rd.Xing_Jiabharali		59	MBD Guwahati	Sonamura		94	LBD Jalpaigun	Singlabazar	
25	UBD Dibrugarh	Nagaon	*	60	LBD Jalpaiguri	Bahalpur		95	LBD Jalpaiguri	Tistabazar	
26	UBD Dibrugarh	Naharkatia		61	LBD Jalpaiguri	Barabisha		96	LBD Jalpaiguri	Tufanganj	
27	UBD Dibrugarh	Namsai		62	LBD Jalpaiguri	Barpeta Road	*	97	HGDivn DHRN	Dehradun	*
28	UBD Dibrugarh	Nanglamoraghat		63	LBD Jalpaiguri	Beki Road Bridge		98	HGDivn DHRN	Deoprayag_Ganga	
29	UBD Dibrugarh	Neamatighat		64	LBD Jalpaiguri	Champasarai		99	HGDivn DHRN	Haridwar	
30	UBD Dibrugarh	Numaligarh		65	LBD Jalpaiguri	Chepan		100	HGDivn DHRN	Joshimath	
31	UBD Dibrugarh	Passighat		66	LBD Jalpaigun	Cooch behar		101	HGDivn DHRN	Karnaprayag_Alak	
32	UBD Dibrugarh	Sivasagar		67	LBD Jalpaiguri	CoronationBridge		102	HGDivn DHRN	Marora	
33	UBD Dibrugarh	Tezpur		68	LBD Jalpaiguri	Dhubri		103	HGDivn DHRN	Rrishikesh	
34	UBD Dibrugarh	Tezu		69	LBD Jalpaiguri	Diana		104	HGDivn DHRN	Rudraprayag_DS	
35	MBD Guwahati	Goalpara		70	LBD Jalpaiguri	Domohani		105	HGDivn DHRN	Srinagar	

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List of Real Time Data Stations and Wireless Control Stations (Wireless stations in CWC) during Flood Season 2005-07

106	HGDivn DHRN	Tehri		141	MGD1 Lucknow	Paliakalan		176	MGD5 Patna	Lalganj	
107	HGDivn DHRN	Uttarkashi		142	MGD1 Lucknow	Regauli		177	MGD5 Patna	Maner	
108	MGD2 Lucknow	Ankinghat		143	MGD1 Lucknow	Tawaghat		178	MGD5 Patna	Munger	
109	MGD2 Lucknow	Bani		144	MGD1 Lucknow	Trimohanighat		179	MGD5 Patna	Palmerganj	
110	MGD2 Lucknow	Bareily		145	MGD1 Lucknow	Turtipar		180	MGD5 Patna	Patna_Divn 5	*
111	MGD2 Lucknow	Bhatpurvaghat		146	MGD1 Lucknow	Uskabazar		181	MGD5 Patna	Gandhighat	
112	MGD2 Lucknow	Dabri		147	MGD3 Varanasi	Ballia		182	MGD5 Patna	Rewaghat	
113	MGD2 Lucknow	Dalmau		148	MGD3 Varanasi	Chhatnag		183	MGD5 Patna	Sahibganj	
114	MGD2 Lucknow	Fathegarh		149	MGD3 Varanasi	Chopan		184	MGD5 Patna	Sahibganj	
115	MGD2 Lucknow	Kannauj		150	MGD3 Varanasi	Gazipur		185	MGD5 Patna	Sripalpur	
116	MGD2 Lucknow	Kanpur		151	MGD3 Varanasi	Jaunpur		186	MGD4 Patna	Ahirwalia	
117	MGD2 Lucknow	Kanpur_Sd	*	152	MGD3 Varanasi	Karrah		187	MGD4 Patna	Balan (H/W)	
118	MGD2 Lucknow	Lucknow	*	153	MGD3 Varanasi	Kuldah Bridge		188	MGD4 Patna	Baltara	
119	MGD2 Lucknow	Moradabad		154	MGD3 Varanasi	Mirzapur		189	MGD4 Patna	Basua	
120	MGD2 Lucknow	Narora Barrage		155	MGD3 Varanasi	Phaphamau		190	MGD4 Patna	Begusarai	*
121	MGD2 Lucknow	Neemsar		156	MGD3 Varanasi	Sitamarhi		191	MGD4 Patna	Benibad	
122	MGD2 Lucknow	Neemsar		157	MGD3 Varanasi	Sultanpur		192	MGD4 Patna	Birpur	
123	MGD2 Lucknow	Rae Bareily		158	MGD3 Varanasi	Tons Aquaduct		193	MGD4 Patna	Chanpatia	
124	MGD2 Lucknow	Shardanagar		159	MGD3 Varanasi	Varanasi	*	194	MGD4 Patna	Charghana	
125	MGD1 Lucknow	Ayodhya		160	MGD5 Patna	Bhagalpur		195	MGD4 Patna	Chatia	
126	MGD1 Lucknow	Balrampur		161	MGD5 Patna	Buxar		196	MGD4 Patna	Darbhanga	
127	MGD1 Lucknow	Banbasa		162	MGD5 Patna	Chappra		197	MGD4 Patna	Dhengraghat	
128	MGD1 Lucknow	Bansi		163	MGD5 Patna	Daltonganj		198	MGD4 Patna	Ekmighat	
129	MGD1 Lucknow	Basti		164	MGD5 Patna	Darauli		199	MGD4 Patna	Galgalia	
130	MGD1 Lucknow	Bhinga		165	MGD5 Patna	Dehri on Sone	*	200	MGD4 Patna	Hayaghat	
131	MGD1 Lucknow	Chanderdeepghat		166	MGD5 Patna	Farakka		201	MGD4 Patna	Jainagar	
132	MGD1 Lucknow	Elgin Bridge		167	MGD5 Patna	Gangpur Siswan		202	MGD4 Patna	Jhanjharpur	
133	MGD1 Lucknow	Gonda	*	168	MGD5 Patna	Gaya		203	MGD4 Patna	Jhawa	
134	MGD1 Lucknow	Gorakhpur_Birdghat		169	MGD5 Patna	Hathidah		204	MGD4 Patna	Kamtaul	
135	MGD1 Lucknow	Haldwani	*	170	MGD5 Patna	Hazipur		205	MGD4 Patna	Khadda	
136	MGD1 Lucknow	Kakardhari		171	MGD5 Patna	Inderpuri		206	MGD4 Patna	Khagaria	
137	MGD1 Lucknow	Kakarhi		172	MGD5 Patna	Japla		207	MGD4 Patna	Kursela	
138	MGD1 Lucknow	Katerniaghat		173	MGD5 Patna	Kahalgaon		208	MGD4 Patna	Lalbegiaghat	
139	MGD1 Lucknow	Lucknow_MGDI	*	174	MGD5 Patna	Kinjer		209	MGD4 Patna	Muzaffarpur	
140	MGD1 Lucknow	Mukhlishpur		175	MGD5 Patna	Koelwar		210	MGD4 Patna	Patna- Divn 4	*
211	MGD4 Patna	Purnea		246	DD Asansol	Ramgarh		281	LYD AGRA	Dholpur	

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List of Real Time Data Stations and Wireless Control Stations (Wireless stations in CWC) during Flood Season 2005-07

212	MGD4 Patna	Runisaidpur		247	DD Asansol	Sikatia		282	LYD AGRA	Etawah	
213	MGD4 Patna	Russera		248	DD Asansol	Simulia		283	LYD AGRA	Garrauli	
214	MGD4 Patna	Samsatipur		249	DD Asansol	Suiri	*	284	LYD AGRA	Hamirpur	
215	MGD4 Patna	Saulighat		250	DD Asansol	Tantloi		285	LYD AGRA	Jhansi	*
216	MGD4 Patna	Sonebarsha		251	DD Asansol	Tenughat Dam		286	LYD AGRA	Kaimaha	
217	MGD4 Patna	Taibpur		252	DD Asansol	Tilaiya dam		287	LYD AGRA	Kalpi	
218	MGD4 Patna	Triveni		253	DD Asansol	Tilpara Barrage		288	LYD AGRA	Madla	*
219	DD Asansol	Asansol	*	254	DD Asansol	Tusuma		289	LYD AGRA	Mohana	
220	DD Asansol	Bankura	*	255	DD Asansol	Mohanpur		290	LYD AGRA	Sahijina	
221	DD Asansol	Barkisuriya		256	UYD DELHI	Baghpat		291	LYD AGRA	Naini_Allahabad	
222	DD Asansol	Bhowrah		257	UYD DELHI	Dadri		292	CD Jaipur	Baranwada	
223	DD Asansol	D.P.Ghat		258	UYD DELHI	Dehradun	*	293	CD Jaipur	Barod	
224	DD Asansol	Durgapur Barr.		259	UYD DELHI	Delhi Rly.Bridge		294	CD Jaipur	Jaipur	*
225	DD Asansol	Gheropara		260	UYD DELHI	Dhansa Regulator		295	CD Jaipur	Khatoli	
226	DD Asansol	Harinkhola		261	UYD DELHI	Haripur		296	CD Jaipur	Kota Barrage	
227	DD Asansol	Hendegir		262	UYD DELHI	Hathihari		297	CD Jaipur	Manderial	
228	DD Asansol	Jamtara		263	UYD DELHI	Jataon barrage		298	CD Jaipur	Pali	
229	DD Asansol	Kangsabati dam		264	UYD DELHI	Kalanaur		299	MD Burla	Andhiyakore	
230	DD Asansol	Kharidwar		265	UYD DELHI	Karnal		300	MD Burla	Baikunthpur	
231	DD Asansol	Khusiary		266	UYD DELHI	Masani		301	MD Burla	Bamnidhi	
232	DD Asansol	Kolkata	*	267	UYD DELHI	Mathura		302	MD Burla	Bango Dam	
233	DD Asansol	Konar Dam		268	UYD DELHI	Mawi		303	MD Burla	Basantpur	
234	DD Asansol	Kushkami		269	UYD DELHI	Mohna		304	MD Burla	Burla_HirakudDam	*
235	DD Asansol	Lalgarh		270	UYD DELHI	Naugaon		305	MD Burla	Dharamjaygarh	
236	DD Asansol	Maharo		271	UYD DELHI	New Delhi	*	306	MD Burla	Ghatora	
237	DD Asansol	Maithon Dam		272	UYD DELHI	Paonta		307	MD Burla	Kantamal	
238	DD Asansol	Massanjore Dam		273	UYD DELHI	Tajewala		308	MD Burla	Kelo_Raigarh	
239	DD Asansol	Midnapur	*	274	UYD DELHI	Tuini_Tons		309	MD Burla	Kesinga	
240	DD Asansol	Nandadih		275	UYD DELHI	Yashwant nagar		310	MD Burla	Khairmal	
241	DD Asansol	Narayanpur		276	LYD AGRA	Agra	*	311	MD Burla	Korba	
242	DD Asansol	Panchet dam		277	LYD AGRA	Agra_PoyiaGhat		312	MD Burla	Kurubhata	
243	DD Asansol	Phulberia		278	LYD AGRA	Auriya		313	MD Burla	Mahupali	
244	DD Asansol	Purihansha		279	LYD AGRA	Banda		314	MD Burla	Manedragarh	
245	DD Asansol	Putki		280	LYD AGRA	Chillaghat		315	MD Burla	Paramanpur	
316	MD Burla	Pendra road		351	ERD Bbsr	Champua		386	UGD Hyderabad	Gangapur dam	
317	MD Burla	Baronda		352	ERD Bbsr	Adityapur		387	UGD Hyderabad	Hyderabad_UGD	*

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List of Real Time Data Stations and Wireless Control Stations (Wireless stations in CWC) during Flood Season 2005-07

318	MD Burla	Rampur		353	ERD Bbsr	Chandrapur		388	UGD Hyderabad	Jaikwadi dam	
319	MD Burla	Jamdar pali		354	ERD Bbsr	Fekoghat		389	UGD Hyderabad	Karanja dam	
320	MD Burla	Deogaon		355	ERD Bbsr	Ghatsila		390	UGD Hyderabad	Kopergaon	
321	MD Burla	Phulbani		356	ERD Bbsr	Gotta Barrage		391	UGD Hyderabad	Lasur	
322	MD Burla	Raipur	*	357	ERD Bbsr	Govindpur-NH5 Rd		392	UGD Hyderabad	Mancherial	
323	MD Burla	Rajim		358	ERD Bbsr	Gudari		393	UGD Hyderabad	Manjegaon	
324	MD Burla	Salebhata		359	ERD Bbsr	Gunupur		394	UGD Hyderabad	Mula Dam	
325	MD Burla	Sankara		360	ERD Bbsr	Jamshedpur		395	UGD Hyderabad	Nanded	*
326	MD Burla	Seorinarayan		361	ERD Bbsr	Jamsolaghat		396	UGD Hyderabad	Nasik	
327	MD Burla	Simga		362	ERD Bbsr	Jenapur Exp.way		397	UGD Hyderabad	Nizamabad	*
328	MD Burla	Sundergarh		363	ERD Bbsr	Jeypure		398	UGD Hyderabad	Nizamsagar Dam	
329	MD Burla	Surajgarh		364	ERD Bbsr	Kashinagar		399	UGD Hyderabad	NMD Weir	
330	MD Burla	Thettatatnger		365	ERD Bbsr	Keonjhar		400	UGD Hyderabad	Pachegaon	
331	ERD Bbsr	Naraj (Barrage)		366	ERD Bbsr	Kutraguda		401	UGD Hyderabad	Palkhed	
332	ERD Bbsr	Nimapara		367	ERD Bbsr	Madhabarida		402	UGD Hyderabad	Purna	
333	ERD Bbsr	Alinpingal		368	ERD Bbsr	Mahendragarh		403	UGD Hyderabad	Saigaon	
334	ERD Bbsr	Tikarapara		369	ERD Bbsr	Mohana		404	UGD Hyderabad	Sangareddy barr	
335	ERD Bbsr	Akhuapada		370	ERD Bbsr	Panposh		405	UGD Hyderabad	Siddeshwar	
336	ERD Bbsr	Altuma		371	ERD Bbsr	Purushottampur		406	UGD Hyderabad	Singur Dam	
337	ERD Bbsr	Padmavati		372	ERD Bbsr	Rajghat		407	UGD Hyderabad	Zari	
338	ERD Bbsr	Khandapara		373	ERD Bbsr	Rengali		408	WD Nagpur	Ashti	
339	ERD Bbsr	Arampur		374	ERD Bbsr	Sorada		409	WD Nagpur	Balaghat	
340	ERD Bbsr	Indupur		375	ERD Bbsr	Swampatna		410	WD Nagpur	Balharsha_Bamni	
341	ERD Bbsr	Rourkela	*	376	ERD Bbsr	Talcher		411	WD Nagpur	Bhandara	
342	ERD Bbsr	Balasore	*	377	ERD Bbsr	Thakurmunda		412	WD Nagpur	Bhatpalli	
343	ERD Bbsr	Berhampur	*	378	ERD Bbsr	Jaraikela		413	WD Nagpur	Chandrapur	*
344	ERD Bbsr	Pubansa		379	ERD Bbsr	Gomlai		414	WD Nagpur	Ghugus	
345	ERD Bbsr	Kanas		380	UGD Hyderabad	Aurangabad	*	415	WD Nagpur	Hivra	
346	ERD Bbsr	Marshagai		381	UGD Hyderabad	Bhainsa		416	WD Nagpur	K.R.Bridge	
347	ERD Bbsr	Anandpur		382	UGD Hyderabad	Degloor		417	WD Nagpur	Nagpur	*
348	ERD Bbsr	Balimundali		383	UGD Hyderabad	Dhalegaon		418	WD Nagpur	Nandgaon	
349	ERD Bbsr	Baripada		384	UGD Hyderabad	Dharna Dam		419	WD Nagpur	P.G.Bridge	
350	ERD Bbsr	Bhubaneswar	*	385	UGD Hyderabad	Gangakhed		420	WD Nagpur	Pauni	
421	WD Nagpur	Rajegaon		456	LKD Hyderabad	Madhira		491	ND Bhopal	Jabalpur	
422	WD Nagpur	Ramakona		457	LKD Hyderabad	Mantralayam		492	ND Bhopal	Mandla	
423	WD Nagpur	Sitakesa_Chikli		458	LKD Hyderabad	Marol		493	ND Bhopal	Manot	

* Wirless Control Room

List of Real Time Data Stations and Wireless Control Stations (Wireless stations in CWC) during Flood Season 2005-07

424	WD Nagpur	Sriramasagar		459	LKD Hyderabad	NarayanpurDam		494	ND Bhopal	Mawai	
425	WD Nagpur	Tekra		460	LKD Hyderabad	NSDam		495	ND Bhopal	Mohgaon	
426	LGD Hyderabad	Bhadrachalam	*	461	LKD Hyderabad	Oollenur		496	ND Bhopal	Mukki	
427	LGD Hyderabad	Chindnar		462	LKD Hyderabad	PaleruBridge		497	ND Bhopal	Pachhmarhi	
428	LGD Hyderabad	Dowlaiswaram		463	LKD Hyderabad	PDJurala		498	ND Bhopal	Rajghat_Narmada	
429	LGD Hyderabad	Dummagudem		464	LKD Hyderabad	Polampalli		499	ND Bhopal	Tawa Dam	
430	LGD Hyderabad	Eturunagaram		465	LKD Hyderabad	PrakasamBarrage		500	TD Surat	Barwani	
431	LGD Hyderabad	Hyderabad_LGD	*	466	LKD Hyderabad	Sedalga		501	TD Surat	Bharuch	
432	LGD Hyderabad	Jagdalpur	*	467	LKD Hyderabad	Shimoga		502	TD Surat	Bhusawal	*
433	LGD Hyderabad	Kaleswaram		468	LKD Hyderabad	Srisailam		503	TD Surat	Bodeli	
434	LGD Hyderabad	Koida		469	LKD Hyderabad	T.Ramapuram		504	TD Surat	Burhanpur	
435	LGD Hyderabad	Konta		470	LKD Hyderabad	TBDam		505	TD Surat	Chiknalda	
436	LGD Hyderabad	Kosagumda		471	LKD Hyderabad	Vijayawada	*	506	TD Surat	Dahigaon	
437	LGD Hyderabad	Kunavaram		472	LKD Hyderabad	Wadenapalli		507	TD Surat	Daman	
438	LGD Hyderabad	Nelesnar		473	LKD Hyderabad	Yadgir		508	TD Surat	Dedtalai	
439	LGD Hyderabad	Nowrangpur		474	HD Chennai	Annamayya Proj		509	TD Surat	Dhandore	
440	LGD Hyderabad	Pathagudem		475	HD Chennai	Chennur		510	TD Surat	Garudeshwar	
441	LGD Hyderabad	Perur		476	HD Chennai	Kadapa	*	511	TD Surat	Ghala	
442	LGD Hyderabad	Polavaram		477	HD Chennai	Nandipally		512	TD Surat	Gidhade	
443	LGD Hyderabad	Rajahmundry	*	478	HD Chennai	NelloreAnicut		513	TD Surat	Girna dam	
444	LGD Hyderabad	Sangam		479	HD Chennai	NelloreCWC		514	TD Surat	Gopalkheda	
445	LGD Hyderabad	Sardaput		480	HD Chennai	Somasila Project		515	TD Surat	Harsul	
446	LGD Hyderabad	Sukma		481	UKD Pune	Cholachguda		516	TD Surat	Hathnur	
447	LKD Hyderabad	AlmattiDam		482	UKD Pune	Gokak		517	TD Surat	Kakrapar	
448	LKD Hyderabad	DeongaonBridge		483	UKD Pune	Kurundwad		518	TD Surat	Lakhpuri	
449	LKD Hyderabad	Deosugur		484	UKD Pune	Takli		519	TD Surat	Mohkheda	
450	LKD Hyderabad	Harlahalli		485	UKD Pune	Wadakbal		520	TD Surat	Morane	
451	LKD Hyderabad	Honnali		486	UKD Pune	UKD_Pune	*	521	TD Surat	Mortakka	
452	LKD Hyderabad	Huvinhedgi		487	ND Bhopal	Bargi dam		522	TD Surat	Nanipalsan	
453	LKD Hyderabad	Hyderabad_LKD	*	488	ND Bhopal	Barmanghat		523	TD Surat	Rajpipla	
454	LKD Hyderabad	K.Agraharam		489	ND Bhopal	Dindori		524	TD Surat	Sarangkheda	
455	LKD Hyderabad	Kurnool	*	490	ND Bhopal	Hoshangabad	*	525	TD Surat	Savkheda	
526	TD Surat	Silvassa	*	561	Mahi D Ahmd	Panam Dam					
527	TD Surat	Solachar		562	Mahi D Ahmd	Ratanpur					
528	TD Surat	Surat	*	563	Mahi D Ahmd	Rerska Weir					
529	TD Surat	Ukai Dam		564	Mahi D Ahmd	Saroty					

* Wirless Control Room

List of Real Time Data Stations and Wireless Control Stations (Wireless stations in CWC) during Flood Season 2005-07

530	TD Surat	Vapi		565	Mahi D Ahmd	Sei Dam					
531	TD Surat	Yerli		566	Mahi D Ahmd	Amba Dam					
532	TDSurat	Teska		567	Mahi D Ahmd	Subash Bridge					
533	Mahi D Ahmd	Abu Road		568	Mahi D Ahmd	Swaroopganj					
534	Mahi D Ahmd	Ambaji (seas)		569	Mahi D Ahmd	Vautha					
535	Mahi D Ahmd	Anas (Phase 2)		570	Mahi D Ahmd	Wanakbori Weir					
536	Mahi D Ahmd	Bakudar (sipu Dam)		571	Mahi D Ahmd	Watrak Dam					
537	Mahi D Ahmd	Chakaliya									
538	Mahi D Ahmd	Chitrasani									
539	Mahi D Ahmd	Dantiwada dam									
540	Mahi D Ahmd	Deesa									
541	Mahi D Ahmd	Derol Bridge									
542	Mahi D Ahmd	Dhariawad									
543	Mahi D Ahmd	Dharoi Dam									
544	Mahi D Ahmd	Gandinagar	*								
545	Mahi D Ahmd	Ghanod									
546	Mahi D Ahmd	Harnav Weir									
547	Mahi D Ahmd	Hathamati Weir									
548	Mahi D Ahmd	Himmat Nagar									
549	Mahi D Ahmd	Jotasan									
550	Mahi D Ahmd	Kadana									
551	Mahi D Ahmd	Khanpur									
552	Mahi D Ahmd	Kheda									
553	Mahi D Ahmd	Kheroj									
554	Mahi D Ahmd	Lowara									
555	Mahi D Ahmd	Mahi Bajaj Sagar Dam									
556	Mahi D Ahmd	Mataji									
557	Mahi D Ahmd	Mount Abu (seas)									
558	Mahi D Ahmd	Nadiad									
559	Mahi D Ahmd	Paderdibadi									
560	Mahi D Ahmd	Palanpur	*								

* Wirless Control Room

Annex- 5A

Unprecedented Flood Events during Flood Season - 2005

Sl.No	River	Station	State	Warning level in metres	Danger level in metres	Highest Flood Level (HFL)		New Highest Flood Level (HFL) in 2004		High Floods (within 0.5 m of HFL)			Unprecedented floods above previous HFL		
						Level in	Date of occurrence	Level in metres	Date of occurrence	From	To	No.of days	From	To	No.of
1	2	3		4	5	6	7	8	9	10	11	12	13	14	15
1	Ken	Banda	Uttar Pradesh	103.00	104.00	113.28	14.09.1992	113.29	11-14/ 07.07.	16/ 06	21/ 07.07	2	11/07.07	14/07.07	1
2	Wainganga	Bhandara	Maharashtra	244.00	244.50	249.10	07.09.1994	250.90	21-23/16.09.	08/15.	14/17.09	3	10/15.09	12/17.09	3

1. For conditions when the river surpasses previous HFL (upto 2004) in the year under review (2005)- Corresponds to RED Bulletin. New HFL was created. This will update the old HFL ever attained at the above 2 stations only
2. Moderate and Low floods are given seperately in Annex 7

Annex- 5B

Unprecedented Flood Events during Flood Season - 2006

Sl.No	River	Station	State	Warning level in metres	Danger level in metres	Highest Flood Level (HFL)		New Highest Flood Level (HFL) in 2006		Flood period => HFL-0.5 m			Flood period => HFL		
						Level in metres	Date of occurrence	Level in metres	Date of occurrence	From	To	No.of days	From	To	No.of days
1	Kushiyara	Assam	Karimganj	13.94	14.94	16.36	7/23/1993	16.3899994	14/06/06: 08	06: 05	16/06/06: 23	4	/06/06: 22	06/06: 09	2
2	Godavari	Maharashtra	Nanded	353.00	354.00	355.85	1983	357.100006	06/08/06: 17	06: 00	08/08/06: 06	3	/08/06: 03	08/06: 03	3
3	Bhima	Karnataka	Deongaon	400.00	407.00	406.30	8/29/1997	407.339996	13/08/06: 03	06: 16	16/08/06: 04	3	/08/06: 22	08/06: 03	2
4	Sabarmati	Gujarat	Ahmedabad	44.09	45.34	46.85	7/18/1993	47.4500008	19/08/06: 06	06: 15	16/08/06: 18	1	/08/06: 00	08/06: 10	1
										06: 23	20/08/06: 11	2	/08/06: 22	08/06: 00	2
5	Mahi	Gujarat	Wanakbori	71.00	72.54	74.77	8/24/1990	76.0999985	12/08/06: 04	06: 07	12/08/06: 20	2	/08/06: 11	08/06: 17	3
										06: 19	20/08/06: 08	2	/08/06: 22	08/06: 05	2
										06: 04	07/09/06: 19	1	/09/06: 06	09/06: 17	1
6	Tapi	Gujarat	Surat	8.50	9.50	12.01	1968	12.5	09/08/06: 07	06: 21	10/08/06: 19	2	/08/06: 01	08/06: 03	3

Unprecedented flood : Flood level => HFL
High Flood : Flood level>=HFL-0.5 m and < HFL

Annexure- 5C

Unprecedented Flood Events during Flood Season - 2007

Sl.No	River	station	State	District	Danger Level	Existing HFL		Duration		New HFL	
					(m)	Level (m	Date	From	To	Level	Date
1	Subarnarekha	Rajghat	Orissa	Balasore	10.36	12.20	07.08.1997	06/07/07	08/07/07	12.38	24/06.07
2	Jiabharali	NT Road Cr	Assam	Sonipur	77.00	78.25	26.06.1998	26/07/07	26/07/07	78.50	14-15/26.07
3	Puthimari	NH Road Br	Assam	Kamrup	51.81	54.92	20.06.1993	27/07/07	28/07/07	55.04	21-24/27.07
4	Ghaghra	Ayodhya	Uttar Prades	Faizabad	92.73	93.65	19.08.1998	01/08/07	04/08/07	93.74	02-11/02.08
5	Jaldhaka	Mathabhang	West Benga	Coochbe	48.70	49.60	29.07.1972	9/7/2007	9/8/2007	49.62	01/08.09
6	Sankosh	Golakganj	Assam	Dhubri	29.94	30.91	21.07.1993	08/09/07	08/09/07	30.95	02/08.09
7	Kushiyara	Karimganj	Assam	Karimgan	14.94	16.39	13.06.2006	09/09/07	14/09/07	16.55	22/09.09-01/10.09
8	Katakhal	Matizuri	Assam	Hailakan	20.27	22.63	25.06.2004	09/09/07	11/09/07	22.73	4.18/10.09

Annex-6A

High Flood Events during Flood Season - 2005

Sl.No	River	Station	State	Warning level in metres	Danger level in metres	Highest Flood Level (HFL)		Peak in 2005 season		High floods within 0.5 m HFL		
						Level (m)	Date of occurrence	Level (m)	Hour/ Date/Month	From	To	No.of days
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Ganga	Kannauj	Uttar Pradesh	124.90	125.97	126.24	29.8.1998	126.07	04/03.10.	15/01.10	10/04.10.	4
2	Ghaghra	Elgin Bridge	Uttar Pradesh	106.07	106.07	107.16	14.09.1982	106.66	/2427.09.	20/27.09	04/29.09	3
3	Bagmati	Benibad	Bihar	47.66	48.66	50.01	2004	49.75	08/ 29.08.	12/15.08	14/17.08	3
										21/22.08	01/01.09	11
4	Jiabharali	N.T.Road Crossing	Assasm	78.00	77.00	78.25	28.06.1998	77.85	06-09/24.08.	06/24.08	12/24.08	1
										06/25.08	10/25.08	1
5	Manu	Kailashahar	Tripura	24.34	25.34	25.79	1993	25.52	18-19/21.09.	12/21.09	22/21.09	1

Note: 1. The table indicates the sites where the water level did not equal or exceed Highest Flood Level (HFL) and remained within 0.5 m of HFL although high flood levels occurred in those sites also where water level equalled or exceeded HFL and attained new HFL during 2006 season.
2. Low and moderate floods are given in Annex-7 for these sites also.

Annex-6B

High Flood Events during Flood Season - 2006

Sl.No	River	Station	State	Warning level in metres	Danger level in metres	Highest Flood Level (HFL)		Peak in 2006 season		High floods within 0.5 m HFL		
						Level (m)	Date of occurrence	Level (m)	Hour/ Date/Month	From	To	No.of days
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Bagmati	Benibad	Bihar	47.66	48.66	50.01	2004	49.66	28/09/06: 17	15/09/06: 02	18/09/06: 04	4
										25/09/06: 00	01/10/06: 07	6
2	Kosi	Basua	Bihar	48.75	47.75	46.76	7/21/1998	46.42	27/09/06: 02	26/09/06: 21	27/09/06: 09	3
3	Kushiyara	Karimganj	Assam	13.94	14.94	16.36	7/23/1988	16.39	14/06/06: 01	13/06/06: 23	16/06/06: 23	4
4	Subernarekha	Rajghat	Orissa	9.45	10.36	12.20	9/7/1997	12.00	31/07/06: 23	31/07/06: 13	01/08/06: 05	2
5	Godavari	Gangakhed	Maharashtra	374.00	375.00	377.57	1947	377.24	14/08/06: 23	14/08/06: 13	15/08/06: 06	2
6	Godavari	Nanded	Maharashtra	353.00	354.00	355.88	1962	357.10	06/08/06: 17	06/08/06: 20	08/08/06: 06	3
7	Wardha	Balharsha	Maharashtra	171.50	174.00	179.00	1998	175.66	09/08/06: 08	07/08/06: 13	09/08/06: 03	3
8	Bhima	Deongaon	Karnataka	400.00	407.00	408.30	8/29/1997	407.34	13/08/06: 03	14/08/06: 16	16/08/06: 04	3
9	Sabarmati	Ahmedabad Shubhash Bridge	Gujarat	44.09	45.34	46.85	7/18/1973	47.45	19/09/06: 09	16/09/06: 15	17/09/06: 18	1
										19/09/06: 23	20/09/06: 11	2
										29/09/06: 19	01/09/06: 23	3
10	Mahi	Wanakbori	Gujarat	71.00	72.54	74.77	8/24/1980	76.10	12/08/06: 04	11/08/06: 07	12/08/06: 20	2
										19/09/06: 19	20/09/06: 08	2
										27/09/06: 04	27/09/06: 18	1
11	Tapi	Surat	Gujarat	8.50	9.50	12.01	1968	12.50	09.08/06: 07	07/08/06: 21	10/08/06: 19	4

Note: 1. The table indicates the sites where the water level did not equal or exceed Highest Flood Level (HFL) and remained within 0.5 m of HFL although high flood levels occurred in these sites also where water level equalled or exceeded HFL and attained new HFL during 2005 season.
2. Moderate and Low floods are given in Annex-7 for these sites also.

Annexure- 6C

High Flood Events during Flood Season - 2007

Sl No	River	station	State	District	Danger Level (m)	Existing HFL		Duration above High Flood		Remarks
						Level (m)	Date	From	To	Occa
1	Beki	Road Bridge	Assam	Barpeta	45.10	46.20	04.08.2000	26-Jul-2007 5	26-Jul-2007 23	1
								27-Jul-2007 12	27-Jul-2007 15	2
								30-Jul-2007 8	31-Jul-2007 13	3
2	Sankosh	Golakganj	Assam	Dhubri	29.94	30.91	21.07.1993	27-Jul-2007 13	30-Jul-2007 8	1
								30-Jul-2007 21	31-Jul-2007 4	2
								07-Sep-2007 14	08-Sep-2007 17	3
3	Surhidhing	Khowang	Assam	Dibrugarh	102.11	103.92	25.08.1988	27-Jul-2007 12	01-Aug-2007 13	1
								10-Sep-2007 14	11-Sep-2007 20	2
4	Katakhal	Matizuri	Assam	Hailakandi	20.27	22.63	25.06.2004	18-Jun-2007 11	19-Jun-2007 14	1
								02-Sep-2007 20	03-Sep-2007 21	2
								08-Sep-2007 21	12-Sep-2007 21	3
5	Puthimari	NH Road Crossing	Assam	Kamrup	51.81	54.92	20.08.1993	27-Jul-2007 7	28-Jul-2007 7	1
6	Kushiyara	Karimganj	Assam	Karimganj	14.94	16.39	13.06.2008	18-Jun-2007 5	21-Jun-2007 9	1
								27-Aug-2007 19	31-Aug-2007 22	2
								01-Sep-2007 7	01-Sep-2007 22	3
								02-Sep-2007 17	07-Sep-2007 3	4
								07-Sep-2007 8	20-Sep-2007 23	5
7	Desang	Nanglamoraghat	Assam	Sibsagar	94.46	96.49	08.09.1998	27-Jul-2007 21	29-Jul-2007 3	1
								29-Aug-2007 12	30-Aug-2007 22	2
								06-Sep-2007 7	12-Sep-2007 7	3
8	Jiabharali	NT Rd Crossing	Assam	Sonitpur	77.00	78.25	26.06.1998	20-Jul-2007 7	20-Jul-2007 15	1
								20-Jul-2007 19	21-Jul-2007 2	2
								24-Jul-2007 1	24-Jul-2007 22	3
								25-Jul-2007 3	25-Jul-2007 7	4
								30-Jul-2007 23	31-Jul-2007 2	5
								01-Aug-2007 9	01-Aug-2007 10	6
								07-Sep-2007 4	08-Sep-2007 3	7
9	Barak	Silchar (AP Ghat)	Assam	Cachar	19.83	21.84	01.06.1988	09-Sep-2007 18	12-Sep-2007 11	1
10	Kopili	Kampur	Assam	Nagaon	60.50	61.86	16.06.1973	09-Sep-2007 19	12-Sep-2007 23	1
11	Manu	Kailashar	Tripura	North Trip	25.34	25.79	07.06.1993	09-Sep-2007 21	10-Sep-2007 11	1
12	Jaldhaka	Mathabanga	West Bengal	Coochbehar	48.70	49.60	29.07.1972	28-Jul-2007 13	29-Jul-2007 3	2
13	Mundeshwari	Hatinkhola	West Bengal	Hooghly	12.60	14.56	29.09.1978	07-Sep-2007 13	08-Sep-2007 11	3
14	Raidak-I	Tufangonj	West Bengal	Coochbehr	35.30	36.36	21.07.1993	26-Jun-2007 10	26-Sep-2007 12	1
								08-Sep-2007 1	08-Sep-2007 14	1
15	Ghaghra	Elgin bridge	Uttar Pradesh	Barabanki	106.07	107.18	14.09.1983	26-Jul-2007 17	05/08/2007 14	1
								05-Aug-2007 1	08-Aug-2007 6	2
16	Ghaghra	Ayodhya	Uttar Pradesh	Faizabad	92.73	93.65	19.08.1988	29-Jul-2007 2	01-Aug-2007 5	1
								05-Aug-2007 1	08-Aug-2007 6	2
17	Rapti	Balrampur	Uttar Pradesh	Balrampur	104.62	105.25	11.09.2008	29-Jul-2007 19	01-Aug-2007 23	1
18	Adhwara Group	Ekmighat	Bihar	Darbhanga	46.94	49.52	12.07.2004	31-Jul-2007 19	04-Aug-2007 16	1
19	Bagmati	Hayaghat	Bihar	Darbhanga	45.72	48.96	14.08.1987	01-Aug-2007 5	03-Aug-2007 4	1
20	Gandak	Chatia	Bihar	Motihari	69.15	70.04	26.07.2002	01-Aug-2007 0	02-Aug-2007 0	1
								18-Aug-2007 15	21-Aug-2007 17	2
21	Bagmati	Benibad	Bihar	Muzaffarpur	48.68	50.01	12.07.2004	25-Jul-2007 15	27-Aug-2007 11	1
								08-Sep-2007 5	12-Sep-2007 13	2
22	Burhi-Gandak	Muzaffarpur (Sikandarpur)	Bihar	Muzaffarpur	52.83	54.29	15.08.1987	30-Jul-2007 14	08-Aug-2007 22	1
								20-Aug-2007 15	26-Aug-2007 5	2
23	Burhi-Gandak	Samastipur	Bihar	Samastipur	48.02	49.58	15.08.1987	02-Aug-2007 7	07-Aug-2007 17	1
								22-Aug-2007 15	25-Aug-2007 17	2
24	Burhi-Gandak	Rosera	Bihar	Samastipur	42.63	46.36	16.08.1987	02-Aug-2007 9	03-Aug-2007 19	1
25	Kamla Balan	Jhanjharpur	Bihar		50.00	53.01	2004	27-Jul-2007 17	28-Jul-2007 1	1
26	Kosi	Basua	Bihar	Supaul	47.75	48.87	11.07.2004	27-Jul-2007 0	29-Jul-2007 2	1
27	Gandak	Rewaghat	Bihar	Muzaffarpu	54.41	55.41	17.09.1998	08-Sep-2007 5	09-Sep-2007 22	1
28	Subarnarekha	Ralghat	Orissa	Balasore	10.36	12.20	07.08.1997	06-Jul-2007 11	08-Jul-2007 15	1

Annex-7A

Moderate and Low Flood Events during Flood Season - 2005

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2005		Low floods (above warning level but below danger level)			Moderate floods above danger level but 0.5 m below HFL)		
						Level in metres	Date of occurrence	From	To	No.of days	From	To	No.of days
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Ganga	Rishikesh	Uttaranchal	539.00	540.00	534.55	07 / 29.07	11/29.07	01/30.07	2	NA	NA	
								11/31.07	15/31.07	1	NA	NA	
								18/05.08	23/05.08	1	NA	NA	
								06/25.09	07/26.09	2	NA	NA	
2	Ganga	Haridwar	Uttaranchal	339.50	340.50	340.00	18/25.09	11/15.07	12/15.07	1	NA	NA	
								18/15.07	20/15.07	1	NA	NA	
								05/16.07	20/16.07	1	NA	NA	
								08/17.07	18/17.07	1	NA	NA	
								08/18.07	20/20.07	3	NA	NA	
								05/21.07	12/21.07	1	NA	NA	
								05/22.07	12/22.07	1	NA	NA	
								11/23.07	15/23.07	5	NA	NA	
								09/24.07	10/24.07	1	NA	NA	
								14/26.07	13/07.08	13	19/27.07	19/27.07	1
											15/29.07	17/29.07	1
								15/17.08	16/17.08	1	NA	NA	
								09/18.08	14/18.08	1	NA	NA	
								01/18.09	22/18.09	1	NA	NA	
3	Ganga	Kannauj	Uttar Pradesh	PL= 180.7	0.00	179.39	19/28.09	01/25.09	11/27.09	3	07/25.09	03/26.09	2
								12/06.08	02/09.08	4	NA	NA	
								02/22.09	09/24.09	3	NA	NA	
								06/28.09	06/06.10	9	11/02.10	18/03.10	2
4	Ganga	Ankinghat	Uttar Pradesh	124.90	125.97	126.07	04/03.10	12/03.08	04/11.08	9	NA	NA	
								14/22.09	05/24.09	3	NA	NA	
								13/28.09	12/05.10	8	NA	NA	
5	Ganga	Kanpur	Uttar Pradesh	123.00	124.00	123.59	08/03.10	NA	NA		NA	NA	
6	Ganga	Dalmau	Uttar Pradesh	113.00	114.00	112.95	07-18/ 28.08	04/29.07	07/30.07	2	NA	NA	
								12/07.08	24/10.08	4	NA	NA	
								12/23.09	23/25.09	3	NA	NA	
								04/29.09	14/06.10	8	NA	NA	
7	Ganga	Phaphamau	Uttar Pradesh	98.36	99.36	98.95	21/03.10	NA	NA				
8	Ganga	Allahabad (Chhatnag)	Uttar Pradesh	83.73	84.73	83.58	17-20/09.07	NA	NA				
9	Ganga	Mirzapur	Uttar Pradesh	83.73	84.73	82.81	14-20/09.07	NA	NA				
10	Ganga	Varanasi	Uttar Pradesh	76.72	77.72	76.09	22-24/09.07	13/09.07	22/10.07	2			
11	Ganga	Ghazipur	Uttar Pradesh	70.26	71.26	70.45	04-11/10.07	09/08.07	08/12.07	5	15/09.07	11/11.07	3
12	Ganga	Buxar	Bihar	62.11	63.11	63.38	12-18/10.07	05/09.07	03/12.07	4	NA	NA	
13	Ganga	Ballia	Uttar Pradesh	59.32	60.32	59.70	21/10.07-08/11.07	22/07.07	14/08.07	2	15/08.07	18/12.07	5
								09/19.07	15/25.07	7	22/21.07	12/22.07	2
								23/06.08	18/12.08	5	NA	NA	
14	Ganga	Patna (Dighaghat)	Bihar	56.62	57.62	58.46	05-08/11.07	08/25.08	18/27.08	3	NA	NA	

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Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2005		Low floods (above warning level but below danger level)			Moderate floods above danger level but 0.5 m below HFL)		
						Level in metres	Date of occurrence	From	To	No.of days	From	To	No.of days
1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	Ganga	Patna (Gandhighat)	Bihar	49.45	50.45	49.99	24/26.08- 06/	05/09.07	11/13.07	5	NA	NA	
								03/21.07	03/24.07	4	NA	NA	
								06/09.08	11/12.08	4	NA	NA	
								17/23.08	16/31.08	9	01/26.08	09/28.08	3
16	Ganga	Hathidah	Bihar	47.6	48.6	48.789	09-14/27.08	06/12.07	22/12.07	1	NA	NA	
								18/24.08	21/31.08	8	NA	NA	
17	Ganga	Munger	Bihar	40.76	41.76	41.64	18/27.08-04/	NA	NA		NA	NA	
18	Ganga	Bhagalpur	Bihar	38.33	39.33	38.27	07-18/ 28.08	16/25.08	02/02.09	9	NA	NA	
19	Ganga	Colgong/ Kahalgaon	Bihar	32.68	33.68	33.47	16/26.08-18/29.08	21/09.07	12/31.07	23	07/12.07	11/14.07	3
											17/22.07	22/25.07	4
								16/07.08	15/08.08	33	11/10.08	11/14.08	5
											22/24.08	14/03.09	11
20	Ganga	Farakka	West Bengal	30.09	31.09	32.14	21/28.08-24/29.08	17/10.07	11/02.08	24	08/13.07	09/15.07	3
											15/22.07	15/27.07	6
								13/05.08	23/13.09	40	22/10.08	09/16.08	7
											09/25.08	09/05.09	12
21	Alaknanda	Srinagar	Uttaranchal	0.00	0.00	0.00	0	NA	NA		NA	NA	
22	Ramganga	Moradabad	Uttar Pradesh	21.25	22.25	24.43	06/30.08- 24/	19/05.07	08/08.07	4	NA	NA	
								15/12.07	03/14.07	3	NA	NA	
								06/08.08	15/08.08	1	NA	NA	
								07/19.08	11/19.08	1	NA	NA	
								23/17.09	05/23.09	7	14/19.09	14/21.09	3
								02/25.09	05/30.09	6	22/25.09	14/28.09	4
23	Ramganga	Bareilly	Uttar Pradesh	189.60	190.60	191.26	12/27.09.	20/26.09	04/30.09	3	NA	NA	
24	Yamuna	Mawi	Uttar Pradesh	PL=323.70	0.00	335.50	05.07.	09/07.07	12/09.07	3	NA	NA	
								17/12.07	22/13.07	2	NA	NA	
								12/15.07	05/21.07	7	01/08.07	15/08.07	2
								02/29.07	11/29.07	1	NA	NA	
								03/30.07	11/31.07	2	NA	NA	
								08/27.09	20/27.09	1	NA	NA	
25	Yamuna	Delhi Rly Br	NCT Delhi	230.00	230.85	230.94	01/ 08.07.	19/08.07	12/10.07	3	NA	NA	
								19/13.07	08/14.07	2	NA	NA	
								16/16.07	23/21.07	6	NA	NA	
								01/31.07	07/01.08	2	NA	NA	
								12/27.09	16/29.09	3	NA	NA	
26	Yamuna	Mathura	Uttar Pradesh	204.00	204.83	204.88	10/18.07.	07/11.07	22/12.07	2	NA	NA	
								01/15.07	08/26.07	12	NA	NA	
								01/01.08	18/04.08	4	NA	NA	
								15/28.09	24/30.09	3	NA	NA	
27	Yamuna	Agra	Uttar Pradesh	164.20	165.20	164.88	22/20.07.	NA	NA				
28	Yamuna	Etawah	Uttar Pradesh	151.40	152.40	149.84	10-13/ 22.07	NA	NA				
29	Yamuna	Auraiya	Uttar Pradesh	120.92	121.92	108.55	18.07	NA	NA				
30	Yamuna	Kalpi	Uttar Pradesh	112.00	113.00	109.55	11-17/ 18.07	NA	NA				
31	Yamuna	Hamirpur	Uttar Pradesh	107.00	108.00	103.28	15-23/ 18.07	NA	NA				
32	Yamuna	Chillaghat	Uttar Pradesh	102.63	103.93	101.15	23-24/ 8.07	06/07.07	16/09.07	3	21/07.07	05/.09.07	3

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2005		Low floods (above warning level but below danger level)			Moderate floods above danger level but 0.5 m below HFL)		
						Level in metres	Date of occurrence	From	To	No.of days	From	To	No.of days
1	2	3	4	5	6	7	8	9	10	11	12	13	14
33	Yamuna	Naini	Uttar Pradesh	99.00	100.00	100.54	17-19/08.07	NA	NA				
34	Sahibi	Dhansa Regulator	NCT Delhi	83.74	84.74	83.45	18-20/ 8.07	NA	NA				
35	Betwa	Mohana	Uttar Pradesh	121.66	122.66	120.97	06.07.2005	NA	NA				
36	Betwa	Sahjina		103.54	104.54	101.38	06.07.2005	NA	NA				
37	Ken	Banda		103.00	104.00	**113.29**	**11-14/07.07.**	10/03.07	19/09.07	7	14/03.07	16/09.07	7
								09/21.08	09/24.08	4	15/21.08	04/24.08	4
38	Gomati	Lucknow (Hanuman setu)		108.50	109.50	105.82	06/29.08.2005	NA	NA				
39	Gomati	Jaunpur		73.07	74.07	69.69	21-Sep	NA	NA				
40	Sai	Rae- Bareilly		100.00	101.00	98.71	08/24.09.2005	NA	NA				
41	Ghaghra	Elgin Bridge		105.07	106.07	**106.66**	**24/27.09.2005**	18/10.07	10/11.07	2			
								19/12.07	19/31.08	51	05/07.08	10/10.08	4
											05/17.08	11/17.08	1
											06/18.08	16/26.08	9
											24/26.08	09/27.08	2
								09/06.09	06/09.09	4	NA	NA	
								04/19.09	23/21.09	3	NA	NA	
								01/26.09	02/05.10	10	14/25.09	04/28.09	3
											05/28.09	10/29.09	2
42	Ghaghra	Ayodhya		91.73	92.73	**93.16**	**23/23.08.2005**	21/09.07	01/10.07	2	NA	NA	
								19/10.07	05/12.07	3	NA	NA	
								04/13.07	06/13.09	63	05/21.07	14/21.07	1
											03/08.08	21/10.08	3
											19/18.08	07/29.08	12
								18/18.09	05/15.10	28	04/27.09	11/01.10	4
43	Ghaghra	Turtipar		63.01	64.01	**64.24**	**06/25.08.2005**	18/19.07	01/13.08	25	NA	NA	
								14/18.08	01/03.09	17	24/23.08	07/28.08	6
								20/08.09	03/11.09	4	NA	NA	
								22/27.09	06/04.10	8	NA	NA	
44	Ghaghra	Darauli		59.82	60.82	60.88	15/23.08-06/	04/20.07	04/14.08	26	NA	NA	
								11/16.08	24/02.09	18	05/22.08	18/27.08	6
45	Ghaghra	Gangpur Siwan		56.04	57.04	56.61	14-18/27.08	03/25.08	02/30.08	6	NA	NA	
46	Ghaghra	Chhapra		52.68	53.68	51.73	18-24/26.08	NA	NA		NA	NA	
47	Rapti	Balrampur		103.62	104.62	104.55	21/23.07.2005	19/19.07	11/26.07	8	NA	NA	
								24/20.08	08/30.08	11	NA	NA	
48	Rapti	Bansi		83.90	84.90	84.21	24/22.07.2005	04/21.07	21/26.07	6	NA	NA	
								05/26.08	01/31.08	8	NA	NA	
49	Rapti	Gorakhpur (Birdghat)		73.98	74.98	74.90	15/24.07.2005	03/20.07	15/26.07	9	NA	NA	
								17/26.08	11/01.09	7	NA	NA	
50	Sone	Inderpuri		107.20	108.20	107.00	11/2,7 &15-1	NA	NA				
51	Sone	Koelwar		54.52	55.52	55.25	08-10/04.07	01/03.07	18/08.07	8	NA	NA	
								19/08.08	11/10.08	3	NA	NA	
52	Sone	Maner		51.00	52.00	51.96	22/26.08-08/	07/25.08	06/29.08	5	NA	NA	
53	PunPun	Sripalpur		49.60	50.60	51.76	12-14/26.08	23/22.08	05/29.08	8	03/24.08	06/28.08	5
54	Gandak	Khadda		95.00	96.00	96.00	23/19.08	24/02.07	09/04.07	3	NA	NA	
								15/04.07	09/06.07	3	NA	NA	
								13/06.07	24/07.07	2	NA	NA	

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2005		Low floods (above warning level but below danger level)			Moderate floods above danger level but 0.5 m below HFL)		
						Level in metres	Date of occurrence	From	To	No.of days	From	To	No.of days
1	2	3	4	5	6	7	8	9	10	11	12	13	14
								01/08.07	03/08.07	1	NA	NA	
								10/10.07	20/10.07	1	NA	NA	
								02/11.07	08/12.07	2	NA	NA	
								17/13.07	24/14.07	2	NA	NA	
								01/15.07	08/16.07	2	NA	NA	
								12/16.07	24/21.07	6	NA	NA	
								01/22.07	04/24.07	3	NA	NA	
								13/24.07	02/25.07	2	NA	NA	
								19/25.07	05/01.08	8	NA	NA	
								16/04.08	04/10.08	10	NA	NA	
								23/10.08	21/11.08	2	NA	NA	
								14/12.08	03/14.08	3	NA	NA	
								17/14.08	03/15.08	2	NA	NA	
								14/15.08	10/13.09	30	NA	NA	
								22/13.09	24/14.09	2	NA	NA	
								01/15.09	04/16.09	2	NA	NA	
								03/21.09	09/21.09	1	NA	NA	
								21/21.09	09/24.09	4	NA	NA	
								19/06.10	03/07.10	2	NA	NA	
55	Gandak	Chatia		68.15	69.15	67.82	18/28.08.200	NA	NA		NA	NA	
56	Gandak	Rewaghat		53.41	54.41	53.72	07-14/29.08	23/22.08	22/30.08	9	NA	NA	
57	Gandak	Hazipur		49.32	50.32	49.19	21/26.08-11/	NA	NA		NA	NA	
58	Burhi Gandak	Lalbeghiaghat		62.20	63.20	63.92	17/28.08.200	21/21.08	10/05.09	18	11/26.08	05/03.09	9
59	Burhi Gandak	Muzaffarpur (Sikandarpur)		51.53	52.53	52.92	06/01.09-20 05	17/25.08	21/08.09	15	14/29.08	14/06.09	9
60	Burhi Gandak	Samastipur		45.02	46.02	47.34	03/04.09	06/26.08	23/10.09	18	14/29.08	19/09.09	12
61	Burhi Gandak	Russera		41.63	42.63	44.43	11/04.09	03/23.08	23/11.09	20	17/26.08	17/10.09	16
62	Burhi Gandak	Khagaria		35.58	36.58	37.31	18/28.08.200	21/10.07	23/14.07	5	NA	NA	
								12/21.07	18/26.07	6	NA	NA	
								07/10.08	17/14.08	5	NA	NA	
								01/24.08	24/08.09	16	03/26.08	05/02.09	8
63	Bagmati	Benibad		47.68	48.68	49.75	08/29.08.200	16/28.06	15/29.06	2	NA	NA	
								05/30.06	19/30.06	1	NA	NA	
								08/05.07	05/08.07	4	NA	NA	
								18/09.07	05/14.07	6	NA	NA	
								01/15.07	06/03.08	20	19/16.07	04/28.07	13
								21/07.08	22/18.09	43	12/09.08	19/12.09	35
								21/22.09	15/25.09	4	NA	NA	
								03/05.10	04/10.10	6	NA	NA	
64	Bagmati	Hayaghat		44.72	45.72	47.02	1600/02.09.2	18/14.08	15/16.09	34	01/25.08	10/13.09	20
65	Adhwara Group	Kamtaul		49.00	50.00	51.07	11/30.08.200	07/11.08	11/11.09	32	14/13.08	11/20.08	8
											14/22.08	09/05.09	15
66	Adhwara Group	Ekmighat		45.94	46.94	47.75	17/02.09.200	13/13.08	12/16.09	35	13/26.08	14/11.09	17
67	Kamla Balan	Jhanjharpur		49.00	50.00	52.28	17/27.08.200	17/21.06	20/21.06	1	NA	NA	
								22/23.06	13/24.06	2	NA	NA	
								01/11.07	01/12.07	2	NA	NA	
								23/20.07	17/22.07	3	NA	NA	

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2005		Low floods (above warning level but below danger level)			Moderate floods above danger level but 0.5 m below HFL)		
						Level in metres	Date of occurrence	From	To	No.of days	From	To	No.of days
1	2	3	4	5	6	7	8	9	10	11	12	13	14
								07/23.07	21/23.07	1	NA	NA	
								21/07.08	14/10.08	4	NA	NA	
								20/10.08	15/11.08	3	NA	NA	
								09/12.08	20/17.08	8	15/12.08	15/13.08	2
											18/15.08	02/16.08	2
								12/18.08	05/19.08	2	NA	NA	
								01/21.08	21/21.08	1	NA	NA	
								13/24.08	07/03.09	11	04/26.08	13/29.08	4
								13/04.09	24/05.09	2	NA	NA	
								12/06.09	04/08.09	3	NA	NA	
								13/21.09	05/22.09	2	NA	NA	
								21/25.09	07/26.09	2	NA	NA	
								23/27.09	07/28.09	2	NA	NA	
								21/05.10	14/06.10	2	NA	NA	
68	Kosi	Basua		46.75	47.75	48.42	21/27.08.200	23/04.07	04/16.09	75	04/08.08	16/09.08	2
											22/15.08	10/17.08	3
											09/21.08	18/23.08	3
											21/24.08	09/30.08	7
								23/21.09	21/30.09	10	NA	NA	
								19/04.10	04/10.10	7	NA	NA	
69	Kosi	Baitara		32.85	33.85	35.50	17/29.08.200	04/12.07	02/02.08	22	20/15.07	23/16.07	2
											03/18.07	14/24.07	3
								14/04.08	15/07.08	4	NA	NA	
								01/08.08	05/17.09	41	09/09.08	14/11.08	3
											12/12.08	04/13.09	33
70	Kosi	Kursela		29.00	30.00	31.10	02/29.08	23/09.07	13/14.07	8	15/12.07	13/14.07	3
								01/15.07	24/21.07	7	NA	NA	
								22/22.07	08/26.07	5	NA	NA	
								01/01.08	02/02.08	2	NA	NA	
								06/04.08	20/13.09	41	17/10.08	21/14.08	5
											14/24.09	19/04.09	12
71	Mahananda	Dhengraghat		34.65	35.65	36.18	06/27.08	09/23.06	02/25.06	3	NA	NA	
								02/17.07	19/24.07	8	23/18.07	24/18.07	1
								17/08.08	22/09.08	2	18/08.08	22/09.08	2
								01/15.08	12/02.09	19	14/15.08	22/17.08	3
											08/26.08	10/29.08	4
								12/06.09	07/08.09	3	NA	NA	
72	Mahananda	Jhawa		30.40	31.40	31.52	18/28.08.200	23/17.07	14/20.07	4	NA	NA	
								03/22.07	02/23.07	2	NA	NA	
								20/08.08	07/11.08	4	NA	NA	
								03/12.08	01/06.09	26	04/28.08	03/29.08	2
								12/06.09	12/08.09	3	NA	NA	
73	Mayurakshi	Narayanpur		28.99	27.99	25.08	18-19/15.07	NA	NA				
74	Ajoy	Ghetopera		28.42	38.42	28.33	18-21/15.07	NA	NA				
75	Mundeshwari	Hanikhola		11.80	12.80	9.46	16-22/17.07	NA	NA				
76	Kangsabati	Mohanpur		24.73	25.73	22.74	11-14/21.08	NA	NA				

Annex-7B

Moderate and Low Flood Events during Flood Season - 2006

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2006			Flood period above warning level			Flood period above danger level		
						Level in metres	From	To	From	To	No.of days	From	To	No.of days
1	Ganga	Uttar Prades	Ghazipur	62.11	63.11	63.17	07/09/06: 18	07/09/06: 22	24/08/06: 20	25/08/06: 02	2	07/09/06: 11	08/09/06: 03	2
									06/09/06: 02	09/09/06: 02	4			
2	Ganga	Bihar	Buxar	59.32	60.32	59.768	07/09/06: 18	07/09/06: 22	06/09/06: 14	09/09/06: 04	4			
3	Ganga	Uttar Prades	Ballia	56.62	57.62	58.53	08/09/06: 03	08/09/06: 11	20/08/06: 02	31/08/06: 02	12	24/08/06: 22	27/08/06: 14	4
									05/09/06: 20	14/09/06: 18	10	08/09/06: 05	10/09/06: 01	5
4	Ganga	Bihar	Patna _Gandi	49.45	50.45	48.489	07/09/06: 22	08/09/06: 21	24/08/06: 14	04/09/06: 00	12	"		
									06/09/06: 00	15/09/06: 13	10			
5	Ganga	Bihar	Patna _Digha	47.6	48.6	49.55	08/09/06: 08	08/09/06: 21	04/09/06: 14	09/09/06: 06	6			
6	Ganga	Bihar	Hathidah	40.76	41.76	41.555	09/09/06: 09	09/09/06: 18	25/08/06: 10	04/09/06: 10	11			
									06/09/06: 13	14/09/06: 18	9			
7	Ganga	Bihar	Bhagalpur	32.68	33.68	33.04	29/08/06: 18	30/08/06: 00	27/08/06: 22	02/09/06: 10	7			
									09/09/06: 30	11/09/06: 18	3			
8	Ganga	Bihar	Kahalgaon	30.09	31.09	31.48	29/08/06: 18	30/08/06: 08	22/08/06: 18	19/09/06: 06	29	27/08/06: 18	03/09/06: 03	8
												09/09/06: 13	11/09/06: 21	3
									25/09/06: 09	28/09/06: 19	4			
9	Ganga	Jharkhand	Sahibgunj	26.25	27.25	27.82	30/08/06: 00	30/08/06: 18	24/07/06: 07	27/07/06: 16	4			
									02/08/06: 04	13/08/06: 21	12			
									20/08/06: 12	21/09/06: 22	33	27/08/06: 01	05/09/06: 13	10
												08/09/06: 13	18/09/06: 00	11
									24/09/06: 16	02/10/06: 17	9	26/09/06: 16	27/09/06: 18	2
10	Ganga	West Benga	Farakka	21.25	22.25	22.67	31/08/06: 03	01/09/06: 12	08/08/06: 03	12/08/06: 04	5			
									22/08/06: 19	22/09/06: 05	32	28/08/06: 07	05/09/06: 11	9
												09/09/06: 11	15/09/06: 14	7
									24/09/06: 19	03/10/06: 08	10	26/09/06: 16	28/09/06: 04	3
11	Ramganga	Uttar Prades	Moradabad	189.60	190.60	189.9	27/07/06: 08:		27/07/06: 06	27/07/06: 10	1			
12	Yamuna	Uttar Prades	Auraiya	112.00	113.00	113.74	04/09/06: 23	05/09/06: 00	03/09/06: 21	06/09/06: 02	4	04/09/06: 06	05/09/06: 17	2
13	Yamuna	Uttar Prades	Kalpi	107.00	108.00	108.92	05/09/06: 05	05/09/06: 06	04/09/06: 03	04/09/06: 09	1	04/09/06: 10	05/09/06: 23	2
									06/09/06: 00	06/09/06: 07	1			
14	Yamuna	Uttar Prades	Hamirpur	102.63	103.63	104.04	05/09/06: 06	05/09/06: 08	04/09/06: 04	04/09/06: 14	1	04/09/06: 15	05/09/06: 19	2
									05/09/06: 20	06/09/06: 05	2			
15	Yamuna	Uttar Prades	Chilaghat	99.00	100.00	99.55	05/09/06: 20	05/09/06: 21	04/09/06: 22	06/09/06: 09	3			
16	Betwa	Uttar Prades	Mohana	121.66	122.66	122	03/09/06: 00	03/09/06: 08	02/09/06: 19	03/09/06: 20	2			
17	Betwa	Uttar Prades	Sahjina	103.54	104.54	104.05	05/09/06: 02	05/09/06: 04	04/09/06: 05	05/09/06: 18	2			
18	Ghaghra	Uttar Prades	Elgin Bridge	105.07	106.07	106.676	29/08/06: 12		14/07/06: 22	17/09/06: 08	66	23/07/06: 02	23/07/06: 10	1
												27/07/06: 18	31/07/06: 05	5
												07/08/06: 12	09/08/06: 10	3
												27/08/06: 07	03/09/06: 09	8
19	Ghaghra	Uttar Prades	Ayodhya	91.73	92.73	93.32	30/08/06: 18		18/07/06: 14	18/09/06: 17	65	28/07/06: 09	31/07/06: 18	4
												25/08/06: 02	03/09/06: 07	7
20	Ghaghra	Uttar Prades	Turtipar	63.01	64.01	64.31	02/09/06: 16		18/07/06: 10	04/08/06: 03	18			
									07/08/06: 13	14/08/06: 05	8			
									28/08/06: 04	07/09/06: 00	11	30/08/06: 07	04/09/06: 14	6
21	Ghaghra	Bihar	Darauli	59.82	60.82	60.7	31/08/06: 16	02/09/06: 08	20/07/06: 04	04/08/06: 06	16			
									06/08/06: 04	14/08/06: 02	7			
									28/08/06: 22	06/09/06: 06	10			
22	Ghaghra	Bihar	Gangpur Siswa	56.04	57.04	56.675	02/09/06: 02	03/09/06: 00	30/08/06: 18	05/09/06: 07	7			
23	Rapti	Uttar Prades	Balrampur	103.62	104.62	104.49	30/08/06: 14		28/08/06: 03	03/09/06: 11	7			
24	Rapti	Uttar Prades	Bansi	83.90	84.90	83.965	02/09/06: 17		30/08/06: 21	03/09/06: 14	5			
25	Sone	Bihar	Koelwar	54.52	55.52	54.824	27/08/06: 06	27/08/06: 10	25/08/06: 01	29/08/06: 11	3			
									27/08/06: 00	28/08/06: 09	2			

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2006			Flood period above warning level			Flood period above danger level		
						Level in metres	From	To	From	To	No.of days	From	To	No.of days
26	Sone	Bihar	Maner	51.00	52.00	51.3	08/09/06: 05	08/09/06: 18	26/08/06: 07	28/08/06: 08	3			
									07/09/06: 00	09/09/06: 18	3			
27	PunPun	Bihar	Sripalpur	49.60	50.60	52.975	29/09/06: 10	29/09/06: 22	09/06/06: 07	14/06/06: 14	6	09/06/06: 11	14/06/06: 03	6
									12/07/06: 21	16/07/06: 18	5	13/07/06: 08	15/07/06: 14	3
									29/07/06: 23	01/08/06: 02	4			
									27/08/06: 15	03/09/06: 11	8	28/08/06: 01	30/08/06: 02	3
												31/08/06: 08	02/09/06: 02	3
									24/09/06: 08	03/10/06: 23	10	24/09/06: 12	03/10/06: 01	10
28	Gandak	Uttar Prades	Khadda	95.00	96.00	96.2	26/08/06: 21		10/06/06: 01	13/06/06: 13	4			
									26/06/06: 02	27/06/06: 09	2			
									27/06/06: 13	05/07/06: 09	8			
									05/07/06: 20	12/08/06: 03	39			
									13/08/06: 14	14/08/06: 03	2			
									14/08/06: 20	18/08/06: 03	5			
									19/08/06: 22	22/08/06: 00	4			
									23/08/06: 01	04/09/06: 13	13	26/08/06: 12	27/08/06: 03	2
												28/08/06: 03	28/08/06: 09	1
									04/09/06: 16	06/09/06: 21	3			
									09/09/06: 11	17/09/06: 15	9			
									17/09/06: 21	19/09/06: 03	3			
									23/09/06: 22	24/09/06: 21	2			
									25/09/06: 07	26/09/06: 17	2			
29	Gandak	Bihar	Rewaghat	53.41	54.41	53.485	31/08/06: 02	01/09/06: 00	28/08/06: 04	01/09/06: 09	5			
30	Burhi Gandak	Bihar	Lalbeghiaghat	62.20	63.20	62.56	17/07/06: 00		13/07/06: 01	19/07/06: 19	7			
31	Burhi Gandak	Bihar	Muzaffarpur_3	51.53	52.53	52.23	29/09/06: 06		19/07/06: 02	20/07/06: 04	2			
									26/09/06: 10	02/10/06: 22	7			
32	Burhi Gandak	Bihar	Samastipur	45.02	46.02	45.4	29/07/06: 09		16/07/06: 05	23/07/06: 00	8			
33	Burhi Gandak	Bihar	Rosera	41.63	42.63	42.9	20/07/06: 08		12/07/06: 12	24/07/06: 07	13	17/07/06: 01	22/07/06: 16	6
									25/09/06: 16	02/10/06: 01	5			
34	Burhi Gandak	Bihar	Khagaria	35.58	36.58	36.55	28/08/06: 23		25/08/06: 23	05/09/06: 23	12			
									07/09/06: 04	17/09/06: 23	11			
35	Bagmati	Bihar	Benibad	47.68	48.68	49.66	28/08/06: 17		09/06/06: 01	13/06/06: 15	5	11/06/06: 23	13/06/06: 15	3
									15/06/06: 01	17/06/06: 04	3			
									25/06/06: 11	26/06/06: 17	2			
									27/06/06: 12	13/08/06: 08	48	30/06/06: 03	05/07/06: 19	0
												09/07/06: 14	23/07/06: 14	15
												27/07/06: 02	04/08/06: 05	9
									27/08/06: 04	16/10/06: 00	51	29/08/06: 11	03/09/06: 02	5
												11/09/06: 07	08/10/06: 19	28
36	Bagmati	Bihar	Hayaghat	44.72	45.72	46.34	03/10/06: 02		17/09/06: 00	16/10/06: 00	30	28/09/06: 07	11/10/06: 17	14
37	Adhwara Group	Bihar	Kamtaul	49.00	50.00	51.1	30/09/06: 00		09/07/06: 02	18/07/06: 16	10	12/07/06: 08	12/07/06: 11	1
									11/09/06: 09	13/10/06: 09	33	13/09/06: 06	22/09/06: 06	10
												25/09/06: 15	04/10/06: 11	10
38	Adhwara Group	Bihar	Ekmighat	45.94	46.94	47.56	04/10/06: 14		15/09/06: 17	16/10/06: 00	32	22/09/06: 01	12/10/06: 04	21
39	Kamla Balan	Bihar	Jhanjharpur	49.00	50.00	51.31	26/09/06: 07							
									11/06/06: 00	12/06/06: 05	2			
									27/06/06: 14	28/06/06: 07	2			
									28/06/06: 11	29/06/06: 05	2			
									01/07/06: 04	02/07/06: 04	2			
									07/07/06: 22	13/07/06: 07	7	11/07/06: 05	11/07/06: 23	1
									13/07/06: 18	15/07/06: 07	3			
									28/08/06: 05	29/08/06: 02	2			

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2006			Flood period above warning level			Flood period above danger level		
						Level in metres	From	To	From	To	No.of days	From	To	No.of days
									29/08/06: 18	29/08/06: 21	1			
									09/09/06: 21	10/09/06: 07	2			
									10/09/06: 21	17/09/06: 21	8	11/09/06: 03	11/09/06: 12	1
												11/09/06: 20	15/09/06: 05	MF
									25/09/06: 06	30/09/06: 21	6	25/09/06: 11	27/09/06: 13	3
									02/10/06: 19	05/10/06: 14	4	03/10/06: 15	04/10/06: 08	2
40	Kosi	Bihar	Basua	46.75	47.75	48.42	27/09/06: 02		26/06/06: 15	22/08/06: 00	58	12/07/06: 13	12/07/06: 22	1
												17/07/06: 07	18/07/06: 09	2
												20/07/06: 10	28/07/06: 04	9
												06/08/06: 09	06/08/06: 18	1
									23/08/06: 01	08/10/06: 23	47	27/08/06: 03	30/08/06: 17	4
												13/09/06: 10	16/09/06: 18	4
												25/09/06: 20	28/09/06: 16	4
41	Kosi	Bihar	Baltara	32.85	33.85	34.57	28/09/06: 01		29/06/06: 20	30/06/06: 18	2			
									02/07/06: 02	03/08/06: 21	33			
									12/07/06: 10	13/08/06: 02	33			
									23/08/06: 08	25/08/06: 00	3			
									27/08/06: 04	06/09/06: 19	11			
									11/09/06: 06	12/10/06: 20	32	15/09/06: 06	19/09/06: 18	5
												26/09/06: 01	04/10/06: 02	9
42	Kosi	Bihar	Kursela	29.00	30.00	30.52	29/08/06: 18		03/08/06: 13	12/08/06: 09	10			
									23/08/06: 01	20/09/06: 02	29	27/08/06: 06	04/09/06: 07	9
												09/09/06: 03	13/09/06: 05	5
									25/09/06: 02	30/09/06: 22	6			
43	Mahananda	Bihar	Dhengraghat	34.65	35.65	36.09	26/09/06: 18		28/06/06: 12	01/07/06: 03	4			
									07/07/06: 23	11/07/06: 22	5	08/07/06: 10	09/07/06: 04	2
									12/07/06: 08	13/07/06: 00	2			
									14/07/06: 02	18/07/06: 03	5	15/07/06: 01	15/07/06: 20	1
									27/07/06: 09	28/07/06: 23	2			
									07/08/06: 02	08/08/06: 02	2			
									09/09/06: 06	19/09/06: 15	11	16/09/06: 08	16/09/06: 15	1
									24/09/06: 12	30/09/06: 13	7	25/09/06: 01	27/09/06: 10	3
									03/10/06: 22	08/10/06: 00	6			
44	Mahananda	Bihar	Jhawa	30.40	31.40	31.22	26/09/06: 18		29/05/06: 15	30/06/06: 07	2			
									06/07/06: 06	11/07/06: 02	4			
									15/07/06: 00	17/07/06: 17	3			
									28/07/06: 01	28/07/06: 15	1			
									10/09/06: 08	11/09/06: 17	2			
									15/09/06: 23	18/09/06: 09	4			
									25/09/06: 06	01/10/06: 06	7			
									04/10/06: 07	07/10/06: 22	4			
45	Mayurakshi	West Benga	Narayanpur	26.99	27.99	29.005	26/09/06: 03		10/07/06: 22	11/07/06: 09	2			
									12/07/06: 00	12/07/06: 13	1			
									22/09/06: 09	24/09/06: 21	3	22/09/06: 13	23/09/06: 11	2
												23/09/06: 17	24/09/06: 13	2
									25/09/06: 11	27/09/06: 01	3	25/09/06: 15	26/09/06: 14	2
46	Ajoy	West Benga	Gheropara	38.42	39.42	41.2	24/09/06: 04		10/07/06: 17	12/07/06: 03	3	11/07/06: 04	11/07/06: 12	1
									22/09/06: 13	24/09/06: 23	3	22/09/06: 15	24/09/06: 12	3
									25/09/06: 03	26/09/06: 20	2	25/09/06: 15	26/09/06: 00	2
47	Mundeshwari	West Benga	Harinkhola	11.80	12.80	14.34	24/09/06: 15		24/09/06: 05	28/09/06: 23	5	24/09/06: 07	28/09/06: 06	5
48	Kangsabati	West Benga	Mohanpur	24.73	25.73	24.94	24/09/06: 00		23/09/06: 18	24/09/06: 04	2			

Annex-7C

Moderate and Low Flood Events during Flood Season - 2007

Sl. No	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2007		Flood period above warning level			Flood period above danger level		
						Level in metres	From	From	To	No.of days	From	To	No.of days
1	Ganga	Rishikesh	Uttaranchal	339.50	340.50	339.67	15/08/07: 18	15/08/07: 14	16/08/07: 01	1			
2	Ganga	Haridwar	Uttaranchal	293.00	294.00	295.05	14/08/07: 22	13/08/07: 05	13/08/07: 15	2	13/08/07: 11	13/08/07: 11	1
								13/08/07: 18	13/08/07: 20	1			
								13/08/07: 22	16/08/07: 02	3	14/08/07: 22	15/08/07: 01	4
3	Ganga	Kannauj	Uttar Pradesh	124.97	125.97	125.56	23/08/07: 03	07/08/07: 19	10/08/07: 11	3			
								18/08/07: 23	25/08/07: 06	7			
4	Ganga	Ankinghat	Uttar Pradesh	123.00	124.00	123.39	22/08/07: 15	19/08/07: 03	25/08/07: 05	7			
5	Ganga	Kanpur	Uttar Pradesh	113.00	114.00	112.73	22/08/07: 23	31/07/07: 15	02/08/07: 21	3			
								05/08/07: 17	12/08/07: 16	8			
								18/08/07: 19	26/08/07: 17	9			
								04/09/07: 02	05/09/07: 14	3			
6	Ganga	Dalmau	Uttar Pradesh	98.36	99.36	98.71	24/08/07: 06	21/08/07: 16	26/08/07: 08	5			
7	Ganga	Patna _Dighaghat	Bihar	49.45	50.45	49.66	06/08/07: 13	31/07/07: 09	09/08/07: 14	11			
8	Ganga	Patna _Gandhigna t	Bihar	47.50	48.50	48.50	11/09/07: 07	31/07/07: 08	12/08/07: 14	14			
								15/08/07: 03	27/08/07: 13	14			
								29/08/07: 04	15/09/07: 16	18			
								01/10/07: 11	05/10/07: 17	6			
9	Ganga	Hathidah	Bihar	40.76	41.76	41.49	11/09/07: 07	03/08/07: 05	12/08/07: 01	10			
								16/08/07: 00	27/08/07: 15	12			
								30/08/07: 05	16/09/07: 04	18			
								01/10/07: 18	06/10/07: 15	5			
10	Ganga	Bhagalpur	Bihar	32.68	33.68	33.28	22/08/07: 16	03/08/07: 17	11/08/07: 11	8			
								16/08/07: 10	28/08/07: 08	13			
								06/09/07: 19	16/09/07: 03	10			
11	Ganga	Kahalgaon	Bihar	30.08	31.08	31.74	13/09/07: 16	23/07/07: 04	22/09/07: 02	62	02/08/07: 21	12/08/07: 14	11
											15/08/07: 23	28/08/07: 16	14
											05/09/07: 02	17/09/07: 02	13
								27/09/07: 00	10/10/07: 22	15			
12	Ganga	Sahibganj	Jharkhand	26.25	27.25	28.80	23/08/07: 06	21/07/07: 05	16/10/07: 09	87	29/07/07: 22	20/09/07: 03	53
											04/10/07: 09	07/10/07: 20	3
13	Ganga	Farakka	West Bengal	21.25	22.25	23.40	14/09/07: 07	22/07/07: 08	12/10/07: 10	83	30/07/07: 03	21/09/07: 06	54
											04/10/07: 12	08/10/07: 09	4
14	Ramganga	Moradabad	Uttar Pradesh	189.60	190.60	190.31	17/08/07: 06	03/08/07: 05	06/08/07: 01	4			
								14/08/07: 02	20/08/07: 10	7			
								22/08/07: 00	01/09/07: 05	11			
15	Yamuna	Mawi	Uttar Pradesh	230.00	230.85	230.32	14/09/07: 15	05/08/07: 12	06/08/07: 04	1			
								14/08/07: 00	15/08/07: 00	2			
16	Yamuna	Delhi Rly Bridg	NCT Delhi	204.00	204.83	204.74	15/08/07: 11	05/08/07: 19	07/08/07: 05	2			
								14/08/07: 21	15/08/07: 00	1			
17	Ghaghra	Elgin Bridge	Uttar Pradesh	105.07	106.07	107.12	31/07/06: 17	04/07/07: 02	12/07/07: 08	9			
								13/07/07: 11	21/07/07: 17	10			
								22/07/07: 10	17/09/07: 07	58	24/07/07: 18	09/08/07: 05	16
											13/08/07: 11	23/08/07: 06	11
											28/08/07: 12	10/09/07: 11	13
								28/09/07: 19	21/09/07: 13	2			
								28/09/07: 04	09/10/07: 16	10	28/09/07: 21	02/10/07: 03	4
18	Ghaghra	Ayodhya	Uttar Pradesh	91.73	92.73	93.74	02/08/07: 01	05/07/07: 02	12/07/07: 22	9			
								14/07/07: 02	17/09/07: 16	67			
											25/07/07: 03	10/08/07: 04	17

Sl. No:	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2007		Flood period above warning level			Flood period above danger level		
						Level in metres	From	From	To	No.of days	From	To	No.of days
											13/08/07: 22	24/08/07: 03	11
											28/08/07: 17	11/09/07: 04	14
								21/09/07: 09	22/09/07: 11	2			
								28/09/07: 11	10/10/07: 03	13	29/09/07: 06	03/10/07: 08	5
19	Ghaghra	Turtipar	Uttar Pradesh	63.01	64.01	65.04	05/08/07: 18	17/07/07: 00	21/07/07: 10	5			
								24/07/07: 18	18/09/07: 06	56	28/07/07: 09	12/08/07: 03	16
											14/08/07: 20	25/08/07: 23	12
											30/08/07: 11	13/09/07: 00	15
								29/09/07: 16	10/10/07: 17	12	30/09/07: 10	05/10/07: 04	5
20	Ghaghra	Darauli	Bihar	59.82	60.82	61.04	06/08/07: 05	26/07/07: 12	26/08/07: 21	32	03/08/07: 13	09/08/07: 10	6
											22/08/07: 04	22/08/07: 10	1
								29/08/07: 06	15/09/07: 08	18			
								30/09/07: 02	07/10/07: 12	9			
21	Ghaghra	Gangpur Sis	Bihar	56.04	57.04	57.12	06/08/07: 00	01/08/07: 21	11/08/07: 18	11			
											05/08/07: 09	08/08/07: 18	5
								17/08/07: 22	26/08/07: 04	9			
								09/09/07: 10	13/09/07: 16	6			
								02/10/07: 07	04/10/07: 18	4			
22	Rapti	Balrampur	Uttar Pradesh	103.62	104.62	104.96	30/07/07: 13	27/07/07: 16	07/08/07: 14	12	29/07/07: 13	04/08/07: 20	7
								15/08/07: 22	21/08/07: 12	7			
								31/08/07: 15	11/09/07: 06	11			
								29/09/07: 22	02/10/07: 19	4			
23	Rapti	Bansi	Uttar Pradesh	83.90	84.90	85.23	04/08/07: 23	28/07/07: 18	10/08/07: 08	13	01/08/07: 16	08/08/07: 22	8
								17/08/07: 13	23/08/07: 02	8			
								02/09/07: 10	13/09/07: 23	15			
								30/09/07: 22	03/10/07: 13	4			
24	Rapti	Gorakpur Birdghat	Uttar Pradesh	73.98	74.98	76.75	04/08/07: 07	27/07/07: 13	30/08/07: 14	35	29/07/07: 11	12/08/07: 18	16
											09/08/07: 14	22/08/07: 08	13
								01/09/07: 09	16/09/07: 00	16	05/09/07: 21	13/09/07: 16	9
								30/09/07: 12	05/10/07: 16	6			
25	PunPun	Sripalpur	Bihar	49.60	50.60	53.33	03/10/07: 08	18/07/07: 05	05/08/07: 09	19	18/07/07: 15	01/08/07: 08	14
								15/08/07: 04	24/08/07: 15	11	15/08/07: 11	23/08/07: 17	10
								30/08/07: 09	03/09/07: 15	6			
								07/09/07: 18	12/09/07: 22	6	08/09/07: 04	11/09/07: 07	4
								26/09/07: 11	10/10/07: 10	15	26/09/07: 17	09/10/07: 20	14
26	Gandak	Khadda	Uttar Pradesh	95.00	96.00	96.56	06/09/07: 17	16/06/07: 03	16/06/07: 08	1			
								18/06/07: 19	18/06/07: 23	1			
								03/07/07: 21	05/07/07: 02	2			
								06/07/07: 15	07/07/07: 04	1			
								07/07/07: 23	08/07/07: 05	1			
								09/07/07: 14	10/07/07: 05	1			
								11/07/07: 15	08/08/07: 05	28			
								08/08/07: 13	09/08/07: 04	1			
								09/08/07: 10	11/08/07: 06	3			
								11/08/07: 13	12/08/07: 07	1			
								12/08/07: 12	23/08/07: 02	11	17/08/07: 21	18/08/07: 10	1
								24/08/07: 08	24/08/07: 14	2			
								24/08/07: 21	25/08/07: 04	2			
								27/08/07: 10	11/09/07: 16	17	05/09/07: 21	07/09/07: 22	3
								26/09/07: 07	27/09/07: 09	2			
								29/09/07: 19	01/10/07: 11	3			
27	Gandak	Chatia	Bihar	68.15	69.15	70.00	19/08/07: 16	23/07/07: 00	09/08/07: 00	18	29/07/07: 08	04/08/07: 14	8
								15/08/07: 06	24/08/07: 21	11	18/08/07: 04	23/08/07: 03	6
								03/09/07: 05	04/09/07: 03	2			
								05/09/07: 20	08/09/07: 00	3			
								08/09/07: 04	13/09/07: 04	5			

Sl No	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2007		Flood period above warning level			Flood period above danger level		
						Level in metres	From	From	To	No.of days	From	To	No.of days
								30/08/07: 23	03/10/07: 15	4			
28	Gandak	Rewaghat	Bihar	53.41	54.41	54.94	10/09/07: 09	28/07/07: 20	07/08/07: 14	11			
								17/09/07: 09	24/09/07: 02	8			
								02/09/07: 21	14/09/07: 11	12	09/09/07: 01	12/09/07: 14	3
								28/09/07: 09	29/09/07: 22	3			
								30/09/07: 17	04/10/07: 22	5			
29	Burhi Gandak	Lattegthaghi	Bihar	62.20	63.20	65.03	20/08/07: 03	22/07/07: 09	10/08/07: 02	20	23/07/07: 23	08/08/07: 02	16
								16/08/07: 00	29/08/07: 00	14	16/08/07: 19	26/08/07: 02	10
								08/09/07: 05	13/09/07: 17	7			
								29/09/07: 19	05/10/07: 12	7			
30	Burhi Gandak	Muzaffarpur Sikandarpur	Bihar	51.53	52.53	54.09	22/08/07: 03	24/07/07: 12	05/09/07: 12	44	27/07/07: 02	13/08/07: 03	18
											16/08/07: 20	01/09/07: 00	16
								07/09/07: 22	17/09/07: 06	10			
								27/09/07: 19	08/10/07: 23	12			
31	Burhi Gandak	Samastipur	Bihar	45.02	46.02	49.25	03/08/07: 08	24/07/07: 20	19/09/07: 15	58	27/07/07: 02	05/09/07: 08	41
											08/09/07: 17	17/09/07: 22	10
								26/09/07: 09	12/10/07: 04	17	26/09/07: 19	10/10/07: 04	14
32	Burhi Gandak	Rosera	Bihar	41.63	42.63	46.05	02/08/07: 19	24/07/07: 03	13/10/07: 02	82	26/07/07: 00	19/09/07: 04	56
											29/09/07: 16	09/10/07: 11	10
33	Burhi Gandak	Khagaria	Bihar	35.58	36.58	37.21	23/08/07: 00	25/07/07: 17	21/09/07: 06	58	31/07/07: 17	13/08/07: 07	13
											14/08/07: 17	29/08/07: 12	16
											10/09/07: 05	15/09/07: 00	6
								28/09/07: 06	12/10/07: 16	16	05/10/07: 07	05/10/07: 20	2
34	Bagmati	Benibad	Bihar	47.68	48.68	49.86	01/08/07: 10	15/06/07: 01	23/06/07: 14	10			
								12/07/07: 05	20/10/07: 09	101	23/07/07: 08	23/09/07: 04	63
											25/08/07: 20	09/10/07: 00	14
											15/10/07: 01	20/10/07: 00	5
35	Bagmati	Hayaghat	Bihar	44.72	45.72	46.67	02/08/07: 08	25/07/07: 07	24/09/07: 23	63	28/07/07: 09	21/09/07: 14	57
								25/09/07: 17	15/10/07: 02	20	27/09/07: 15	10/10/07: 10	13
36	Adhwara Group	Kamtaul	Bihar	49.00	50.00	51.70	29/07/07: 17	16/06/07: 11	23/06/07: 04	8	17/06/07: 01	21/06/07: 09	5
								22/07/07: 09	23/09/07: 09	64	23/07/07: 15	10/08/07: 13	19
											14/08/07: 21	16/09/07: 17	34
								26/08/07: 05	13/10/07: 21	19	27/09/07: 01	09/10/07: 14	14
								17/10/07: 23	20/10/07: 00	3			
37	Adhwara Group	Ekmighat	Bihar	45.94	46.94	49.39	02/08/07: 06	23/07/07: 09	20/10/07: 00	90	27/07/07: 13	21/09/07: 12	57
											26/09/07: 13	12/10/07: 23	17
											15/10/07: 01	20/10/07: 00	6
38	Kamla Balan	Jhanjharpur	Bihar	49.00	50.00	52.66	27/07/07: 20	19/06/07: 01	19/06/07: 05	1			
								19/06/07: 22	20/06/07: 09	1			
								14/07/07: 13	14/07/07: 17	1			
								19/07/07: 14	20/07/07: 17	2			
								23/07/07: 20	05/08/07: 05	13	25/07/07: 21	02/08/07: 05	8
								13/08/07: 06	21/08/07: 13	10	17/08/07: 08	19/08/07: 07	3
								24/08/07: 21	26/08/07: 06	2	25/08/07: 02	25/08/07: 04	1
								27/08/07: 02	28/08/07: 00	2			
								28/08/07: 05	16/09/07: 14	23	28/08/07: 23	29/08/07: 09	1
											02/09/07: 13	03/09/07: 19	2
											04/09/07: 15	04/09/07: 19	1
											11/09/07: 11	12/09/07: 05	2
								28/08/07: 21	29/09/07: 02	1			
								30/08/07: 06	02/10/07: 09	3			
								04/10/07: 13	04/10/07: 22	1			
								09/10/07: 12	11/10/07: 08	2	09/10/07: 18	09/10/07: 22	1
39	Kosi	Basua	Bihar	45.75	47.75	48.88	27/07/07: 22	15/06/07: 01	21/09/07: 19	100	12/07/07: 13	16/07/07: 21	5
											17/07/07: 01	17/07/07: 21	2

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2007		Flood period above warning level			Flood period above danger level		
						Level in metres	From	From	To	No of days	From	To	No of days
											22/07/07: 07	01/08/07: 22	12
											03/09/07: 11	04/09/07: 19	3
											06/09/07: 21	08/09/07: 10	3
											08/09/07: 20	11/09/07: 22	4
								25/09/07: 09	28/09/07: 16	5			
								30/09/07: 12	02/10/07: 22	3			
								11/10/07: 12	11/10/07: 15	1			
40	Kosi	Baltara	Bihar	32.85	33.85	35.57	02/08/07: 06	13/07/07: 15	20/10/07: 00	99	23/07/07: 16	14/10/07: 18	84
41	Koal	Kursela	Bihar	29.00	30.00	31.20	13/09/07: 17	22/07/07: 07	13/10/07: 04	84	31/07/07: 18	19/09/07: 17	51
											03/10/07: 11	17/10/07: 16	16
42	Mahananda	Dhengragha	Bihar	34.65	35.65	36.80	29/07/07: 20	17/06/07: 01	17/06/07: 23	2			
								19/06/07: 08	21/06/07: 23	4			
								23/06/07: 10	24/06/07: 13	3			
								12/07/07: 16	13/07/07: 05	1			
								17/07/07: 14	08/08/07: 00	22	18/07/07: 20	19/07/07: 21	1
											24/07/07: 13	25/07/07: 10	1
											26/07/07: 21	04/08/07: 21	10
								13/08/07: 10	21/08/07: 08	40			
								14/08/07: 22	22/08/07: 01	8	15/08/07: 19	19/08/07: 06	4
											30/08/07: 22	05/09/07: 16	7
											05/09/07: 20	11/09/07: 01	6
											12/09/07: 22	14/09/07: 14	3
											17/09/07: 00	18/09/07: 00	2
43	Mahananda	Jhawa	Bihar	30.40	31.40	32.02	08/09/07: 00	20/06/07: 11	21/06/07: 09	2			
								20/07/07: 15	21/07/07: 11	1	28/07/07: 02	05/08/07: 06	9
								28/07/07: 02	09/08/07: 20	14			
								14/08/07: 18	24/08/07: 13	11	16/08/07: 08	20/08/07: 04	5
								30/08/07: 17	23/09/07: 05	24	31/08/07: 04	15/09/07: 08	16
											17/09/07: 02	19/09/07: 21	4
44	Mayurakshi	Narayanpur	West Bengal	26.99	27.99	28.72	26/09/07: 03	15/08/07: 02	15/08/07: 09	1			
								25/09/07: 15	26/09/07: 20	2	25/09/07: 21	26/09/07: 11	1
45	Ajoy	Ghiropara	West Bengal	38.42	39.42	41.00	26/09/07: 08	21/07/07: 05	21/07/07: 15	2			
								02/08/07: 05	02/08/07: 09	1			
								02/08/07: 16	03/08/07: 11	1			
								14/08/07: 11	15/08/07: 19	3	14/08/07: 15	15/08/07: 01	1
											15/08/07: 05	15/08/07: 09	1
								25/09/07: 01	27/09/07: 14	4	25/09/07: 05	25/09/07: 13	2
											25/09/07: 18	26/09/07: 18	2
46	Mundeshwari	Harinkhola	West Bengal	11.60	12.60	14.40	26/09/07: 10	06/07/07: 13	07/07/07: 13	2			
								28/07/07: 22	30/07/07: 19	2			
								03/08/07: 14	05/08/07: 10	2			
								15/08/07: 10	17/08/07: 14	4			
								20/08/07: 01	22/08/07: 22	4	20/08/07: 13	21/08/07: 23	2
								25/09/07: 15	29/09/07: 20	5	25/09/07: 18	29/09/07: 05	4
								01/10/07: 12	02/10/07: 06	1			
47	Kangsabati	Mohanpur	West Bengal	24.73	25.73	27.06	18/08/07: 13	05/07/07: 17	07/07/07: 06	2	05/07/07: 20	06/07/07: 15	2
								18/08/07: 12	21/08/07: 04	3	18/08/07: 18	20/08/07: 20	3

Annex-8A

Moderate and Low Flood Events on Brahamaputra and its Tributaries during Flood Season- 2005

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2005		Low floods (above warning level but below danger level)			Moderate floods above danger level but 0.5 m below HFL)		
						Level in metres	Date of occurrence	From	To	No.of days	From	To	No.of days
1	2	3	4	5	6	7	8	9	10	11	12	13	14
77	Brahmaputra	Dibrugarh		103.24	104.24	105.75	19-21/27.08.2005	01/15.05	24/31.10	170	01/15.05	12/13.10	152
78	Brahmaputra	Neamatighat		84.04	85.04	86.15	07-10/25.08.2005	15/02.06	03/06.06	5	NA	NA	
								20/17.06	24/10.09	88	24/26.06	08/27.06	2
											10/11.07	21/14.07	4
											01/17.07	03/24.07	8
											15/24.07	18/24.07	1
											11/07.08	13/16.08	10
											19/22.08	07/01.09	10
79	Brahmaputra	Tezpur		64.23	65.23	65.72	18/06.08-18/27.08	13/21.06	09/24.06	4	NA	NA	
								17/25.06	20/28.06	4	NA	NA	
								17/05.07	22/05.07	1	NA	NA	
								24/11.07	03/29.07	5	16/13.07	09/14.07	2
								07/07.08	20/07.09	32	23/09.08	04/11.08	3
											19/24.08	08/31.08	8
80	Brahmaputra	Guwahati		48.68	49.66	49.60	07-21/29.08.2005	24/13.07	23/15.07		NA	NA	
								02/22.07	20/22.07		NA	NA	
								08/10.08	24/12.08		NA	NA	
								05/25.08	20/01.09		NA	NA	
81	Brahmaputra	Goalpara		25.27	36.27	36.37	24/28.08-06/30.08	24/13.07	24/26.07		NA	NA	
								18/09.08	16/19.08		NA	NA	
								23/23.08	22/07.09		01/28.08	16/31.08	4
82	Brahmaputra	Dhubri		27.50	28.50	29.10	23/28.08-05/29.08	09/22.06	24/30.06		NA		
								01/01.07	16/01.07		NA		
								06/07.07	15/08.07		NA		
								06/13.07	17/02.08		01/22.07	20/23.07	2
								24/07.08	24/14.08		NA		
								01/15.08	04/11.09		12/26.08	24/31.08	6
											01/01.09	01/03.09	3
83	Buthi -Dihing	Nahankatia		119.40	120.40	119.35	01-07/14.07.2005	NA	NA				
84	Buthi -Dihing	Khowang		101.11	102.11	103.45	07-11/15.07.2005	04/12.07	16/24.07	13	23/12.07	22/19.07	11
								10/08.08	07/14.08	7	NA	NA	
								02/22.08	22/31.08	10	19/24.08	06/30.08	7
85	Desang	Nanglamoraghat		93.46	94.46	95.85	13-18/27.08.2005	13/04.07	22/04.07	1	NA	NA	
								23/12.07	22/17.07	5	17/03.07	12/15.07	3
								08/09.08	14/09.08	1	NA	NA	
								01/11.08	03/14.08	4	NA	NA	
								24/14.08	21/15.08	2	NA	NA	
								24/20.08	16/01.09	12	07/24.08	19/31.08	8
86	Dikhow	Sibsagar		91.40	92.40	93.49	07-09/26.08.2005	23/28.05	24/26.05	1	NA	NA	
								13/25.06	06/26.06	2	NA	NA	
								02/07.08	20/12.08	6	13/08.08	12/09.08	2
								15/15.08	24/15.08	1	NA	NA	
								15/20.08	05/23.08	4	NA	NA	
								07/23.08	13/28.08	9	04/24.08	10/27.08	4
87	Subansiri	Badatighat		81.53	82.53	82.66	08-13/26.08.2005	13/25.06	18/26.06	2	NA	NA	
								22/11.07	07/25.07	15	NA	NA	

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2005		Low floods (above warning level but below danger level)			Moderate floods above danger level but 0.5 m below HFL)		
						Level in metres	Date of occurrence	From	To	No.of days	From	To	No.of days
1	2	3	4	5	6	7	8	9	10	11	12	13	14
								03/07.08	07/12.08	6	NA	NA	
								16/23.08	13/01.09	10	16/25.08	06/28.08	4
88	Dhansiri	Golaghat		88.50	89.50	90.36	10-12/21.08.2005	07/28.06	10/28.06	1	NA	NA	
								20/04.07	18/06.07	3	NA	NA	
								24/06.07	08/10.07	3	NA	NA	
								14/16.08	14/24.08	9	04/20.08	04/23.08	4
								15/30.09	12/01.10	2	NA	NA	
89	Dhansiri	Numaligarh		76.42	77.42	78.80	05-09/21.08.2005	04/26.06	11/27.06	2	NA	NA	
								03/28.06	16/30.06	3	NA	NA	
								10/01.07	15/22.07	15	04/05.07	17/06.07	2
											18/09.07	09/10.07	2
								11/28.07	13/30.07	3	NA	NA	
								04/07.08	16/09.09	34	15/16.08	15/17.08	2
											17/19.08	24/28.08	10
								10/22.09	12/23.09	2	NA	NA	
								14/30.09	17/06.10	7	02/02.10	12/03.10	2
90	Jiabharali	N.T.Road Crossing		76.00	77.00	77.85	06-09/24.08.2005	16/20.05	14/21.05	2	NA	NA	
								08/28.05	04/31.05	4	NA	NA	
								19/01.06	06/05.06	5	NA	NA	
								04/17.06	05/18.06	2	NA	NA	
								15/19.06	04/28.06	10	NA	NA	
								10/28.06	03/29.06	2	NA	NA	
								10/29.06	06/07.07	9	NA	NA	
								04/08.07	05/09.07	1	NA	NA	
								11/08.07	02/09.07	2	NA	NA	
								12/09.07	24/30.07	22	17/11.07	04/12.07	2
											22/12.07	18/13.07	2
											13/16.07	15/16.07	1
											05/17.07	10/17.07	1
											06/18.07	14/18.07	1
											04/20.07	15/20.07	1
											03/21.07	24/21.07	1
								11/31.07	02/01.08	2	NA	NA	
								09/03.08	02/23.09	52	04/06.08	03/10.08	5
											11/10.08	12/10.08	1
											08/11.08	06/12.08	2
											18/14.08	03/15.08	2
											07/19.08	17/19.08	1
											09/20.08	14/20.08	1
											08/21.08	23/29.09	9
								11/22.09	02/23.09	2	NA	NA	
								08/23.09	05/07.10	15	04/26.09	14/27.09	2
91	Kopili	Kampur		59.50	60.50	59.49	15/26.06.2005	NA	NA				
92	Kopili	Dharamtul		55.00	56.00	54.98	07-18/29.08.2005	NA	NA				
93	Puthimari	N.H.Crossing		50.81	51.81	54.37	06-07/20.07.2005	06/21.05	16/22.05		NA	NA	
								07/23.05	17/24.05		NA	NA	
								14/25.05	14/07.06		NA	NA	
								09/17.09	13/18.06		NA	NA	

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2005		Low floods (above warning level but below danger level)			Moderate floods above danger level but 0.5 m below HFL)		
						Level in metres	Date of occurrence	From	To	No.of days	From	To	No.of days
1	2	3	4	5	6	7	8	9	10	11	12	13	14
								21/18.06	05/29.06		20/21.06	21/21.06	
								07/01.07	08/03.08		07/12.07	09/12.07	
											23/12.07	10/24.07	
								16/04.08	13/04.09		10/07.08	03/08.08	
											06/09.08	17/09.08	
											17/26.08	20/26.08	
								07/05.09	16/09.09		NA	NA	
								02/25.09	05/28.09		NA	NA	
								22/03.10	24/09.10		NA	NA	
94	Pagladiya	N.T. Road Crossing		51.75	52.75	54.36	21/19.07.2005	03/29.05	11/29.05		NA	NA	
								05/20.06	04/21.06		NA	NA	
								12/21.06	05/22.06		NA	NA	
								13/22.06	06/23.06		NA	NA	
								13/23.06	01/24.06		NA	NA	
								01/03.07	21/03.07		NA	NA	
								12/12.07	20/12.07		NA	NA	
								01/13.07	23/14.07		NA	NA	
								08/16.07	04/24.07		17/16.07	06/17.07	
											23/18.07	06/21.07	
								05/06.08	09/06.08		NA	NA	
								07/09.08	15/09.08		NA	NA	
								11/11.08	23/11.08		NA	NA	
								10/19.08	16/19.08		NA	NA	
								05/20.08	12/22.08		NA	NA	
								16/25.08	08/29.08		NA	NA	
								07/24.09	19/27.09		10-24.09	13/24.09	
95	Beki	Road Bridge		44.10	45.10	45.32	11-12/19.07.2005	15/25.05	03/26.05		NA		
								09/28.05	05/31.05		NA		
								13/31.05	17/04.06		NA		
								16/15.06	05/16.06		NA		
								17/16.06	11/28.06		NA		
								14/28.06	08/15.09		14/23.07	18/23.07	
											12/12.08	13/12.08	
											19/14.08	24/14.08	
											15/15.08	22/15.08	
											14/21.08	19/21.08	
											12/22.08	16/22.08	
											10/24.08	19/24.08	
											08/25.08	17/25.08	
											09/26.08	14/26.08	
											13/27.08	16/27.08	
											09/28.08	23/28.08	
								06/22.09	07/12.10		NA		
96	Manas	N.H. Crossing		47.81	48.42	48.12	16-20/05.10.2005	20/19.07	03/20.07		NA		
								13/26.06	05/27.06		NA		
								14/26.09	02/27.09		NA		
								01/05.10	12/06.10		NA		
97	Sankosh	Golakganj		28.94	29.94	30.20	04-05/19.07.2005	17/23.06	18/24.06	2	NA		
								22/10.07	02/29.07	20	07/17.07	18/17.07	1

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2005		Low floods (above warning level but below danger level)			Moderate floods above danger level but 0.5 m below HFL)		
						Level in metres	Date of occurrence	From	To	No.of days	From	To	No.of days
1	2	3	4	5	6	7	8	9	10	11	12	13	14
											20/18.07	08/20.07	3
								11/07.08	03/11.08	5	NA		
								13/12.08	02/31.08	20	NA		
								06/07.09	22/07.09	1	NA		
								06/05.10	01/07.10	3	NA		
98	Raidak-1	Tufanganj		34.22	35.30	34.81	06-07/17.07.2005	18/23.06	06/24.06	2	NA		
								18/16.07	14/18.07	3	NA		
99	Torasa	Ghughumari		39.80	40.41	40.38	23/19.07-01-20.07	16/18.07	02/21.07	4	NA		
100	Jaldhaka	N.H.31 Road Bridge		80.00	80.90	80.27	01/20.07.2005	10/17.07	17/17.07	1	NA		
								21/17.07	22/20.07	4	NA		
101	Jaldhaka	Mathabhanga		48.20	48.70	48.68	16-17/19.07.2005	16/18.07	21/18.07	1	NA		
								04/19.07	23/19.07	1	NA		
102	Tista	Domohani Rd Bridge		85.65	85.95	85.99	18/20.07.2005	15/30.06	22/30.06	1	NA		
								12/03.07	21/03.07	1	NA		
								10/04.07	10/04.07	1	NA		
								10/05.07	23/05.07	1	NA		
								17/06.07	02/07.07	2	NA		
								12/09.07	16/09.07	1	NA		
								10/10.07	21/10.07	1	NA		
								18/15.07	23/15.07	1	NA		
								12/16.07	17/16.07	1	NA		
								04/17.07	18/21.07	5	12/20.07	20/20.07	1
								05/22.07	14/22.07	1	NA	NA	
								16/07.08	17/07.08	1	NA	NA	
								04/08.08	09/08.08	1	NA	NA	
								07/12.08	18/12.08	1	NA	NA	
								17/15.08	18/15.08	1	NA	NA	
								05/24.08	06/24.08	1	NA	NA	
103	Tista	Mekhliganj		65.45	65.95	65.62	19-20/07.08.2005	24/10.07	12/11.07	2	NA	NA	
								15/17.07	05/18.07	2	NA	NA	
								16/07.08	19/08.08	2	NA	NA	
								15/24.08	19/24.08	1	NA	NA	
104	Barak	Silchar (Annapurnag hat)		18.83	19.83	18.57	15-18/21.07.2005	NA	NA		NA	NA	
105	Katakhal	Matizuri		19.27	20.27	21.73	18-19/08.07.2005	12/07.07	07/10.07		22/07.07	17/09.07	
								12/24.07	09/26.07		24/24.07	13/25.07	
								05/21.09	24/22.09		12/21.09	08/22.09	
106	Kushiyara	Karimganj		13.94	14.94	15.07	09-15/25.07.2005	23/06.07	10/11.07		NA	NA	
								13/18.07	22/29.07		12/20.07	15/22.07	
											22/24.07	01/26.07	
								09/19.08	07/31.08		NA	NA	
107	Gumti	Sonamura		11.50	12.50	11.34	18-20/29.09.2005	NA	NA				
108	Manu	Kailashahar		24.34	25.34	25.52	18-19/21.09.2005	18/24.05	09/25.05				
								22/20.09	04/22.09		13/21.09	21/21.09	

Sr. No. Continues from Annexure 7 A

Moderate and Low Flood Events on Brahamaputra and its Tributaries during Flood Season- 2006

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2006			Flood period above warning level			Flood period above danger level		
						Level in metres	From	To	From	To	No.of days	From	To	No.of days
49	Brahmaputra	Dibrugarh	Assam	103.24	104.24	105.57	13/08/06: 01	13/08/06: 08	15/05/06: 01	10/10/06: 00	155	15/05/06: 01	10/10/06: 00	155
50	Brahmaputra	Neamtighat	Assam	84.04	85.04	86.1	13/06/06: 13	13/06/06: 16	15/05/06: 12	15/05/06: 03	2			
									29/05/06: 17	31/08/06: 12	67	31/05/06: 05	31/08/06: 18	5
												10/06/06: 15	08/08/06: 18	9
												07/07/06: 13	07/07/06: 12	8
												16/07/06: 04	17/07/06: 14	2
												21/07/06: 05	27/07/06: 10	7
									26/08/06: 12	29/08/06: 05	6	11/09/06: 20	29/09/06: 23	2
									08/09/06: 14	20/09/06: 23	13	13/09/06: 13	30/09/06: 18	4
51	Brahmaputra	Assam	Tezpur	64.23	65.23	65.26	14/06/06: 12	14/06/06: 18	01/06/06: 06	05/06/06: 04	5			
									11/06/06: 18	25/06/06: 14	9	14/06/06: 08	15/06/06: 01	2
									08/07/06: 12	20/07/06: 08	13			
									20/08/06: 13	29/08/06: 03	10			
									13/09/06: 09	18/09/06: 04	6			
52	Brahmaputra	Assam	Guwahati	48.68	49.68	48.7	15/06/06: 08	15/06/06: 14	15/06/06: 05	15/06/06: 22	1			
53	Brahmaputra	Assam	Goalpara	35.27	36.27	35.53	16/06/06: 04	16/06/06: 11	14/06/06: 16	17/06/06: 16	4			
									16/09/06: 17	17/09/06: 01	4			
54	Brahmaputra	Assam	Dhubri	27.62	28.62	28.45	16/06/06: 20	16/06/06: 22						
									03/06/06: 15	05/06/06: 12	4			
									13/06/06: 06	21/06/06: 19	9			
									08/07/06: 05	01/08/06: 02	25			
									14/09/06: 00	17/09/06: 13	8			
55	Burhidihing	Assam	Khowang	101.11	102.11	101.81	02/06/06: 15	02/06/06: 17	01/06/06: 03	04/06/06: 06	4			
									12/06/06: 16	16/06/06: 05	5			
									07/07/06: 09	08/07/06: 07	2			
									12/07/06: 01	14/07/06: 09	3			
									16/07/06: 01	23/07/06: 07	8			
									24/07/06: 10	25/07/06: 16	1			
									12/09/06: 10	13/09/06: 08	2			
									14/09/06: 05	16/09/06: 12	3			
56	Desang	Assam	Nanglamor	93.46	94.46	94.93	20/07/06: 01	20/07/06: 10	11/07/06: 07	13/07/06: 07	3	16/07/06: 07	17/07/06: 11	2
									15/07/06: 09	24/07/06: 01	10	19/07/06: 07	23/07/06: 05	4
									11/09/06: 10	15/09/06: 09	5			
57	Dikhow	Assam	Shivsagar	91.40	92.40	93.63	23/07/06: 00	23/07/06: 01	10/07/06: 17	10/07/06: 19	1			
									11/07/06: 10	13/07/06: 10	3			
									15/07/06: 10	17/07/06: 06	3	15/07/06: 17	15/07/06: 09	2
									17/07/06: 14	17/07/06: 22	1			
									18/07/06: 15	24/07/06: 15	7	18/07/06: 18	20/07/06: 19	3
												21/07/06: 04	21/07/06: 16	1
												22/07/06: 09	23/07/06: 02	3
									12/09/06: 07	13/09/06: 01	3			
58	Subansiri	Assam	Badatighat	81.53	82.53	82	14/06/06: 02	14/06/06: 06	12/06/06: 07	18/06/06: 14	7			
									16/07/06: 08	16/07/06: 21	1			
									26/07/06: 02	27/07/06: 02	2			
									14/09/06: 15	16/09/06: 12	3			
59	Dhansiri (S)	Assam	Golaghat	88.50	89.50	89.65	19/07/06: 11	19/07/06: 18	18/07/06: 00	20/07/06: 03	5	19/07/06: 06	20/07/06: 00	2
60	Dhansiri (S)	Assam	Numaligarh	76.42	77.42	78.31	19/07/06: 16	19/07/06: 21	07/06/06: 08	11/06/06: 05	2	18/07/06: 13	31/07/06: 02	14
									08/06/06: 08	09/06/06: 01	2			
									12/06/06: 19	16/06/06: 15	4			
									26/06/06: 11	27/06/06: 23	2			

Sl. No	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2006			Flood period above warning level			Flood period above danger level		
						Level in metres	From	To	From	To	No.of days	From	To	No.of days
									30/06/06: 13	30/06/06: 23	1			
									01/07/06: 07	03/07/06: 05	3			
									05/07/06: 09	06/07/06: 05	2			
									11/07/06: 13	04/08/06: 23	24			
									04/08/06: 07	04/08/06: 21	1			
									07/08/06: 10	09/08/06: 16	3			
									12/09/06: 11	13/09/06: 17	5			
61	Jiabharali	Assam	Jiabharali_	76	77	77.7	14/09/06: 09	14/09/06: 10	27/05/06: 06	30/06/06: 07	25	30/05/06: 08	30/05/06: 11	1
												01/06/06: 10	01/06/06: 12	1
												01/06/06: 23	02/06/06: 09	2
												02/06/06: 14	02/06/06: 22	1
												10/06/06: 06	10/06/06: 13	1
												11/06/06: 08	13/06/06: 06	3
												15/06/06: 09	15/06/06: 16	1
												16/06/06: 09	16/06/06: 16	1
												17/06/06: 15	17/06/06: 16	1
									22/06/06: 18	23/06/06: 05	2			
									23/06/06: 08	01/07/06: 12	28	28/06/06: 09	28/06/06: 12	1
												29/06/06: 09	30/06/06: 00	2
												30/06/06: 07	30/06/06: 20	1
												07/07/06: 09	07/07/06: 10	1
												07/07/06: 19	08/07/06: 18	2
												11/07/06: 06	11/07/06: 13	1
												13/07/06: 11	13/07/06: 12	1
												14/07/06: 22	15/07/06: 01	2
												15/07/06: 10	15/07/06: 21	1
												25/07/06: 06	25/07/06: 15	1
									07/08/06: 09	07/08/06: 13	1			
									24/08/06: 18	01/09/06: 05	9	25/08/06: 15	26/08/06: 20	1
												27/08/06: 03	27/08/06: 18	1
									01/09/06: 13	02/09/06: 02	2			
									08/09/06: 23	11/09/06: 04	16	12/09/06: 04	13/09/06: 09	5
												17/09/06: 12	18/09/06: 03	2
									24/09/06: 09	28/09/06: 04	3			
									26/09/06: 18	27/09/06: 05	2			
									27/09/06: 20	01/10/06: 01	4			
									04/10/06: 07	07/10/06: 03	4			
62	Kopilli	Assam	Kampur	59.50	60.50	61.39	02/06/06: 01	02/06/06: 03	29/05/06: 12	05/06/06: 06	7	29/05/06: 18	30/06/06: 02	6
									12/06/06: 20	16/06/06: 18	5	13/06/06: 07	14/06/06: 01	2
												14/06/06: 17	15/06/06: 10	2
									18/06/06: 00	19/06/06: 01	1			
63	Kopilli	Assam	Dharmatul	55.00	56.00	55.43	03/06/06: 03	03/06/06: 06						
									31/05/06: 07	04/06/06: 05	6			
									15/06/06: 05	16/06/06: 06	2			
64	Puthimari	Assam	Puthimari_	50.81	51.81	53.65	13/06/06: 12	13/06/06: 13	30/05/06: 05	09/06/06: 17	10	01/06/06: 12	02/06/06: 17	2
									09/06/06: 08	10/06/06: 05	2			
									10/06/06: 08	12/07/06: 16	33	11/06/06: 12	16/06/06: 17	5
									07/07/06: 01	18/08/06: 15	43			
									20/08/06: 03	28/08/06: 15	9			
									27/08/06: 10	26/10/06: 05	60	13/09/06: 05	16/09/06: 20	3
65	Pagladiya	Assam	Pagladia_t	51.75	52.75	53.05	13/06/06: 06	13/06/06: 07	01/06/06: 08	02/06/06: 10	2	01/06/06: 10	01/06/06: 15	1
									11/06/06: 08	15/06/06: 15	5	12/06/06: 14	12/06/06: 17	2
									21/07/06: 10	21/07/06: 13	1			

Sl No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2006			Flood period above warning level			Flood period above danger level		
						Level in metres	From	To	From	To	No of days	From	To	No of days
									07/09/06: 15	09/09/06: 18	3			
									11/09/06: 18	12/09/06: 04	2			
									12/09/06: 17	16/09/06: 14	4			
66	Beki	Assam	Beki NHX	44.10	45.10	45.32	26/07/06: 12	26/07/06: 13	26/05/06: 20	27/05/06: 01	2			
									27/05/06: 14	31/05/06: 10	23	12/06/06: 10	13/06/06: 00	2
									18/06/06: 17	19/06/06: 05	2			
									23/06/06: 15	04/08/06: 11	53	15/07/06: 15	15/07/06: 16	1
												26/07/06: 08	27/07/06: 01	2
									14/08/06: 15	18/08/06: 07	5			
									18/08/06: 14	20/08/06: 06	2			
									19/08/06: 13	20/08/06: 05	2			
									20/08/06: 15	04/10/06: 07	45	12/09/06: 09	12/09/06: 23	1
												13/09/06: 05	14/09/06: 05	2
												14/09/06: 10	14/09/06: 13	1
												14/09/06: 15	14/09/06: 15	1
												27/09/06: 12	27/09/06: 13	1
									05/10/06: 12	05/10/06: 10	2			
67	Manas	Assam	Manas NH	47.81	48.42	47.84	08/09/06: 21	08/09/06: 23	08/09/06: 19	09/09/06: 00	2			
68	Sankosh	Assam	Golakganj	28.94	29.94	29.65	29/06/06: 01	29/06/06: 04	12/06/06: 16	13/06/06: 05	3			
									26/06/06: 02	01/07/06: 12	6			
									02/07/06: 08	03/07/06: 01	2			
									07/07/06: 06	09/07/06: 18	3			
									13/07/06: 08	14/07/06: 01	2			
									14/07/06: 15	18/07/06: 15	5			
									20/07/06: 07	20/07/06: 11	1			
									21/07/06: 06	21/07/06: 17	1			
									22/07/06: 04	23/07/06: 11	2			
									24/07/06: 18	25/07/06: 03	1			
									01/09/06: 01	01/09/06: 09	1			
									12/09/06: 12	17/09/06: 15	6			
									18/09/06: 16	19/09/06: 00	2			
									24/09/06: 06	26/09/06: 18	3			
69	Raidak-I	West Bengal	Tufanganj	34.22	35.30	34.97	29/06/06: 05	29/09/06: 07	25/06/06: 14	28/06/06: 00	3			
									07/07/06: 22	09/07/06: 12	3			
70	Jaldhaka	West Bengal	NH-31	80.00	80.90	80.05	09/09/06: 08	09/09/06: 10	07/07/06: 11	07/07/06: 16	1			
									08/09/06: 05	09/09/06: 07	1			
									09/09/06: 07	09/09/06: 15	1			
71	Jaldhaka	West Bengal	Mathabhan	48.20	48.70	48.97	08/07/06: 00	08/07/06: 01	07/07/06: 21	08/07/06: 17	2			
									07/07/06: 23	08/07/06: 04	2			
72	Tista	West Bengal	Domohani	65.65	65.95	65.75	13/09/06: 07	13/09/06: 08	27/06/06: 17	27/06/06: 18	1			
									26/07/06: 17	26/07/06: 18	1			
									09/09/06: 15	09/09/06: 18	1			
									12/09/06: 04	12/09/06: 13	1			
									13/09/06: 05	13/09/06: 11	1			
73	Tista	West Bengal	Mekhliganj	65.45	65.95	65.72	09/09/06: 22	10/09/06: 01	28/06/06: 21	29/06/06: 01	2			
									07/07/06: 16	07/07/06: 17	1			
									19/07/06: 19	19/07/06: 23	1			
									30/08/06: 23	31/08/06: 12	2			
									09/09/06: 16	10/09/06: 04	2			
									12/09/06: 09	13/09/06: 03	2			
									13/09/06: 10	14/09/06: 01	2			
									15/09/06: 15	16/09/06: 01	2			

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2006			Flood period above warning level			Flood period above danger level		
						Level in metres	From	To	From	To	No.of days	From	To	No.of days
74	Barak	Assam	APGhat	18.83	19.83	20.64	13/06/06: 16	14/06/06: 00	01/06/06: 06	03/06/06: 05	3			
									12/06/06: 14	17/06/06: 14	6	13/06/06: 04	15/06/06: 20	3
									01/07/06: 08	01/07/06: 20	1			
75	Katakhal	Assam	Matizuri	19.27	20.27	22.47	02/06/06: 04	02/06/06: 07	31/05/06: 19	04/06/06: 17	5	31/05/06: 23	01/06/06: 12	1
									12/06/06: 19	19/06/06: 07	7	12/06/06: 23	17/06/06: 17	6
									25/06/06: 09	30/06/06: 05	2			
									26/06/06: 01	29/06/06: 12	3	26/06/06: 13	28/06/06: 11	2
									30/06/06: 20	02/07/06: 07	3			
									31/07/06: 01	01/08/06: 13	2			
76	Kushiyara	Assam	Karimganj	13.94	14.94	16.39	14/06/06: 01	14/06/06: 08	31/05/06: 04	05/06/06: 16	6	01/06/06: 06	04/06/06: 04	4
									12/06/06: 00	15/06/06: 16	12	12/06/06: 07	19/06/06: 08	8
									25/06/06: 03	05/07/06: 13	11	29/06/06: 04	29/06/06: 08	1
									08/07/06: 10	13/07/06: 13	6			
									16/07/06: 03	20/07/06: 22	5			
									27/07/06: 11	01/08/06: 05	6			
77	Manu	Tripura	Kailashar	24.34	25.34	24.5	01/06/06: 22	01/06/06: 23	01/06/06: 11	02/06/06: 03	2			
78	Gumti	Tripura	Sonamura	11.50	12.50	11.72	11/06/06: 07	11/06/06: 08	30/05/06: 04	30/05/06: 06	1			
									11/06/06: 02	11/06/06: 15	1			
Sr. No. Continues from Annexure 7 B														

Annex-8C

Moderate and Low Flood Events on Brahamaputra and its Tributaries during Flood Season- 2007

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2007		Flood period above warning level			Flood period above danger level		
						Level in metres	From	From	To	No of days	From	To	No.of days
48	Brahmaputra	Dibrugarh	Assam	103.24	104.24	105.93	30/07/07: 04	15/05/07: 01	16/10/07: 00	155	15/05/07: 01	20/09/07: 11	129
											10/10/07: 13	13/10/07: 10	3
49	Brahmaputra	Neamatighat	Assam	84.04	85.04	86.66	30/07/07: 23	17/05/07: 13	19/05/07: 01	2			
								25/05/07: 08	29/05/07: 18	5			
								03/06/07: 07	06/06/07: 00	4			
								10/06/07: 10	24/09/07: 13	108	17/06/07: 06	23/06/07: 07	7
											12/07/07: 18	15/07/07: 04	3
											19/07/07: 15	07/08/07: 21	20
											15/08/07: 01	22/08/07: 04	6
											03/09/07: 14	19/09/07: 00	16
50	Brahmaputra	Tezpur	Assam	64.23	65.23	65.95	10/09/07: 13	18/06/07: 08	28/06/07: 11	11			
								14/07/07: 00	16/09/07: 11	65			
								18/07/07: 13	22/07/07: 21	6	22/07/07: 22	04/08/07: 11	13
								04/08/07: 12	07/08/07: 23	4			
								16/08/07: 09	22/08/07: 14	6			
								04/09/07: 07	20/09/07: 16	16	06/09/07: 21	14/09/07: 06	8
51	Brahmaputra	Guwahati	Assam	48.68	49.68	50.05	29/07/07: 00	19/06/07: 22	22/06/07: 18	4	27/07/07: 09	03/08/07: 22	9
								06/09/07: 02	18/09/07: 09	13	10/09/07: 05	13/09/07: 15	5
52	Brahmaputra	Goalpara	Assam	35.27	36.27	36.75	29/07/07: 19	19/06/07: 22	29/06/07: 02	10			
								20/07/07: 19	09/08/07: 02	20	26/07/07: 15	04/08/07: 17	10
								18/08/07: 07	23/08/07: 02	6			
								06/09/07: 02	21/09/07: 18	17	08/09/07: 22	15/09/07: 14	8
53	Brahmaputra	Dhubri	Assam	27.62	28.62	29.62	30/07/07: 16	17/06/07: 11	01/07/07: 20	18			
								15/07/07: 18	24/09/07: 18	72			
											25/07/07: 00	07/08/07: 16	15
											07/09/07: 11	19/09/07: 14	14
54	Burhidihing	Khowang	Assam	101.11	102.11	103.86	28/07/07: 09	16/06/07: 13	22/06/07: 14	7	16/06/07: 15	20/06/07: 20	3
								26/06/07: 19	28/06/07: 04	2			
								19/07/07: 07	05/08/07: 09	19	20/07/07: 13	04/08/07: 14	16
								17/08/07: 16	19/08/07: 17	3			
								28/08/07: 01	19/09/07: 01	23	05/09/07: 11	14/09/07: 11	10
55	Desang	Nanglamorag	Assam	93.46	94.46	96.27	07/09/07: 05	11/06/07: 10	13/06/07: 05	3			
								15/06/07: 18	23/06/07: 17	9			
								16/06/07: 15	29/06/07: 15	14	16/06/07: 17	19/06/07: 10	3
											26/06/07: 16	27/06/07: 23	2
								02/07/07: 12	03/07/07: 11	1			
								14/07/07: 05	03/08/07: 11	21	21/07/07: 23	31/07/07: 22	11
											27/07/07: 21	02/09/07: 09	37
								17/08/07: 21	19/08/07: 04	2			
								27/08/07: 14	18/09/07: 17	23	04/09/07: 01	14/09/07: 16	12
56	Dikhow	Shivsagar	Assam	91.40	92.40	93.82	23/07/07: 14	16/06/07: 16	17/06/07: 05	1			
								02/07/07: 03	02/07/07: 07	1			
								13/07/07: 17	16/07/07: 01	3	13/07/07: 22	14/07/07: 06	1
								22/07/07: 04	29/07/07: 06	8	22/07/07: 09	25/07/07: 11	4
											27/07/07: 03	27/07/07: 17	2
								17/08/07: 02	19/08/07: 09	3			
								03/09/07: 02	12/09/07: 07	10	04/09/07: 02	08/09/07: 21	5
											10/09/07: 01	11/09/07: 12	3
57	Subansiri	Badatighat	Assam	81.53	82.53	82.9	27/07/07: 17	17/06/07: 06	27/06/07: 03	11			
								21/07/07: 01	04/08/07: 16	15	24/07/07: 07	02/08/07: 00	10

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2007		Flood period above warning level			Flood period above danger level		
						Level in metres	From	From	To	No.of days	From	To	No.of days
								18/08/07: 23	20/08/07: 01	2			
								05/09/07: 17	18/09/07: 12	14	09/09/07: 10	10/09/07: 23	3
58	Dhansiri (S)	Golaghat	Assam	88.50	89.50	90.36	03/09/07: 21	30/06/07: 08	02/07/07: 20	4			
								18/07/07: 03	18/07/07: 20	2			
								04/08/07: 03	05/08/07: 19	3			
								12/08/07: 14	12/08/07: 23	1			
								13/08/07: 23	17/08/07: 16	5			
								18/08/07: 07	18/08/07: 20	2			
								23/08/07: 01	24/08/07: 14	3			
								26/08/07: 08	20/09/07: 02	26	31/08/07: 02	11/09/07: 13	13
											15/09/07: 16	17/09/07: 23	3
59	Dhansiri (S)	Numaligarh	Assam	76.42	77.42	78.34	08/09/07: 09	28/05/07: 08	29/05/07: 12	3			
								18/06/07: 07	06/07/07: 20	20	30/06/07: 07	02/07/07: 19	4
								08/07/07: 18	11/07/07: 17	4			
								12/07/07: 18	26/09/07: 18	77	26/07/07: 07	03/08/07: 05	9
											04/08/07: 03	06/08/07: 02	3
											09/08/07: 10	10/08/07: 01	2
											14/08/07: 20	19/08/07: 22	6
											23/08/07: 09	24/08/07: 19	3
											26/08/07: 21	21/09/07: 10	26
								30/09/07: 07	06/10/07: 16	6			
								11/10/07: 09	13/10/07: 23	4			
60	Jiabharali	Jiabharali_NT	Assam	76.00	77.00	78.50	26/07/07: 14	16/05/07: 09	16/05/07: 20	2			
								22/05/07: 14	28/05/07: 05	6			
								29/05/07: 09	04/06/07: 23	6			
								06/06/07: 21	09/06/07: 05	3	09/06/07: 21	11/06/07: 20	3
								11/06/07: 21	05/07/07: 02	24	15/06/07: 02	20/06/07: 07	6
											22/06/07: 10	22/06/07: 22	2
											25/06/07: 03	25/06/07: 21	2
											26/06/07: 09	26/06/07: 18	2
								05/07/07: 14	05/07/07: 00	1			
								06/07/07: 07	07/07/07: 02	2			
								07/07/07: 11	09/07/07: 12	4			
								10/07/07: 03	09/08/07: 01	31	11/07/07: 07	12/07/07: 17	3
											16/07/07: 09	16/07/07: 19	2
											17/07/07: 12	17/07/07: 18	1
											18/07/07: 09	02/08/07: 11	16
								12/08/07: 11	13/08/07: 12	3			
								14/08/07: 01	21/08/07: 04	8	14/08/07: 13	15/08/07: 04	1
											16/08/07: 08	16/08/07: 19	2
											17/08/07: 05	17/08/07: 16	2
								22/08/07: 19	20/09/07: 00	29	05/09/07: 01	13/09/07: 01	9
								09/10/07: 09	11/10/07: 20	4			
								12/10/07: 11	12/10/07: 20	2			
61	Kopili	Kampur	Assam	59.50	60.50	61.76	11/09/07: 04	17/06/07: 23	23/06/07: 08	6	18/06/07: 10	22/06/07: 01	5
								21/07/07: 04	22/07/07: 20	3			
								27/07/07: 04	04/08/07: 08	9	27/07/07: 19	29/07/07: 13	3
											02/08/07: 06	02/08/07: 13	2
								08/09/07: 06	21/09/07: 03	14	08/09/07: 13	16/09/07: 05	9
											16/09/07: 08	18/09/07: 03	3
62	Kopili	Dharmatul	Assam	55.00	56.00	57.49	12/09/07: 16	18/06/07: 18	26/06/07: 22	9			
								26/07/07: 18	11/08/07: 00	16			
											28/07/07: 08	07/08/07: 20	12

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2007		Flood period above warning level			Flood period above danger level		
						Level in metres	From	From	To	No.of days	From	To	No of days
								08/09/07: 04	29/09/07: 04	22			
63	Puthimari	Puthimari _N	Assam	50.81	51.81	55.04	27/07/07: 21				09/09/07: 02	29/09/07: 06	20
								17/05/07: 00	19/05/07: 04	3			
								23/05/07: 01	03/06/07: 16	13	27/05/07: 09	27/05/07: 09	1
								09/08/07: 07	07/10/07: 05	121	10/06/07: 15	11/06/07: 10	1
											17/06/07: 17	18/06/07: 08	1
											18/06/07: 18	21/06/07: 19	4
											22/06/07: 18	22/06/07: 22	1
											15/07/07: 11	16/07/07: 18	2
											25/07/07: 18	06/08/07: 11	12
											14/08/07: 18	15/08/07: 18	2
											16/08/07: 04	18/08/07: 20	4
											05/09/07: 02	05/09/07: 17	2
											06/09/07: 04	16/09/07: 20	12
								08/10/07: 07	29/10/07: 18	23	08/10/07: 12	13/10/07: 23	12
64	Pagladiya	Pagladia_NT	Assam	51.75	52.75	53.94	27/07/07: 00	10/06/07: 16	11/06/07: 04	1			
								17/06/07: 13	21/06/07: 12	5			
								22/06/07: 11	22/06/07: 17	2			
								16/07/07: 10	16/07/07: 15	2			
								26/07/07: 01	04/08/07: 08	10	26/07/07: 09	01/08/07: 04	7
								12/08/07: 18	12/08/07: 21	1			
								07/09/07: 07	14/09/07: 04	8			
								15/09/07: 13	17/09/07: 03	2			
								08/10/07: 18	09/10/07: 06	1			
								10/10/07: 01	12/10/07: 17	4			
65	Beki	Beki NHX	Assam	44.10	45.10	45.89	30/07/07: 15	09/06/07: 15	12/06/07: 21	4			
								14/06/07: 12	05/07/07: 11	21			
								05/07/07: 14	06/07/07: 11	1			
								06/07/07: 17	07/07/07: 05	1			
								07/07/07: 15	08/07/07: 07	1			
								08/07/07: 10	10/07/07: 05	3			
								10/07/07: 10	10/08/07: 23	33	19/07/07: 14	20/07/07: 01	1
											20/07/07: 12	21/07/07: 00	1
											21/07/07: 11	21/07/07: 21	2
											22/07/07: 10	02/08/07: 02	12
											02/08/07: 08	02/08/07: 21	2
								12/08/07: 14	13/08/07: 06	1			
								13/08/07: 12	21/08/07: 10	9			
								23/08/07: 04	25/08/07: 05	3			
								26/08/07: 12	29/08/07: 16	4			
								30/08/07: 08	01/09/07: 04	3			
								01/09/07: 14	02/09/07: 02	1			
								03/09/07: 18	20/09/07: 00	17	07/09/07: 10	08/09/07: 05	2
											10/09/07: 07	11/09/07: 00	2
											11/09/07: 08	11/09/07: 20	2
								10/10/07: 14	10/10/07: 18	1			
66	Manas	Manas NHX	Assam	47.81	48.42	48.05	30/07/07: 02	29/07/07: 20	30/07/07: 11	1			
								30/07/07: 16	31/07/07: 10	1			
								10/09/07: 20	11/09/07: 15	2			
67	Sankosh	Golakganj	Assam	28.94	29.94	30.85	08/09/07: 03	18/07/07: 05	08/08/07: 15	23	26/07/07: 19	03/08/07: 09	8
								14/08/07: 12	22/08/07: 01	8			
								23/08/07: 18	25/08/07: 05	2			
								27/08/07: 01	27/08/07: 09	1			

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2007		Flood period above warning level			Flood period above danger level		
						Level in metres	From	From	To	No.of days	From	To	No.of days
								30/08/07: 18	02/09/07: 15	4			
								03/09/07: 21	18/09/07: 16	16	06/09/07: 17	08/09/07: 55	3
											10/09/07: 13	12/09/07: 12	3
68	Raidak-I	Tulanganj	West Beng	34.22	35.30	35.93	08/09/07: 08	19/06/07: 15	20/06/07: 20	2			
								29/07/07: 17	02/08/07: 22	5			
								16/08/07: 03	16/08/07: 14	2			
								16/08/07: 23	17/08/07: 01	1			
								04/09/07: 18	10/09/07: 07	6			
											07/09/07: 13	09/09/07: 05	2
								10/09/07: 11	13/09/07: 11	4			
											12/09/07: 00	12/09/07: 04	1
69	Torsa	Ghughumari	West Beng	39.80	40.41	40.85	29/07/07: 04	26/07/07: 22	01/08/07: 00	6	28/07/07: 21	29/07/07: 16	2
								04/09/07: 15	04/09/07: 19	1			
								07/09/07: 10	09/09/07: 06	3	07/09/07: 19	08/09/07: 13	2
70	Jaldhaka	NH-31	West Beng	80.00	80.90	80.50	07/09/07: 17	25/07/07: 06	25/07/07: 07	1			
								26/07/07: 10	26/07/07: 10	1			
								26/07/07: 13	26/07/07: 23	1			
								27/07/07: 23	29/07/07: 09	2			
								30/07/07: 06	30/07/07: 09	1			
								31/07/07: 08	31/07/07: 14	2			
								30/08/07: 13	30/08/07: 15	1			
								03/09/07: 03	03/09/07: 06	1			
								04/09/07: 08	04/09/07: 13	2			
								07/09/07: 05	08/09/07: 01	2			
								08/09/07: 04	08/09/07: 09	1			
								11/09/07: 06	11/09/07: 16	2			
71	Jaldhaka	Mathabhanga	West Beng	48.20	48.70	49.85	07/09/07: 21	25/07/07: 17	25/07/07: 18	1			
								26/07/07: 19	29/07/07: 14	4	26/07/07: 22	27/07/07: 03	1
											27/07/07: 14	27/07/07: 15	1
											28/07/07: 11	29/07/07: 06	2
								31/07/07: 15	01/08/07: 02	1			
								30/08/07: 14	31/08/07: 12	2	30/08/07: 23	31/08/07: 02	1
								05/09/07: 05	09/09/07: 07	5	05/09/07: 23	06/09/07: 03	1
											07/09/07: 10	08/09/07: 18	3
								11/09/07: 20	11/09/07: 21	1			
72	Tista	Domohani	West Beng	85.65	85.95	86.50	07/09/07: 16	15/06/07: 14	15/06/07: 20	1			
								17/07/07: 06	17/07/07: 09	1			
								17/07/07: 16	18/07/07: 02	1			
								26/07/07: 11	27/07/07: 00	2			
								27/07/07: 04	27/07/07: 18	2			
								28/07/07: 08	28/07/07: 23	2	28/07/07: 06	28/07/07: 11	1
								27/08/07: 15	27/08/07: 17	1			
								30/08/07: 07	30/08/07: 18	2			
								01/09/07: 18	02/09/07: 02	1			
								02/09/07: 06	03/09/07: 14	3			
								04/09/07: 05	04/09/07: 22	2			
								05/09/07: 04	06/09/07: 02	2			
								06/09/07: 11	06/09/07: 23	2			
								07/09/07: 06	08/09/07: 15	3	07/09/07: 12	08/09/07: 02	1
								09/09/07: 05	09/09/07: 12	2			
								10/09/07: 05	10/09/07: 09	1			
								12/09/07: 09	12/09/07: 12	2			
73	Tista	Mekhliganj	West Beng	65.45	65.95	66.35	07/09/07: 21	15/06/07: 18	16/06/07: 03	1			

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2007		Flood period above warning level			Flood period above danger level		
						Level in metres	From	From	To	No.of days	From	To	No.of days
								17/07/07: 11	18/07/07: 14	3			
								19/07/07: 16	19/07/07: 23	1			
								22/07/07: 15	22/07/07: 20	1			
								25/07/07: 13	25/07/07: 21	1			
								26/07/07: 11	28/07/07: 04	3			
								28/07/07: 10	29/07/07: 15	3			
								30/07/07: 09	30/07/07: 18	2			
								01/08/07: 11	02/08/07: 04	2			
								15/08/07: 09	15/08/07: 20	2			
								17/08/07: 13	17/08/07: 22	1			
								30/08/07: 14	31/08/07: 04	1			
								03/09/07: 09	03/09/07: 16	2			
								04/09/07: 11	08/09/07: 22	6	07/09/07: 17	08/09/07: 04	1
74	Barak	APGhat	Assam	18.83	19.83	21.42	09/09/07: 22	17/06/07: 04	21/06/07: 17	5	18/06/07: 03	20/06/07: 18	4
								28/07/07: 00	29/07/07: 03	2			
								01/08/07: 11	03/08/07: 05	3			
								26/08/07: 16	21/09/07: 21	27	27/08/07: 08	31/08/07: 22	6
											02/09/07: 14	07/09/07: 00	5
											07/09/07: 06	20/09/07: 02	14
75	Katakhal	Matizuri	Assam	19.27	20.27	22.73	10/09/07: 04	12/06/07: 11	15/06/07: 08	4	12/06/07: 21	14/06/07: 17	3
								17/06/07: 09	21/06/07: 22	5	17/06/07: 16	21/06/07: 02	4
								23/06/07: 15	26/06/07: 01	3			
								20/07/07: 11	24/07/07: 14	5	20/07/07: 19	23/07/07: 15	4
								27/07/07: 18	28/07/07: 11	1			
								26/08/07: 10	22/09/07: 17	29	26/08/07: 21	29/08/07: 01	3
											29/08/07: 18	05/09/07: 18	3
											08/09/07: 10	21/09/07: 20	15
76	Kushiyara	Karimganj	Assam	13.94	14.94	16.55	09/08/07: 22	13/06/07: 01	15/06/07: 16	4			
								16/06/07: 23	05/07/07: 11	19	17/06/07: 13	26/06/07: 09	9
								22/07/07: 01	09/08/07: 04	19	27/07/07: 22	30/07/07: 11	3
											01/08/07: 01	05/08/07: 18	6
								26/08/07: 19	27/09/07: 10	32	27/08/07: 03	24/09/07: 14	30
77	Manu	Kailashar	Tripura	24.34	25.34	25.56	10/09/07: 01	12/06/07: 01	13/06/07: 04	2			
								17/06/07: 17	18/06/07: 17	2			
								08/09/07: 23	10/09/07: 17	3	09/09/07: 22	10/09/07: 10	1
78	Gumti	Sonamura	Tripura	11.50	12.50	13.50	23/07/07: 03	11/06/07: 06	14/06/07: 23	5	12/06/07: 09	13/06/07: 05	2
								17/06/07: 02	20/06/07: 04	4			
								19/07/07: 18	29/07/07: 23	11	21/07/07: 08	25/07/07: 01	5
								07/09/07: 19	17/09/07: 22	11	09/09/07: 02	12/09/07: 15	5
								09/10/07: 08	10/10/07: 16	3			

Sr. No. Continues from Annexure 7 C

Annex-9 A

Moderate and Low Flood Events on Various River Systems (excluding Ganga and Brahmaputra Basins) during Flood Season - 2005

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2005		Low floods (above warning level but below danger level)					
						Level in metres	Date of occurrence	From	To	No.of days	From	To	No.of days
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Subernarekha	Rajghat		9.45	10.36	8.97	01/22.09.200	NA	NA				
2	Burhabalang	N.H.5 Road Bridge		7.21	8.13	8.10	23/23.10.200	06/13.09	12/16.09	4	NA		
								14/20.10	15/21.10	2	NA		
								22/22.10	03/25.10	4	NA		
3	Baitarni	Anandpur		37.44	38.36	39.38	21/29.06.200	11/28.06	16/30.06	3	11/29.06	10/30.06	2
								10/29.07	01/01.08	4	14/29.07	16/29.07	1
								06/05.08	13/05.08	1	NA		
4	Baitarni	Akhuapada		18.29	19.20	18.87	12/30.06.2005				20/28.06	07/01.07	
											17/29.07	22/01.08	
											15/05.08	24/05.08	
											22/14.09	20/15.09	
5	Brahmani	Jenapur Ex.Way		22.00	23.00	23.26	04/31.07.200	11/30.07	18/01.08	3	20/30.07	06/01.08	3
6	Mahanadi	Naraj		25.41	26.41	26.14	24/31.07.200	05/31.07	22/01.08	2	NA	NA	
								02/07.08	04/09.08	3	NA	NA	
								08/15.08	08/16.08	2	NA	NA	
								22/16.08	04/21.08	6	NA	NA	
7	Mahanadi	Alipingal Devi		10.85	11.78	11.33	09/01.08.200	21/31.07	22/01.08	2	NA	NA	
8	Mahanadi	Nimapara		9.85	10.76	10.23	17/01.08.200	05/01.08	05/02.08	2	NA	NA	
9	Rushikulya	Purushottampur		15.83	16.83	16.66	21/13.09.200	07/13.09	20/14.09	2	NA	NA	
								08/19.09	01/21.09	3	NA	NA	
								11/24.10	24/24.10	1	NA	NA	
								09/25.10	02/26.10	2	NA	NA	
10	Vamsadhara	Gunupur		83.00	84.00	84.83	18/18.09.200	01/13.09	23/13.09	2	NA	NA	
								12/18.09	24/19.09	2	13/18.09	01/19.09	2
11	Vamsadhara	Kashinagar		53.60	54.60	55.67	21/18.09.200	18/04.08	19/05.08	2	NA	NA	
								24/12.09	06/15.09	4	04/13.09	22/13.09	1
								14/18.09	23/21.09		14/18.09	18/19.09	2
								10/30.09	16/30.09		NA	NA	
								17/22.10	11/23.10		NA	NA	
								14/23.10	14/25.10		NA	NA	
12	Godavari	Kopergaon		490.90	493.68	495.04	06/23.09.200	01/30.06	04/02.07	3	NA	NA	
								21/02.07	02/05.07	4	NA	NA	
								11/28.07	11/30.07	3	NA	NA	
								12/02.08	17/05.08	4	NA	NA	
								03/19.09	21/19.09	1	NA	NA	
								10/22.09	24/24.09	3	20/22.09	17/23.09	2
13	Godavari	Gangakhed		374.00	375.00	374.13	21/22.09.200	17/22.09	01/23.09	2	NA	NA	
14	Godavari	Nanded		353.00	354.00	354.70	22/27.07.200	07/27.07	19/28.07	2	13/27.07	11/28.07	2
15	Godavari	Kaleswaram		104.50	104.75	102.65	10/30.07.200	NA	NA		NA	NA	
16	Godavari	Etunuagaram		73.29 / 74.29	75.79	73.44	06/20.09.200	17/06.08	18/06.08	1	NA	NA	
								02/20.08	08/20.08	1	NA	NA	
17	Godavari	Dummagudam		53.00	55.00	53.44	15/20.09.200	07/20.08	20/20.08	1	NA	NA	

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2006		Low floods (above warning level but below danger level)					
						Level in metres	Date of occurrence	From	To	No.of days	From	To	No.of days
1	2	3	4	5	6	7	8	9	10	11	12	13	14
18	Godavari	Bhadrachalam		45.72 / 47.24	48.77	49.35	18/20.09.200	03/31.07	18/31.07	1	NA	NA	
								24/06.08	20/07.08	2	NA	NA	
								03/18.09	14/21.09	4	12/20.09	21/20.09	1
19	Godavari	Kunavaram		37.74	39.24	42.46	01/21.09.200	03/20.09	03/22.09	3	06/20.09	20/21.09	2
20	Godavari	Rajahmundry		17.68	19.51	18.91	02/21.09.200	08/20.09	05/22.09	3	NA	NA	
21	Godavari	Dowlaiswaram		14.25 / 14.86	16.08	16.58	10/21.09.200	09/19.09	01/23.09	5	18/20.09	23/21.09	2
22	Wainganga	Bhandara		244.00	244.50	250.90	23/16.09.200	07/01.08	07/02.08	2	09/01.08	04/02.08	2
								17/20.08	18/21.08	2	22/20.08	12/21.08	2
								15/14.09	23/17.09	4	NA	NA	
23	Wainganga	Paunl		226.73	227.73	230.56	06/16.09.200	18/01.08	10/02.08	2	NA	NA	
								17/14.09	24/17.09	4	20/14.09	21/17.09	4
24	Wardha	Balharsha		171.50	174.00	173.22	15/29.07.200	18/28.07	06/30.07	3	NA	NA	
25	Indravati	Jagdalpur		539.50	540.80	540.71	10/14.09.200	05/13.09	10/15.09	3	NA	NA	
26	Bhima	Deongaon		400.00	407.00	406.61	13-18/07.08.	06/30.07	11/10.08	12	NA	NA	
								02/11.09	24/14.09	4	NA	NA	
27	Tungbhadra	Mantralayam		310.00	312.00	311.60	17/05.08-18/	05/04.08	12/07.08	4	NA	NA	
								08/11.08	08/11.08	1	NA	NA	
								21/05.09	14/06.09	2	NA	NA	
28	Pennar	Nellore Anicut		15.91	17.28	15.77	12/30.10	Forecast issued due to confusion in ZOG at Anicut					
29	Sabarmati	Ahmedabad (Shubhash Bridge)		44.09	45.34	42.80	15/02.08.20 05	NA	NA				
30	Mahi	Wanakbori Weir		71.00	72.54	71.24	04/29.07.200	04/29.07	12/29.07	1	NA	NA	
31	Naramada	Mandla		437.20	437.80	438.08	16-19/08.08	14/31.07	21/31.07	1	NA	NA	
								10/06.08	01/07.08	2	12/06.08	21/06.08	1
								09/20.08	11/20.08	1	NA	NA	
								07/15.09	21/15.09	1	NA	NA	
32	Naramada	Hoshangabad		292.83	293.83	293.35	05-14/08.07	5.07	5.07		NA	NA	
								6.08	6.08		NA	NA	
33	Naramada	Garudeswar		30.48	31.09	21.11	05-10/.05.08	NA	NA		NA	NA	
34	Naramada	Bharuch		6.71	7.31	6.20	08/20.09.200	NA	NA		NA	NA	
35	Tapi	Surat (Nehru Bridge)		8.50	9.50	4.40	15/17.09.200	NA	NA		NA	NA	
36	Damanganga	Vapi Town		18.20	19.20	18.20	05/23.09.200	NA	NA		NA	NA	
37	Damanganga	Daman		2.60	3.40	2.20	15/22.07.200	NA	NA		NA	NA	

Annex-9 B

Moderate and Low Flood Events on Various River Systems (excluding Ganga and Brahmaputra Basins) during Flood Season - 2006

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2006			Flood period above warning level			Flood period above danger level		
						Level in metres	From	To	From	To	No.of days	From	To	No.of days
79	Subernarekha	Orissa	Rajghat	9.45	10.36	12	31/07/06: 23		17/07/06: 10	17/06: 09	3			
									30/07/06: 19	8/06: 23	4	30/07/06: 23	5/06: 23	3
									03/08/06: 03	8/06: 23	1			
									04/08/06: 04	8/06: 08	2			
									18/08/06: 00	8/06: 02	9	18/08/06: 10	3/08/06: 21	2
												23/08/06: 01	8/06: 10	3
									31/08/06: 04	9/06: 09	2			
									05/09/06: 03	9/06: 15	3	06/09/06: 00	9/06: 01	2
									22/08/06: 06	9/06: 14	6	22/09/06: 11	9/06: 10	3
80	Burhabalang	Orissa	NH_5 _Road B	7.21	8.13	8.0200005	05/09/06: 21		17/08/06: 10	8/06: 11	3			
									22/08/06: 15	8/06: 12	3			
									04/09/06: 19	9/06: 01	4			
81	Baitarni	Orissa	Anandpur	37.44	38.36	38.950001	22/08/06: 21		30/07/06: 21	7/06: 04	2			
									01/08/06: 04	8/06: 11	1			
									02/08/06: 00	8/06: 16	1			
									17/08/06: 18	8/06: 10	2			
									22/08/06: 12	8/06: 07	3	22/08/06: 15	8/06: 20	2
									06/09/06: 00	9/06: 00	1			
82	Baitarni	Orissa	Akhuapada	18.29	19.20	18.809999	23/08/06: 18					01/08/06: 12	8/06: 15	3
												17/08/06: 23	8/06: 07	3
												22/08/06: 12	8/06: 08	4
												05/09/06: 14	9/06: 21	2
												23/09/06: 03	9/06: 17	1
83	Brahmani	Orissa	Jenapur	22.00	23.00	23.360001	24/08/06: 12		23/08/06: 12	8/06: 22	3	24/08/06: 05	8/06: 00	3
84	Rushikuluya	Orissa	Purushottampu	15.83	16.83	17.6	04/07/06: 06		03/07/06: 15	7/06: 11	3	04/07/06: 02	7/06: 17	1
									30/08/06: 05	9/06: 02	3	30/08/06: 12	9/06: 01	2
									30/09/06: 07	10/06: 01	3			
85	Vamsadhara	Orissa	Gunupur	83.00	84.00	85.25	03/07/06: 11		02/07/06: 15	7/06: 20	3	02/07/06: 16	7/06: 22	1
												03/07/06: 05	7/06: 04	2
									02/08/06: 10	8/06: 00	4	02/08/06: 16	8/06: 11	2
									23/08/06: 00	8/06: 01	2			
									29/08/06: 16	8/06: 23	2	29/08/06: 21	8/06: 01	2
									04/09/06: 15	9/06: 21	1			
									29/09/06: 20	9/06: 19	2	30/09/06: 00	9/06: 08	1
86	Vamsadhara	Orissa	Kashinagar	53.60	54.60	58.349998	03/07/06: 18		29/06/06: 07	9/06: 01	2			
									02/07/06: 17	7/06: 01	7	02/07/06: 18	7/06: 03	4
									02/08/06: 05	8/06: 16	10	02/08/06: 10	9/09: 04	4
									13/08/06: 03	8/06: 06	2			
									15/08/06: 01	8/06: 01	2			
									16/08/06: 19	8/06: 20	4			
									22/08/06: 02	9/06: 21	37	22/08/06: 15	5/06: 16	1
												23/08/06: 03	8/06: 03	2
												29/08/06: 18	9/06: 01	2
												04/09/06: 16	9/06: 03	2
									28/09/06: 20	0/06: 08	11	29/09/06: 21	0/06: 10	3

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2006			Flood period above warning level			Flood period above danger level		
						Level in metres	From	To	From	To	No.of days	From	To	No.of days
87	Mahanadi	Orissa	Naraj	25.41	26.41	26.700001	01/09/06: 03		05/07/06: 08	7/06: 00	3			
									13/08/06: 14	8/06: 05	3			
									16/08/06: 03	8/06: 06	3			
									19/08/06: 01	8/06: 03	2			
									20/08/06: 10	8/06: 21	1			
									22/08/06: 00	8/06: 17	5	24/08/06: 19	5/06: 18	1
									27/08/06: 17	8/06: 23	2			
									30/08/06: 04	9/06: 19	6	31/08/06: 12	9/06: 20	2
88	Mahanadi	Orissa	Alipingal Devi	10.85	11.76	12.4	01/09/06: 13		25/08/06: 07	8/06: 03	2			
									31/08/06: 06	9/06: 14	5	31/08/06: 19	9/06: 04	5
89	Mahanadi	Orissa	Nimapara	9.85	10.76	10.86	01/09/06: 14		25/08/06: 12	8/06: 09	2			
									31/08/06: 12	9/06: 19	21	01/09/06: 09	9/06: 01	2
90	Godavari	Maharashtra	Kopergaon	490.90	493.68	498.20001	10/08/06: 06		29/07/06: 13	8/06: 06	4			
									06/08/06: 23	8/06: 14	7	07/08/06: 10	8/06: 16	5
									16/08/06: 06	8/06: 02	3			
91	Godavari	Maharashtra	Gangakhed	374.00	375.00	377.23999	14/08/06: 23		10/08/06: 13	8/06: 20	8	11/08/06: 22	8/06: 18	5
92	Godavari	Maharashtra	Nanded	353.00	354.00	357.10001	06/08/06: 17		05/08/06: 18	8/06: 11	5	05/08/06: 20	8/06: 16	4
									15/08/06: 19	8/06: 21	1			
93	Godavari	Andhra Pradesh	Kaleswaram	103.50	104.75	104.54	06/08/06: 00		05/08/06: 19	6/06: 19	2			
									07/08/06: 12	8/06: 02	2			
									08/08/06: 11	8/06: 07	3			
94	Godavari	Andhra Pradesh	Eturunagaram	73.29	75.79	76.589996	06/08/06: 07		05/07/06: 20	7/06: 23	2			
									04/08/06: 12	8/06: 22	6	05/08/06: 13	8/06: 02	3
									17/08/06: 04	8/06: 00	3			
									19/09/06: 17	9/06: 02	3			
95	Godavari	Andhra Pradesh	Dummagudam	53.00	55.00	57.869999	06/08/06: 16		04/08/06: 15	8/06: 10	8	04/08/06: 20	8/06: 02	5
									17/08/06: 20	8/06: 01	3			
									20/09/06: 04	9/06: 06	2			
96	Godavari	Andhra Pradesh	Bhadrachalam	45.72	48.77	53	06/08/06: 23		06/07/06: 07	7/06: 11	2			
									04/08/06: 14	8/06: 12	8	04/08/06: 20	8/06: 09	7
									17/08/06: 06	8/06: 17	3			
									19/09/06: 19	9/06: 22	3			
97	Godavari	Andhra Pradesh	Kunavaram	37.74	39.24	46.27	07/08/07: 05		04/08/06: 16	8/06: 10	9	04/08/06: 19	8/06: 05	8
									18/08/06: 03	8/06: 19	2			
									20/09/06: 12	9/06: 07	3	21/09/06: 21	9/06: 18	1
98	Godavari	Andhra Pradesh	Rajamundri	17.68	19.51	19.799999	07/08/06: 07		05/08/06: 04	8/06: 09	7	05/08/06: 07	8/06: 00	6
												06/08/06: 09	8/06: 04	3
99	Godavari	Andhra Pradesh	Dowlaiswaram	14.25	15.08	17.620001	07/08/06: 06		04/08/06: 17	8/06: 06	10	05/08/06: 07	8/06: 00	6
									18/08/06: 01	8/06: 13	3			
									20/09/06: 08	9/06: 23	3			
100	Wardha	Maharashtra	Balharsha	171.50	174.00	175.89	08/08/06: 06		05/07/06: 01	7/06: 13	2			
									05/08/06: 18	8/06: 20	6	06/08/06: 14	8/06: 02	5

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2006			Flood period above warning level			Flood period above danger level		
						Level in metres	From	To	From	To	No.of days	From	To	No.of days
101	Wainganga	Maharashtra	Bhandara	244.00	244.50	250.22	15/08/06: 20		14/08/06: 03	8/06: 20	3	15/08/06: 04	8/06: 19	2
									31/08/06: 20	9/06: 06	3	31/08/06: 22	9/06: 04	3
102	Wainganga	Maharashtra	Pauni	231.50	232.50	229.58	16/08/06: 01		14/08/06: 10	8/06: 00	4	14/08/06: 15	8/06: 21	3
									01/09/06: 03	9/06: 09	2	01/09/06: 07	9/06: 08	2
103	Indravati	Chhatisgarh	Jagdalpur	539.50	540.80	543.37	05/07/06: 07		03/07/06: 18	7/06: 18	4	04/07/06: 03	7/06: 13	3
									03/08/06: 18	8/06: 00	4	04/08/06: 09	8/06: 10	2
									31/08/06: 13	8/06: 20	1			
									30/09/06: 13	0/06: 03	4	30/09/06: 21	0/06: 19	3
104	Bhima	Karnataka	Deongaon	400.00	407.00	407.34	13/08/06: 03	14/08/06: 22	31/07/06: 12	8/06: 12	7			
									06/08/06: 05	8/06: 06	15	13/08/06: 01	8/06: 22	2
105	Tungbhadra	Andhra Pradesh	Mantralayam	310.00	312.00	312.06	15/08/06: 12	15/08/06: 16	14/08/06: 07	8/06: 13	4	15/08/06: 08	8/06: 16	1
106	Sabarmati	Gujarat	Ahmedabad_S	44.09	45.34	47.450001	19/08/06: 06		12/08/06: 08	8/06: 17	1			
									16/08/06: 09	8/06: 08	2	16/08/06: 11	8/06: 23	1
									19/08/06: 13	8/06: 00	4	19/08/06: 17	8/06: 00	3
									07/09/06: 20	9/06: 10	2	07/09/06: 21	9/06: 06	2
107	Mahi	Gujarat	Wanakbori	71.00	72.54	76.099998	12/08/06: 04		29/07/06: 11	7/06: 15	1			
									01/08/06: 19	8/06: 16	2			
									06/08/06: 03	8/06: 13	8	08/08/06: 02	8/06: 18	2
												10/08/06: 21	8/06: 00	4
									13/08/06: 22	8/06: 22	2			
									15/08/06: 18	8/06: 03	3	15/08/06: 23	8/06: 20	2
									18/08/06: 23	8/06: 08	4	19/08/06: 10	8/06: 13	2
									06/09/06: 22	9/06: 18	3	07/09/06: 01	9/06: 23	1
108	Narmada	Madhya Pradesh	Mandla			437.92001			31/07/06: 08	8/06: 00	3			
109	Narmada	Madhya Pradesh	Hoshangabad			294.79999			14/08/06: 09	8/06: 10	2			
									18/08/06: 14	8/06: 04	2			
									31/08/06: 21	9/06: 14	2			
110	Narmada	Gujarat	Garudeswar	30.48	31.09	31.200001	07/08/06: 11	07/08/06: 12	07/08/06: 10	8/06: 15	1	07/08/06: 11	8/06: 12	1
111	Narmada	Gujarat	Bharuch	6.71	7.31	9.6899998	07/08/06: 10	07/08/06: 21	07/08/06: 08	8/06: 00	4	07/08/06: 09	8/06: 06	3
									10/08/06: 18	8/06: 20	1			
									11/08/06: 18	8/06: 23	2			
									16/08/06: 23	8/06: 17	3	17/08/06: 03	8/06: 07	2
									20/08/06: 02	8/06: 08	3	20/08/06: 09	8/06: 01	3
									03/09/06: 07	9/06: 14	2	03/09/06: 14	9/06: 04	2
									07/09/06: 06	9/06: 09	3	07/09/06: 10	9/06: 00	3
112	Tapi	Gujarat	Surat	8.50	9.50	12.5	09/08/06: 07	09/08/06: 16	07/08/06: 05	8/06: 02	5	07/08/06: 11	8/06: 17	5

Annex-9C

Moderate and LowFlood Events on Various River Systems (excluding Ganga and Brahmaputra Basins) during Flood Season - 2007

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2007		Flood period => warning level			Flood period => danger level		
						Level in metres	From	From	To	No.of days	From	To	No.of days
79	Subernarekha	Rajghat	Orissa	9.45	10.36	12.38	07/07/07: 00	06/07/07: 04	10/07/07: 04	5	06/07/07: 05	09/07/07: 11	4
								17/07/07: 15	19/07/07: 01	2			
								13/08/07: 15	16/08/07: 12	4	13/08/07: 22	16/08/07: 20	3
								19/08/07: 02	23/08/07: 12	6	19/08/07: 11	22/08/07: 17	4
								24/09/07: 08	01/10/07: 02	8	24/09/07: 15	29/09/07: 03	5
80	Burhabalang	NH_5 Road Bridge	Orissa	7.21	8.13	8.19	23/09/07: 22	06/07/07: 17	08/07/07: 04	2			
								13/08/07: 14	14/08/07: 21	2			
								19/08/07: 18	21/08/07: 08	2			
								22/09/07: 22	26/09/07: 18	5	23/09/07: 11	25/09/07: 10	3
81	Baitarni	Anandpur	Orissa	37.44	38.36	39.94	13/08/07: 21	06/07/07: 13	08/07/07: 10	2	06/07/07: 14	06/07/07: 00	2
								12/08/07: 20	13/08/07: 05	1			
								13/08/07: 09	14/08/07: 23	3	13/08/07: 12	14/08/07: 15	2
								19/08/07: 18	21/08/07: 14	3	19/08/07: 23	21/08/07: 04	2
								23/09/07: 10	28/09/07: 14	5	23/09/07: 14	25/09/07: 03	2
											25/09/07: 18	26/09/07: 06	1
82	Baitarni	Akhuapada	Orissa	17.83	17.83	19.96	07/07/07: 15				06/07/07: 19	09/07/07: 02	3
											07/08/07: 15	07/08/07: 21	1
											13/08/07: 02	15/08/07: 18	4
											20/08/07: 01	22/08/07: 07	3
											23/09/07: 06	28/09/07: 18	7
83	Brahmani	Jenapur	Orissa	22.00	23.00	22.72	28/09/07: 11	21/08/07: 14	23/08/07: 02	2			
								24/09/07: 13	25/09/07: 11	1			
								26/09/07: 06	29/09/07: 08	4			
84	Rushikulya	Purushottampur	Orissa	15.83	16.83	17.50	07/08/07: 08	06/08/07: 22	08/08/07: 21	3	07/08/07: 03	07/08/07: 21	2
								23/09/07: 09	24/09/07: 19	2			
								27/09/07: 12	29/09/07: 08	2			
85	Vamsadhara	Gunupur	Orissa	83.00	84.00	87.45	07/08/07: 04	06/08/07: 15	08/08/07: 02	2			
											06/08/07: 17	07/08/07: 15	2
								11/08/07: 15	12/08/07: 04	1			
											11/08/07: 17	11/08/07: 23	1
								12/08/07: 09	12/08/07: 15	2			
								23/09/07: 14	23/09/07: 20	1			
								27/09/07: 12	27/09/07: 14	1			
86	Vamsadhara	Kashinagar	Orissa	53.60	54.60	56.90	07/08/07: 09	27/06/07: 20	28/06/07: 06	1			
								29/06/07: 09	01/07/07: 09	3			
								06/08/07: 16	16/08/07: 16	11	06/08/07: 17	09/08/07: 03	2
											11/08/07: 18	12/08/07: 14	2
											12/08/07: 12	12/08/07: 20	1
											13/08/07: 20	14/08/07: 01	1
								10/09/07: 02	11/09/07: 03	2			
								23/09/07: 02	09/10/07: 00	17	23/09/07: 14	24/09/07: 00	1

Sl. No.	River	Station	State	Warning level in metres	Danger level in metres	Peak level in 2007		Flood period => warning level			Flood period => danger level		
						Level in metres	From	From	To	No.of days	From	To	No.of days
87	Mahanadi	Naraj	Orissa	25.41	26.41	25.82	09/08/07: 09	09/08/07: 07	09/08/07: 18	2			
								13/08/07: 10	13/08/07: 19	2			
								24/09/07: 18	25/09/07: 13	2			
88	Godavari	Kopergaon	Maharashtra	490.90	493.68	492.20	09/08/07: 16	03/07/07: 09	05/07/07: 07	3			
								09/08/07: 07	10/08/07: 13	3			
89	Godavari	Eturunagaram	Andhra Pradesh	73.29	75.79	74.84	09/08/07: 14	08/08/07: 09	11/08/07: 00	4			
90	Godavari	Dummagudam	Andhra Pradesh	53.00	55.00	54.70	10/08/07: 01	09/08/07: 02	11/08/07: 01	3			
91	Godavari	Bhadrachalam	Andhra Prades	45.72	48.77	48.98	10/08/07: 05	08/08/07: 20	11/08/07: 15	4	09/08/07: 22	10/08/07: 14	2
92	Godavari	Kunavaram	Andhra Pradesh	37.74	39.24	39.56	10/08/07: 19	09/08/07: 18	11/08/07: 16	3	10/08/07: 10	11/08/07: 04	2
93	Godavari	Dowlaiswaram	Andhra Pradesh	14.25	16.06	15.27	10/08/07: 23	09/08/07: 18	12/08/07: 09	3			
94	Indravati	Jagdalpur	Chhatisgarh	539.50	540.80	542.06	08/08/07: 12	29/06/07: 16	01/07/07: 13	3	30/06/07: 11	01/07/07: 02	2
								07/08/07: 06	09/08/07: 12	4	07/08/07: 14	08/08/07: 05	2
95	Tungbhadra	Mantralayam	Andhra Prades	310.0	312.0	314.2	19/09/07: 15	07/08/07: 10	15/08/07: 14	10	08/08/07: 11	12/08/07: 11	5
								18/09/07: 10	21/09/07: 06	4	19/09/07: 00	20/09/07: 09	2
96	Pennar	Nellore	Andhra Pradesh	15.91	17.28	18.46	30/10/07: 11	30/10/07: 11	30/10/07: 15	2			
97	Sabarmati	Ahmedabad Shubhash Bridge	Gujarat	44.09	45.34	45.65	10/07/07: 00	09/07/07: 20	10/07/07: 09	1	09/07/07: 22	10/07/07: 04	1
98	Mahi	Wanakbori	Gujarat	71.00	72.54	73.30	10/07/07: 01	09/07/07: 14	11/07/07: 21	3	09/07/07: 17	10/07/07: 07	1
								08/08/07: 18	09/08/07: 17	2	08/08/07: 21	09/08/07: 07	1
								29/08/07: 06	29/08/07: 19	2			

Annex-10A

Performance of Flood Forecasting Stations (Major Basinwise) in India during Flood Season 2005

Sl. No	Name of the Major River basin	Total no.of FF sites			No.of FF sites where no			Level Forecasts			Inflow Forecasts			Overall Forecasts		
		Total no	Level FF sites	Inflow FF sites	Total no	Level FF sites	Inflow FF sites	Total No.	Within limits	% of Accu-racy	Total No.	Within limits	% of Accu-racy	Total No.	Within limits	% of Accu-racy
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Ganga and its tributaries	0	76	10	27	25	2	1861	1792	96.29	139	136	97.84	2010	1938	96.42
2	Brahamputra and its tributaries	-87	27	0	3	3	0	1533	1481	96.61	0	0	0.00	1533	1481	96.61
3	Barak and its tributaries	-114	5	0	2	2	0	76	73	96.05	0	0	0.00	76	73	96.05
4	Eastern Rivel	-119	8	1	1	1	0	163	151	92.64	0	0	0.00	163	151	92.64
5	Mahanadi and its tributaries	-128	3	1	0	0	0	5	5	100.00	18	16	88.89	23	21	91.30
6	Godavari and its tributaries	-132	14	4	1	1	0	269	250	92.94	25	22	88.00	294	272	92.52
7	Krishna and its tributaries	-150	2	6	0	0	0	121	118	0.00	710	698	98.31	831	816	98.19
8	West Flowing rivers	-159	9	6	7	6	1	5718	5523	96.59	40	37	92.50	5758	5560	96.56
9	Southern rive	1	1	0	0	0	0	0	0	Not Applicable	0	0	Not Applicable	0	0	Not Applicable
	Total	-888	145	28	41	38	3	9746	9393	96.38	932	909	97.53	10678	10302	96.48

Annex-10B

Performance of Flood Forecasting Stations (Major Basinwise) in India during Flood Season 2006

Sl. No	Name of the Major River basin	Total no.of FF sites			No.of FF sites where no			Level Forecasts			Inflow Forecasts			Overall Forecasts		
		Total no	Level FF sites	Inflow FF sites	Total no	Level FF sites	Inflow FF sites	Total No.	Within limits	% of Accu-racy	Total No.	Within limits	% of Accu-racy	Total No.	Within limits	% of Accu-racy
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Ganga and its tributaries	87	77	10	27	25	2	1705	1650	96.77	438	431	98.40	2143	2081	97.11
2	Brahamputra and its tributaries	27	27	0	3	3	0	1690	1665	98.52	0	0	0.00	1690	1665	98.52
3	Barak and its tributaries	5	5	0	2	2	0	142	135	95.07	0	0	0.00	142	135	95.07
4	Eastern River	9	8	1	1	1	0	384	342	89.06	43	37	0.00	427	379	88.76
5	Mahanadi and its tributaries	4	3	1	0	0	0	54	46	85.19	57	53	92.98	111	99	89.19
6	Godavari and its tributaries	18	14	4	1	1	0	916	827	90.28	72	63	87.50	988	890	90.08
7	Krishna and its tributaries	9	3	6	0	0	0	58	51	87.93	731	724	99.04	789	775	98.23
8	West Flowing rivers	15	9	6	7	6	1	121	111	91.74	252	242	96.03	373	353	94.64
9	Southern rive	1	1	0	0	0	0	0	0	Not Applicable	0	0	Not Applicable	0	0	Not Applicable
	Total	175	147	28	41	38	3	5070	4827	95.21	1593	1550	97.30	6663	6377	95.71

Annex-10C

Performance of Flood Forecasting Stations (Major Basinwise) in India during Flood Season 2007

Sl. No	Name of the Major River basin	Total no.of FF sites			No.of FF sites where no forecast was required			Level Forecasts			Inflow Forecasts			Overall Forecasts		
		Total no	Level FF sites	Inflow FF sites	Total no	Level FF sites	Inflow FF sites	Total No.	Within limits	% of Accu-racy	Total No.	Within limits	% of Accu-racy	Total No.	Within limits	% of Accu-racy
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Ganga and its tributaries	87	77	10	31	30	1	2873	2799	97.42	534	526	98.5	3407	3325	97.69
2	Brahamputra and its tributaries	27	27	0	1	1	0	2788	2739	98.24	0	0		2788	2739	98.24
3	Barak and its tributaries	5	5	0	0	0	0	407	381	93.61	0	0		407	381	93.61
4	Eastern River	9	8	1	0	0	0	242	225	92.98	17	13	76.47	259	238	91.89
5	Mahanadi and its tributaries	4	3	1	2	2	0	6	6	100	100	97	97	106	103	97.17
6	Godavari and its tributaries	18	14	4	8	7	1	155	150	96.77	14	14	100	169	164	97.04
7	Krishna and its tributaries	9	3	6	2	2	0	27	25	92.59	843	811	96.2	870	836	96.09
8	West Flowing rivers	15	9	6	7	7	0	17	13	76.47	199	190	95.48	216	203	93.98
9	Southern rive	1	1	0	0	0	0	1	1	100	0	0		1	1	100
	Total	175	147	28	51	49	2	6516	6339	97.28	1707	1651	96.72	8223	7990	97.17

Annex-11A

Performance of Flood Forecasting Stations (Statewise) in India during Flood Season 2005

Sl. No	Name of the Major River basin	Total no.of FF sites			No.of FF sites where no			Level Forecasts			Inflow Forecasts			Overall Forecasts		
		Total no	Level FF sites	Inflow FF sites	Total no.	Level FF sites	Inflow FF sites	Total No.	Within limits	% of Accu-racy	Total No.	Within limits	% of Accu-racy	Total No.	Within limits	% of Accu-racy
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Andhra Pradesh	16	9	7	1	1	0	149	138	92.62	516	503	97.48	665	641	96.39
2	Assam	24	24	0	4	4	0	1843	1792	97.23	0	0	Not Applicable	1843	1792	97.23
3	Bihar	32	32	0	5	5	0	990	972	98.18	0	0	Not Applicable	990	972	98.18
4	Chattisgarh	1	1	0	0	0	0	19	17	89.47	0	0	Not Applicable	19	17	89.47
5	Gujarat	11	6	5	5	5	1	1	0	0.00	82	80	97.56	83	80	96.39
6	Karnataka	4	1	3	0	0	0	39	34	87.18	344	340	98.84	383	374	97.65
7	Maharashtra	8	6	2	0	0	0	219	206	94.06	66	62	93.94	285	268	94.04
8	Madhya Pradesh	3	2	1	1	0	1	10	10	100.00	0	0	Not Applicable	10	10	100.00
9	Orissa	12	11	1	1	1	0	165	154	93.33	65	63	96.92	230	217	94.35
10	Tripura	2	2	0	1	1	0	2	0	0.00	0	0	Not Applicable	2	0	0.00
11	Uttar Pradesh	35	34	1	14	14	0	672	638	94.94	80	73	91.25	752	711	94.55
12	Uttaranchal	3	3	0	1	1	0	48	38	79.17	0	0	Not Applicable	48	38	79.17
13	West Bengal	14	11	3	4	4	0	152	150	98.68	50	50	100.00	202	200	99.01
14	NCT, DELHI	2	2	0	1	1	0	14	13	92.86	0	0	Not Applicable	14	13	92.86
15	D.NH	1	1	0	1	1	0	0	0	Not Applicable	0	0	Not Applicable	0	0	Not Applicable
16	Haryana	1	0	1	1	0	1	0	0	Not Applicable	0	0	Not Applicable	0	0	Not Applicable
17	Jharkhand	4	0	4	0	0	0	0	0	Not Applicable	92	90	97.83	92	90	97.83
	Total	173	145	28		38	3	4323	4162	96.28	1295	1261	97.37	5618	5423	96.53

Annex-11B

Performance of Flood Forecasting Stations (Statewise) in India during Flood Season 2006

Sl. No	Name of the Major River basin	Total no.of FF sites			No.of FF sites where no			Level Forecasts			Inflow Forecasts			Overall Forecasts		
		Total no	Level FF sites	Inflow FF sites	Total no	Level FF sites	Inflow FF sites	Total No.	Within limits	% of Accu-racy	Total No.	Within limits	% of Accu-racy	Total No.	Within limits	% of Accu-racy
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Andhra Pradesh	16	9	7	1	1	0	573	512	89.35	491	476	96.95	1064	988	92.86
2	Assam	24	24	0	4	4	0	1786	1755	98.26	0	0	Not Applicable	1786	1755	98.26
3	Bihar	32	32	0	5	5	0	990	972	98.18	0	0	Not Applicable	990	972	98.18
4	Chattisgarh	1	1	0	0	0	0	72	69	95.83	0	0	Not Applicable	72	69	95.83
5	Gujarat	11	6	5	6	5	1	110	100	90.91	207	201	97.10	317	301	94.95
6	Karnataka	4	1	3	0	0	0	46	41	89.13	326	323	99.08	372	364	97.85
7	Maharashtra	9	7	2	0	0	0	283	256	90.46	74	66	89.19	357	322	90.20
8	Madhya Pradesh	3	2	1	1	0	1	11	11	100.00	8	7	87.50	19	18	94.74
9	Orissa	12	11	1	1	1	0	438	388	88.58	57	53	92.98	495	441	89.09
10	Tripura	2	2	0	1	1	0	4	4	100.00	0	0	Not Applicable	4	4	100.00
11	Uttar Pradesh	35	34	1	14	14	0	534	506	94.76	46	46	100.00	580	552	95.17
12	Uttaranchal	3	3	0	1	1	0	0	0	Not Applicable	0	0	Not Applicable	0	0	Not Applicable
13	West Bengal	14	11	3	4	4	0	164	154	93.90	155	154	99.35	319	308	96.55
14	NCT, DELHI	2	2	0	1	1	0	0	0	Not Applicable	0	0	Not Applicable	0	0	Not Applicable
15	D,NH	1	1	0	1	1	0	0	0	Not Applicable	0	0	Not Applicable	0	0	Not Applicable
16	Haryana	1	0	1	1	0	1	0	0	Not Applicable	0	0	Not Applicable	0	0	Not Applicable
17	Jharkhand	5	1	4	0	0	0	59	59	100.00	229	224	97.82	288	283	98.26
	Total	175	147	28	41	38	3	5070	4827	95.21	1593	1550	97.30	6663	6377	95.71

Annex-11C

Performance of Flood Forecasting Stations (Statewise) in India during Flood Season 2007

Sl. No	Name of the Major River basin	Total no.of FF sites			No.of FF sites where no forecast was required			Level Forecasts			Inflow Forecasts			Overall Forecasts		
		Total no	Level FF sites	Inflow FF sites	Total no	Level FF sites	Inflow FF sites	Total No.	Within limits	% of Accu-racy	Total No.	Within limits	% of Accu-racy	Total No.	Within limits	% of Accu-racy
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Andhra Pradesh	16	9	7	3	2	1	124	119	95.97	534	512	95.88	658	631	95.90
2	Assam	24	24	0	1	1	0	2917	2872	98.46	0	0	Not Applicable	2917	2872	Not Applicable
3	Bihar	32	32	0	7	7	0	1912	1885	98.59	0	0	Not Applicable	1912	1885	Not Applicable
4	Chattisgarh	1	1	0	0	0	0	33	32	96.97	0	0	Not Applicable	33	32	Not Applicable
5	Gujarat	11	6	5	4	4	0	17	13	76.47	98	95	96.94	115	108	93.91
6	Karnataka	4	1	3	1	1	0	0	0	Not Applicable	334	320	95.81	334	320	95.81
7	Maharashtra	9	7	2	6	6	0	26	25	96.15	107	101	94.39	133	126	94.74
8	Madhya Pradesh	3	2	1	2	2	0	0	0	Not Applicable	8	3	37.50	8	3	37.50
9	Orissa	12	11	1	2	2	0	248	231	93.15	100	97	97.00	348	328	94.25
10	Tripura	2	2	0	0	0	0	69	45	65.22	0	0	Not Applicable	69	45	Not Applicable
11	Uttar Pradesh	35	34	1	21	21	0	642	608	94.70	68	67	98.53	710	675	95.07
12	Uttaranchal	3	3	0	1	1	0	10	7	70.00	0	0	Not Applicable	10	7	Not Applicable
13	West Bengal	14	11	3	0	0	0	426	411	96.48	179	178	99.44	605	589	97.36
14	NCT, DELHI	2	2	0	1	1	0	4	3	75.00	0	0	Not Applicable	4	3	Not Applicable
15	D,NH	1	1	0	1	1	0	0	0	Not Applicable	0	0	Not Applicable	0	0	Not Applicable
16	Haryana	1	0	1	1	0	1	0	0	Not Applicable	0	0	Not Applicable	0	0	Not Applicable
17	Jharkhand	5	1	4	0	0	0	88	88	100.00	279	278	99.64	367	366	99.73
	Total	175	147	28	51	49	2	6516	6339	97.28	1707	1651	96.72	8223	7990	97.17

Annex- 12

FLOOD FORECASTING PERFORMANCE FROM 1986 TO 2007									
Year	No.of Level Forecasts issued			No.of Inflow Forecasts issued			Total No.of Forecasts issued		
	Total	Within +/- 15 cm of deviation from actual	Percentage of accuracy	Total	Within +/- 20% cumec of deviation from actual	Percentage of accuracy	Total	Within +/- 15 cm or +/- 20% cumec of deviation from actual	Percentage of accuracy
1986	3956	3635	91.89	831	744	89.53	4787	4379	91.48
1987	4793	4560	95.14	1021	965	94.52	5814	5525	95.03
1988	5472	5131	93.77	1510	1425	94.37	6982	6556	93.90
1989	4323	4081	94.40	1213	1181	97.36	5536	5262	95.05
1990	6578	6124	93.10	1988	1947	97.94	8566	8071	94.22
1991	5234	4890	93.43	1369	1335	97.52	6603	6225	94.28
1992	3588	3418	95.26	1176	1149	97.70	4764	4567	95.86
1993	5226	5066	96.94	1417	1372	96.82	6643	6438	96.91
1994	5472	5158	94.26	2004	1929	96.26	7476	7087	94.80
1995	5393	5201	96.44	1024	988	96.48	6417	6189	96.45
1996	5104	4945	96.88	1363	1321	96.92	6467	6266	96.89
1997	4059	3895	95.96	1406	1368	97.30	5465	5263	96.30
1998	6401	5264	82.24	1542	1511	97.99	7943	6775	85.30
1999	5550	5428	97.80	1505	1398	92.89	7055	6826	96.75
2000	5622	5504	97.90	821	747	90.99	6443	6251	97.02
2001	4606	4533	98.42	857	809	94.40	5463	5342	97.79
2002	3618	3549	98.09	623	602	96.63	4241	4151	97.88
2003	5989	5789	96.66	611	586	95.91	6600	6375	96.59
2004	4184	4042	96.61	705	654	92.77	4889	4696	96.05
2005	4323	4162	96.28	1295	1261	97.37	5618	5423	96.53
2006	5070	4827	95.21	1593	1550	97.30	6663	6377	95.71
2007	6516	6339	97.28	1707	1651	96.72	8223	7990	97.17
Cumul.	111077	105541	95.02	27581	26493	96.06	138658	132034	95.22

Statement-4.1

Operational, Level and Inflow Forecasting Sites in Ganga Basin

Sl. No	River	Operational Flood Forecasting Sites						Level Forecasting sites						Inflow Forecasting sites					
		Total	F/C necessary	Total	F/C necessary	Total	F/C necessary	Total	F/C necessary	Total	F/C necessary	Total	F/C necessary	Total	F/C necessary	Total	F/C necessary	Total	F/C necessary
		2005		2006		2007		2005		2006		2007		2005		2006		2007	
al	Ganga Basin:																		
1	Ganga	21	4	22	4	22	22	20	4	21	10	21	13	1	0	1	1	1	1
2	Alaknanda	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0
3	Ramganga	2	0	2	0	2	2	2	0	2	1	2	1	0	0	0	0	0	0
4	Yamuna	11	7	11	7	11	11	10	6	10	6	10	2	1	1	1	0	1	0
5	Sahibi	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0
6	Betwa	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0
7	Ken	1	0	1	0	1	1	1	0	1	0	1	0	0	0	0	0	0	0
8	Gomati	2	2	2	2	2	2	2	2	2	0	2	0	0	0	0	0	0	0
9	Sai	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0
10	Ghaghra	6	1	6	1	6	6	6	1	6	5	6	5	0	0	0	0	0	0
11	Rapti	3	0	3	0	3	3	3	0	3	2	3	3	0	0	0	0	0	0
12	Sone	3	1	3	1	3	3	3	1	3	3	3	0	0	0	0	0	0	0
13	PunPun	1	0	1	0	1	1	1	0	1	1	1	1	0	0	0	0	0	0
14	Gandak	4	2	4	2	4	3	4	2	4	2	3	3	0	0	0	0	0	0
15	Burhi Gand	5	0	5	0	5	5	5	0	5	5	5	5	0	0	0	0	0	0
16	Bagmati	2	0	2	0	2	2	2	0	2	2	2	2	0	0	0	0	0	0
17	Adhwara G	2	0	2	0	2	2	2	0	2	2	2	2	0	0	0	0	0	0
18	Kamla Bal	1	0	1	0	1	1	1	0	1	1	1	1	0	0	0	0	0	0
19	Kosi	3	0	3	0	3	2	3	0	3	3	2	3	0	0	0	0	0	0
20	Mahanand	2	0	2	0	2	2	2	0	2	2	2	2	0	0	0	0	0	0
21	Mayurakshi	3	1	3	1	3	3	1	1	1	1	3	1	2	0	2	2	2	2
22	Ajoy	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
23	Damodar	3	0	3	0	3	5	0	0	0	0	2	0	3	0	3	3	3	3
24	Barakar	1	0	1	0	1	2	0	0	0	0	1	0	1	0	1	1	1	1
25	Mundeshw	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
26	Kangsabat	2	1	2	1	2	3	1	1	1	1	2	1	1	0	1	1	1	1
27	Chambal	1	1	1	1	1	2	0	0	0	0	1	0	1	1	1	1	1	1
	Total	86	27	87	27	87	92	76	26	77	50	82	47	10	2	10	9	10	9

Statement- 4.2

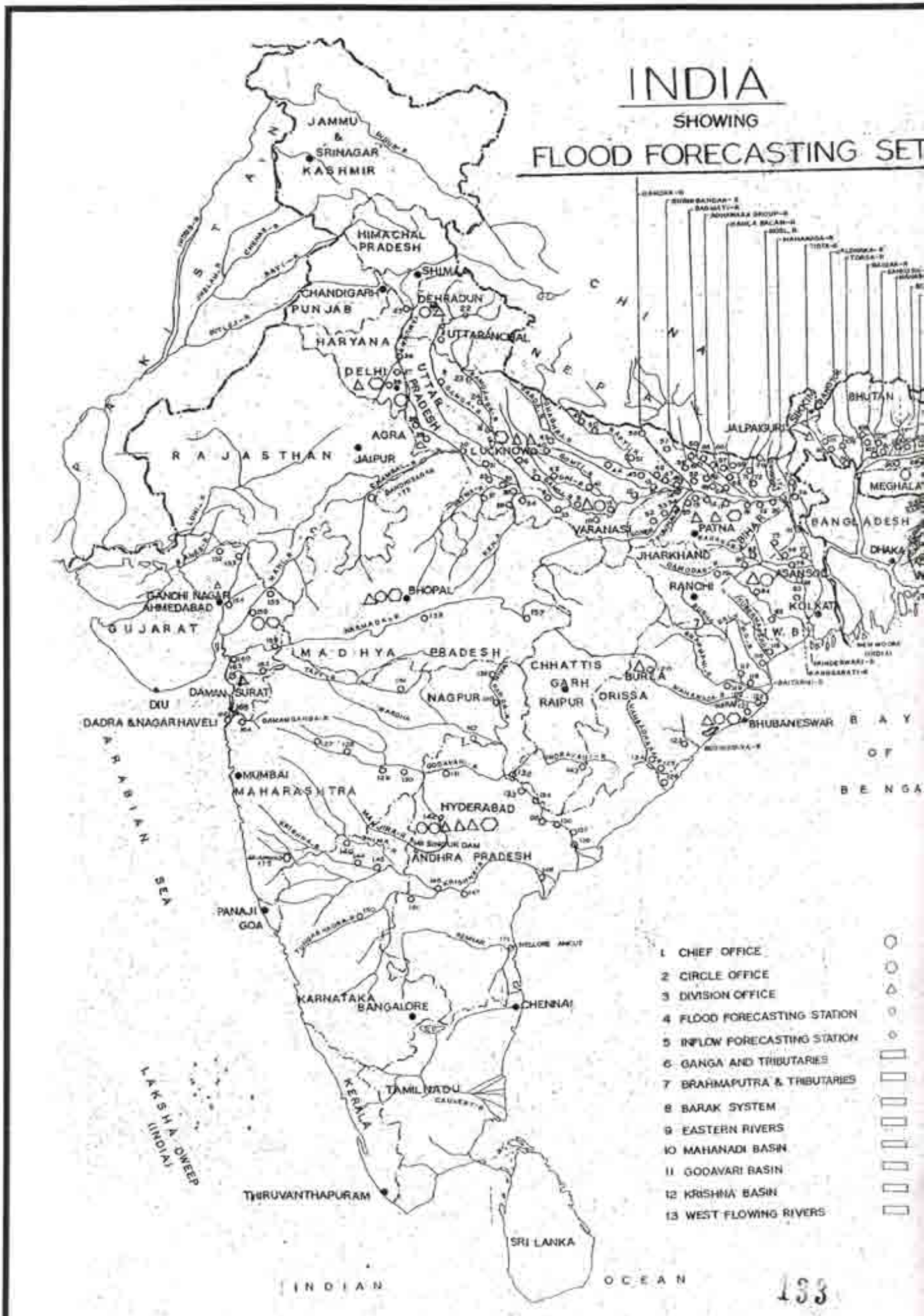
Operational, Level and Inflow Forecasting Sites in Brahmaputra Basin

S. No.	Brahamaputra basin	Operational Flood Forecasting Sites		Level Flood Forecasting site		Inflow Flood Forecas	
		Total	F/C necessary	Total	F/C necessary	Total	F/C necessary
		2005		2006		2007	
1	Brahmaputra	6	0	6	0	6	0
2	Burhi Dihing	2	1	2	1	2	1
3	Desang	1	0	1	0	1	0
4	Dikhow	1	0	1	0	1	0
5	Subansiri	1	0	1	0	1	0
6	Dhansiri	2	0	2	0	2	0
7	Jiabharali	1	0	1	0	1	0
8	Kopilli	2	2	2	2	2	2
9	Puthimari	1	0	1	0	1	0
10	Beki	1	0	1	0	1	0
11	Pagladiya	1	0	1	0	1	0
12	Manas	1	0	1	0	1	0
13	Sankosh	1	0	1	0	1	0
14	Raidak-1	1	0	1	0	1	0
15	Torasa	1	0	1	0	1	0
16	Jaldhaka	2	0	2	0	2	0
17	Tista	2	0	2	0	2	0
	Total	**27**	**3**	**27**	**3**	**27**	**3**

Statement-4.3

Operational, Level and Inflow Forecasting Sites in Remaining River System Basin

Sl.No	River	Operational Flood Forecaeting Sites						Level Forecasting sites						Inflow Forecasting sites					
		Total	No F/C necessary	Total	No F/C necessary	Total	No F/C necessary	Total	No F/C necessary	Total	No F/C necessary	Total	No F/C necessary	Total	No F/C necessary	Total	No F/C Necessary	Total	No F/C necessary
		2005		2006		2007		2005		2006		2007		2005		2006		2007	
a)	**Eastern Rivers Basin (excl.Mahanadi)**																		
1	Subernare	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
2	Burhabala	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0
3	Baitarni	2	0	2	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0
4	Brahmani	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0
5	Rushikuluy	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0
6	Vamsadha	3	0	3	0	3	0	2	0	2	0	2	0	0	0	0	0	0	0
	Total:	9	1	9	1	9	1	8	1	8	1	8	1	1	0	1	0	1	0
b)	**Mahanadi Basin: (Exclusive)**																		
1	Mahanadi	3	0	3	0	3	0	3	0	3	0	3	0	1	0	1	0	1	0
c)	**Godavari Basin:**																		
1	Godavari	12	1	12	1	12	1	10	1	10	1	10	1	2	0	2	0	2	0
2	Wardha	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0
3	Wainganga	2	0	2	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0
4	Manjira	2	0	2	0	2	0	0	0	0	0	0	0	2	0	2	0	2	0
5	Indravati	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0
	Total:	18	1	18	1	18	1	14	1	14	1	14	1	4	0	4	0	4	0
d)	**Krishna basin:**																		
1	Krishna	5	0	5	0	5	0	0	0	0	0	0	0	5	0	5	0	5	0
2	Bhima	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0


INDIA
SHOWING
FLOOD FORECASTING SET
JAMMU & KASHMIR
SRINAGAR
HIMACHAL PRADESH
SHIMLA
CHANDIGARH
PUNJAB
DEHRADUN
UTTARANCHAL
HARYANA
DELHI
UTTAR PRADESH
AGRA
JAIPUR
RAJASTHAN
LUCKNOW
BHUTAN
JALPAIGURI
MEGHALAYA
BANGLADESH
VARANASI
PATNA
BIHAR
JHARKHAND
DHAKA
RANCHI
ASANSOL
KOLKATA
W. B
GANDHI NAGAR
AHMEDABAD
GUJARAT
BHOPAL
MADHYA PRADESH
CHHATTISGARH
BURLA
NAGPUR
RAIPUR
ORISSA
DAMAN
SURAT
DIU
DADRA & NAGAR HAVELI
BHUBANESWAR
BAY OF BENGAL
MUMBAI
MAHARASHTRA
HYDERABAD
ANDHRA PRADESH
ARABIAN SEA
PANAJI
GOA
KARNATAKA
BANGALORE
CHENNAI
TAMIL NADU
KERALA
LAKSHADWEEP (INDIA)
THIRUVANTHAPURAM
SRI LANKA
INDIAN OCEAN
1 CHIEF OFFICE
2 CIRCLE OFFICE
3 DIVISION OFFICE
4 FLOOD FORECASTING STATION
5 INFLOW FORECASTING STATION
6 GANGA AND TRIBUTARIES
7 BRAHMAPUTRA & TRIBUTARIES
8 BARAK SYSTEM
9 EASTERN RIVERS
10 MAHANADI BASIN
11 GODAVARI BASIN
12 KRISHNA BASIN
13 WEST FLOWING RIVERS

...G SET-UP IN 2005-07

S.NO.	FORECASTING STATION	RIVER	SYSTEM
1	RISHIKESH	GANGA	GANGA SYSTEM
2	HARIDWAR		
3	NARORA BARRAGE		
4	KANNAUJ		
5	ANKINGHAT		
6	KANPUR		
7	DALMAU		
8	PHAPHAMAU		
9	CHHATNAG (ALLAHABAD)		
10	MIRZAPUR		
11	VARANASI		
12	GAZIPUR		
13	BUXAR		
14	BALLIA		
15	PATNA (DIGHAGHAT)		
16	PATNA (GANDHIGHAT)		
17	HATHIDAH		
18	MUNGER		
19	BHAGALPUR		
20	COLGONG/KAHALGAON		
21	FARAKKA		
22	SRINAGAR	ALAKNANDA	
23	MORADABAD	RAMGANGA	
24	BAREILLY	RAMGANGA	
25	TAJEWALA WEIR	YAMUNA	
26	MAWI		
27	DELHI RLY BRIDGE		
28	MATHURA		
29	AGRA		
30	ETAWA		
31	AURAIYA		
32	KALPI		
33	HAMIRPUR		
34	CHILLAGHAT		
35	NAIN		
36	DHANSA REGULATOR	SAHIBI	
37	MOHANA	BETWA	
38	SHAHIJINA		
39	BANDA	KEN	
40	LUCKNOW	GOMTI	
41	JAUNPUR	GOMTI	
42	RAE BARELLY	SAI	
43	ELGIN BRIDGE	GHAGRA	
44	AYODHYA		
45	TURTIPAR		
46	DARAULI		
47	GANGPUR SISWAN		
48	CHHAPRA		
49	BALRAMPUR	RAPTI	
50	BANSI		
51	GORAKHPUR (BIRDGHAT)		
52	INDERPURI	SONE	
53	KOELWAR		
54	MANER		
55	SRIPALPUR	PUNPUN	
56	KHADDA	GANDAK	
57	CHATIA		
58	REWAGHAT		
59	HAZIPUR		
60	LALBEGIAGHAT	BURHI GANDAK	
61	MUZAFFARPUR (SIKANDARPUR)		
62	SAMASTIPUR		
63	ROSERA		
64	KHAGARIA		
65	BENIBAD	BAGMATI	
66	HAYAGHAT		
67	KAMTAUL	ADHWARA GROUP	
68	EKMIGHAT		
69	JHANJHARPUR	KAMLA BALAN	
70	BASUA	KOSI	
71	BALTARA		
72	KURSELA		
73	DHENGRAGHAT	MAHANANDA	
74	JHAWA		
* 75	MASSANJORE DAM	MAYURAKSHI	
* 76	TILPARA BARRAGE		
77	NARAYANPUR		
78	GHEROPARA	AJOY	
* 79	TENUGHAT DAM	DAMODAR	
* 80	PANCHET DAM		
* 81	DURGAPUR BARRAGE		
* 82	MAITHON DAM	BARAKAR	
83	HARINKHOLA	MUNDESHWARI	
* 84	KANGSABATI DAM	KANGSABATI	G.S.
85	MOHANPUR	KANGSABATI	
86	DIBRUGARH	BRAHMAPUTRA	BRAHMAPUTRA SYSTEM
87	NEAMATIGHAT		
88	TEZPUR		
89	GUWAHATI		
90	GOALPARA		
91	DHUBRI		
92	NAHARKATIA	BURHI-DEHING	
93	KHOWANG		
94	NANGLAMORAGHAT	DESANG	
95	SIVSAGAR	DIKHOW	
96	BADATIGHAT	SUBANSIRI	
97	GOLAGHAT	DHANSIRI	
98	NUMALIGARH		
99	N.T.ROAD CROSSING	JIABHARALI	
100	KAMPUR	KOPILI	
101	DHARAMTUL		
102	N.H. CROSSING	PUTHIMARI	
103	ROAD BRIDGE	BEKI	
104	N.T.ROAD CROSSING	PAGLADIYA	
105	N.H. CROSSING	MANAS	
106	GOLAKGANJ		
107	TUFANGANJ	RAIDAK	
108	GHUGHUMARI	TORSA	
109	N.H.31 ROAD BRIDGE	JALDHAKA	
110	MATHABHANGA		
111	DOMOHANI RD. BRIDGE	TEESTA	
112	MEKHLIGANJ		
113	SILCHAR (ANNAPURNAGHAT)	BARAK	BARAK SYSTEM
114	MATIZURI	KATAKHAL	
115	RAJGHAT	SUBERNAREKHA	EASTERN RIVERS SYSTEM
116	N.H.5 RD. BRIDGE	BURHABALANG	
117	ANANDPUR	BAITARNI	
118	AKHUAPADA		
119	JENAPUR EXP. WAY	BRAHMANI	
120	HIRAKUD DAM	MAHANADI	
121	ALLPINGAL DEVI		
122	NIMAPARA		
123	PURUSHOTTAMPUR	RUSHIKULYA	
124	GUNUPUR	VAMSADHARA	
125	KASHINAGAR		
126	GOTTA BARRAGE		
127	KOPERGAON	GODAVARI	GODAVARI SYSTEM
128	JAIKWADI		
129	GANGAKHED		
130	NANDED		
131	SRIRAM SAGAR		
132	KALESHWARAM		
133	ETURUNAGARAM		
134	DUMMAGUDEM		
135	BHADRACHALAM		
136	KUNAVARAM		
137	RAJAHMUNDRY		
138	DOWLAISWARAM		
139	BHANDRA	WAINGANGA	
140	PAUNI		
* 141	SINGUR DAM	MANJIRA	
* 142	NIZAMSAGAR DAM		
143	JAGDALPUR	INDRAVATI	
* 144	ALAMATI DAM	KRISHNA	KRISHNA SYSTEM
* 145	NARAYANPUR DAM		
* 146	PRIYADARSHINI (JURALA PROJECT)		
* 147	SRISAILAM DAM		
* 148	PRAKASHAM BARRAGE (VIJAYAWADA)		
149	DEONGAON	BHIMA	
* 150	TUNGBHADRA DAM	TUNGBHADRA	
151	MANTRALAYAM		
* 152	DANTIWADA DAM	W. BANAS	WEST FLOWING RIVERS SYSTEM
* 153	DHAROI DAM	SABARMATI	
154	AHMEDABAD		
* 155	KADANA DAM	MAHI	
156	WANAKBORI		
157	MANDLA	NARMADA	
158	HOSHANGABAD		
159	GARUDESHWAR		
160	BHARUCH		
* 161	HATHNUR DAM	TAPI	
* 162	UKAI DAM		
163	SURAT		
* 164	MADHUBAN DAM	DAMANGANGA	
165	VAPI TOWN		
166	DAMAN		

* INFLOW FORECASTING STATIONS

LEVEL FORECASTING STATIONS

S.NO.	FORECASTING STATION	RIVER
167	BALHARSHAH	WARDHA
168	KARIMGANJ	KUSHIYARA
169	SONAMURA	GUMTI
170	KAILASHAHAR	MANU
171	NELLORE	PENNAR
172	NARAJ	MAHANADI
173	GANDHISAGAR	CHAMBAL
174	SAHIBGANJ	GANGA
175	ARJUNWAD	KRISHNA

GOVT. OF INDIA
CENTRAL WATER COMMISSION
F. F. M. DTE
(HYDROMET DIVISION)

DRG.NO. FFM/HMD/120/2009/01

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