



Central Water Commission
Upper Ganga Basin Organisation, Lucknow
Daily Flood Situation Report Cum Advisories
Date: 12 AUGUST, 2020

FSR No.51

Dated 12-08-2020

1. Weather forecast by IMD

I. SYNOPTIC SITUATION:

- ◆ The monsoon trough at mean sea level now passes through Ferozpur, Kaithal, Moradabad, Gonda, Gaya, Shantiniketan, Canning and thence south-eastwards to Northeast Bay of Bengal.
- ◆ A Low Pressure Area is likely to form over Northwest Bay of Bengal & neighbourhood by tomorrow.
- ◆ The cyclonic circulation over South Pakistan & adjoining West Rajasthan persists and now seen at 2.1 km above mean sea level.
- ◆ The trough runs from Southwest Uttar Pradesh to South Chhattisgarh across East Madhya Pradesh between 1.5 km & 2.1 km above mean seal level has become less marked.
- ◆ The cyclonic circulation over Northeast Rajasthan & neighbourhood extending upto 1.5 km above mean sea level has become less marked.

II. a) DETERMINISTIC FORECAST (QPF):

Sr. No.	BASIN NAME	SUBBASIN CODE/NAME	QPF (mm)		
			Day-1	Day-2	Day-3
1	Alaknanda	Alaknanda	0.1-10	0.1-10	0.1-10
2	Bhagirathi	Bhagirathi	0.1-10	0.1-10	0.1-10
3	Ganga	Chhatnag to Mirzapur	11-25	0.1-10	0.1-10
		Narora to Phaphamau	11-25	11-25	0.1-10
		Phaphamau to Ballia	26-50	11-25	11-25
		Gomti	11-25	26-50	0.1-10
		Sai	26-50	11-25	11-25
		Upper Ganga	11-25	11-25	0.1-10
4	Ghaghra	Lower Ghaghra	26-50	11-25	11-25
		Middle Ghaghra	26-50	26-50	11-25
		Upper Ghaghra	11-25	11-25	0.1-10
5	Ramganga	Ramganga	26-50	26-50	11-25
6	Rapti	Rapti	11-25	11-25	0.1-10
7.	Sharda	Sharda	11-25	26-50	0.1-10

II (b) DETERMINISTIC FORECAST (DISTRIBUTION)

	BASIN NAME	SUBBASIN CODE/NAME	INTENSITY (I) & SPATIAL DISTRIBUTION (D)					
			Day-1		Day-2		Day-3	
			I	D	I	D	I	D
1	Alaknanda	Alaknanda	M	WS	M	WS	M	FWS
2	Bhagirathi	Bhagirathi	M	WS	M	WS	M	FWS
3	Ganga	Chhatnag to Mirzapur	M	WS	M	WS	M	WS
		Narora to Phaphamau	M	WS	M	WS	M	WS
		Phaphamau to Ballia	M	WS	M	WS	M	WS
		Gomti	M	WS	M	WS	M	WS
		Sai	M	WS	M	WS	M	WS
		Upper Ganga	M	WS	M	WS	M	WS
4	Ghaghra	Lower Ghaghra	M	WS	M	WS	M	WS
		Middle Ghaghra	M	WS	M	WS	M	WS
		Upper Ghaghra	M	WS	M	WS	M	WS
5	Ramganga	Ramganga	M	WS	M	WS	M	WS
6	Rapti	Rapti	M	WS	M	WS	M	WS
7.	Sharda	Sharda	M	WS	M	WS	M	WS

QPF in Ranges (mm)	UNLISTED	0	0.1-10	11-25	26-50	51-100	>100
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III. HEAVY RAINFALL WARNING:

NAME OF BASIN	NAME OF SUB- BASIN	Day-1		Day-2		Day-3	
		I	D	I	D	I	D
Alaknanda	Alaknanda	H	ISOL	H	ISOL		
Bhagirathi	Bhagirathi	H	ISOL	H	ISOL		
Ganga	Chhatnag to Mirzapur			H	ISOL		
	Narora to Phaphamau	H	ISOL	H	ISOL	H	ISOL
	Phaphamau to Ballia	H	ISOL	H	ISOL	H	ISOL
	Gomti	H	ISOL	H	ISOL	H	ISOL
	Sai	H	ISOL	H	ISOL	H	ISOL
	Upper Ganga	H	ISOL	H	ISOL		
Ghaghra	Lower Ghaghra	H	ISOL	H	ISOL	H	ISOL
	Middle Ghaghra	H	ISOL	H	ISOL	H	ISOL
	Upper Ghaghra	H	ISOL	H	ISOL	H	ISOL
Ramganga	Ramganga	H	ISOL	H	ISOL	H	ISOL
Rapti	Rapti	H	ISOL	H	ISOL	H	ISOL
Sharda	Sharda	H	ISOL	H	ISOL	H	ISOL

Spatial Distribution of Rainfall		
DRY	Dry	No Station reported rainfall
ISOL	One or two Places	25% or less number of stations recorded rainfall 2.5 mm
SCT	At a few Places	26%-50% number of stations recorded rainfall 2.5 mm
FWS	At many Places	51%-75% number of stations recorded rainfall 2.5 mm
WS	At most places	76%-100% number of stations recorded rainfall 2.5 mm

Intensity of Rainfall					
MDry	NIL	0 cm	VL	Very Light Rainfall	Trace
L	Light Rainfall	Upto 1 cm	M	Moderate rainfall	02-06 cm
H	Heavy rainfall	07-11 cm	VH	Very Heavy rainfall	12-20 cm
EH	Extremely Heavy rainfall	21 cm or More			
ExH	Exceptionally Heavy Rainfall	When the amount is a value near about the highest recorded rainfall at or near the station for the month or season. However, this term will be used only when the actual rainfall amount exceeds 12 cm			

IV. PROBABILISTIC FORECAST

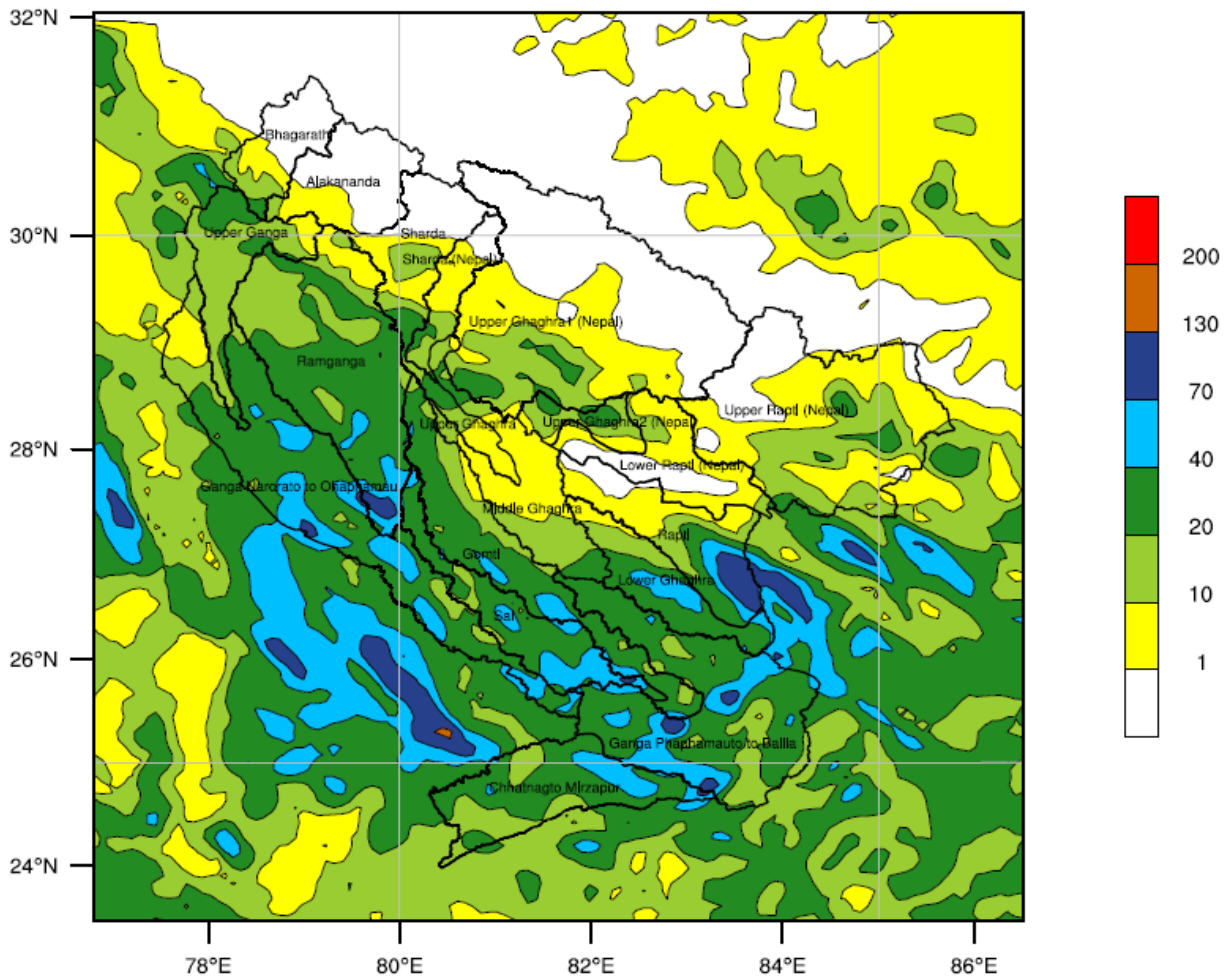
S. No.	BASIN NAME	SUBBASIN CODE/NAME	Day-1						Day-2						Day-3					
			0 mm	0.1-10 mm	11-25 mm	26-50 mm	51-100 mm	>100 mm	0 mm	0.1-10 mm	11-25 mm	26-50 mm	51-100 mm	>100 mm	0 mm	0.1-10 mm	11-25 mm	26-50 mm	51-100 mm	>100 mm
1	Alaknanda	Alaknanda		75-100						75-100						75-100				
2	Bhagirathi	Bhagirathi		75-100						75-100						75-100				
3	Ganga	Chhatnag to Mirzapur		25-50	50-75					50-75	25-50					50-75	25-50			
		Narora to Phaphamau			75-100						75-100					50-75	25-50			
		Phaphamau to Ballia			25-50	50-75					75-100						75-100			
		Gomti			50-75	25-50					25-50	50-75					25-50	50-75		
		Sai			25-50	50-75					50-75	25-50					50-75	25-50		
		Upper Ganga			75-100						75-100					50-75	25-50			
4	Ghaghra	Lower Ghaghra			25-50	50-75					50-75	25-50					75-100			
		Middle Ghaghra			25-50	50-75					25-50	50-75					75-100			
		Upper Ghaghra		25-50	50-75					25-50	50-75					75-100				
5	Ramganga	Ramganga			25-50	50-75					25-50	50-75					75-100			
6	Rapti	Rapti			75-100						75-100					50-75	25-50			
7.	Sharda	Sharda			50-75	25-50					25-50	50-75				50-75	25-50			

Probability of occurrence (%)	0-5	5-25	25-50	50-75	75-100
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Init: 2020-08-12_00:00:00
 Vald: 2020-08-13_03:00:00

FLOOD MET OFFICE LUCKNOW

IMD WRF Rainfall (mm) Forecast(24hr)



Sub basin wise Average Rainfall Estimation

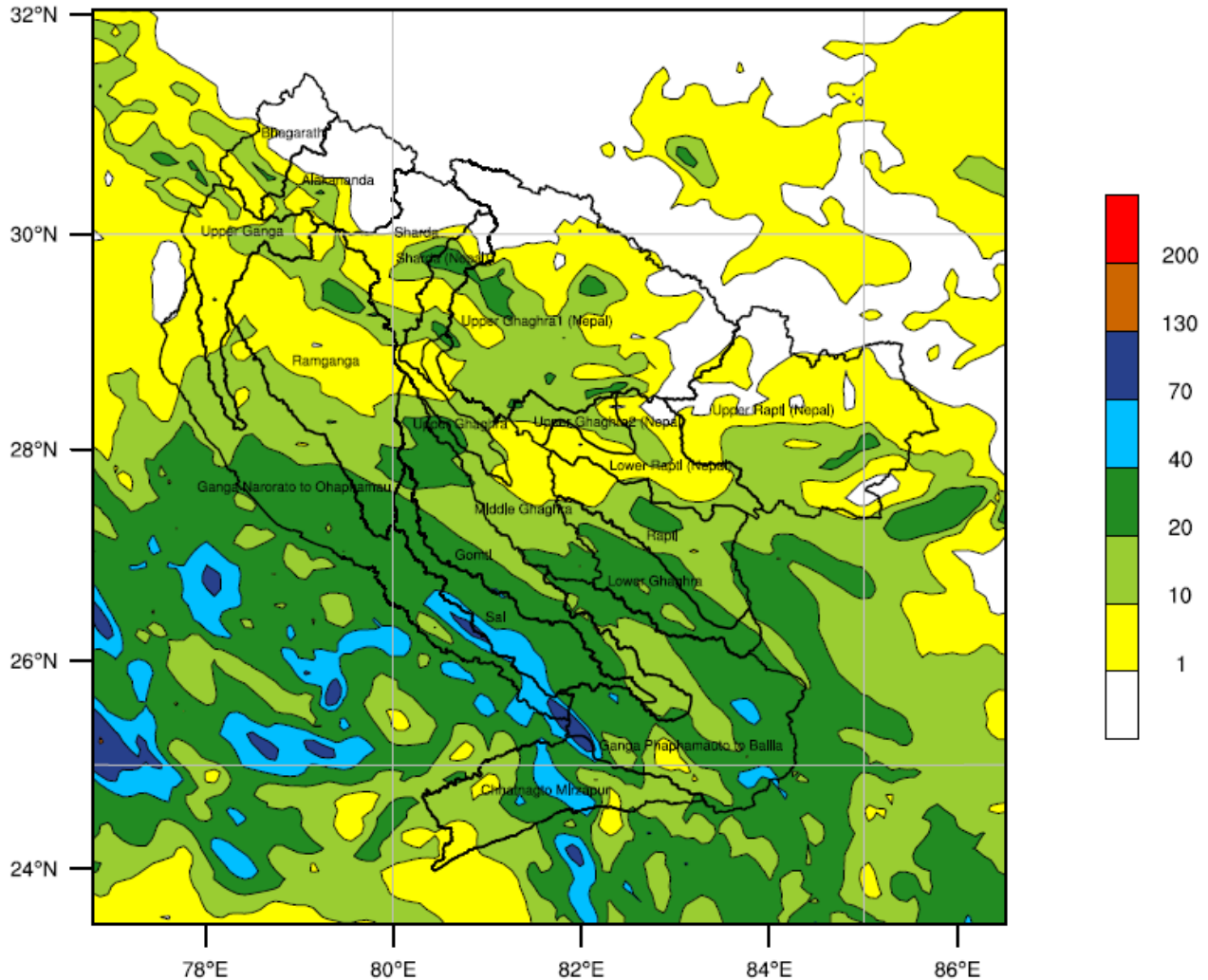
Alaknanda =	1 mm	Rapti =	25 mm
Bhaglathi =	5 mm	Sai =	35 mm
Chhatnagto Mirzapur =	28 mm	Sharda =	8 mm
Ganga Narorato Ohaphamau =	31 mm	Sharda (Nepal) =	8 mm
Ganga Phaphamauto Balia =	32 mm	Upper Ganga =	17 mm
Gomti =	27 mm	Upper Ghaghra =	5 mm
Lower Ghaghara =	29 mm	Upper Ghaghra1 (Nepal) =	15 mm
Lower Rapti (Nepal) =	4 mm	Upper Ghaghra2 (Nepal) =	11 mm
Middle Ghaghara =	12 mm	Upper Rapti (Nepal) =	7 mm
Ramganga =	25 mm		

OUTPUT FROM WRF V3.6.1 MODEL
 WE = 1001 ; SN = 945 ; Levels = 45 ; Dis = 9km ; Phys Opt = 16 ; PBL Opt = 2 ; Cu Opt = 5

Init: 2020-08-12_00:00:00
Valid: 2020-08-14_03:00:00

FLOOD MET OFFICE LUCKNOW

IMD WRF Rainfall (mm) Forecast(48hr)



Sub basin wise Average Rainfall Estimation

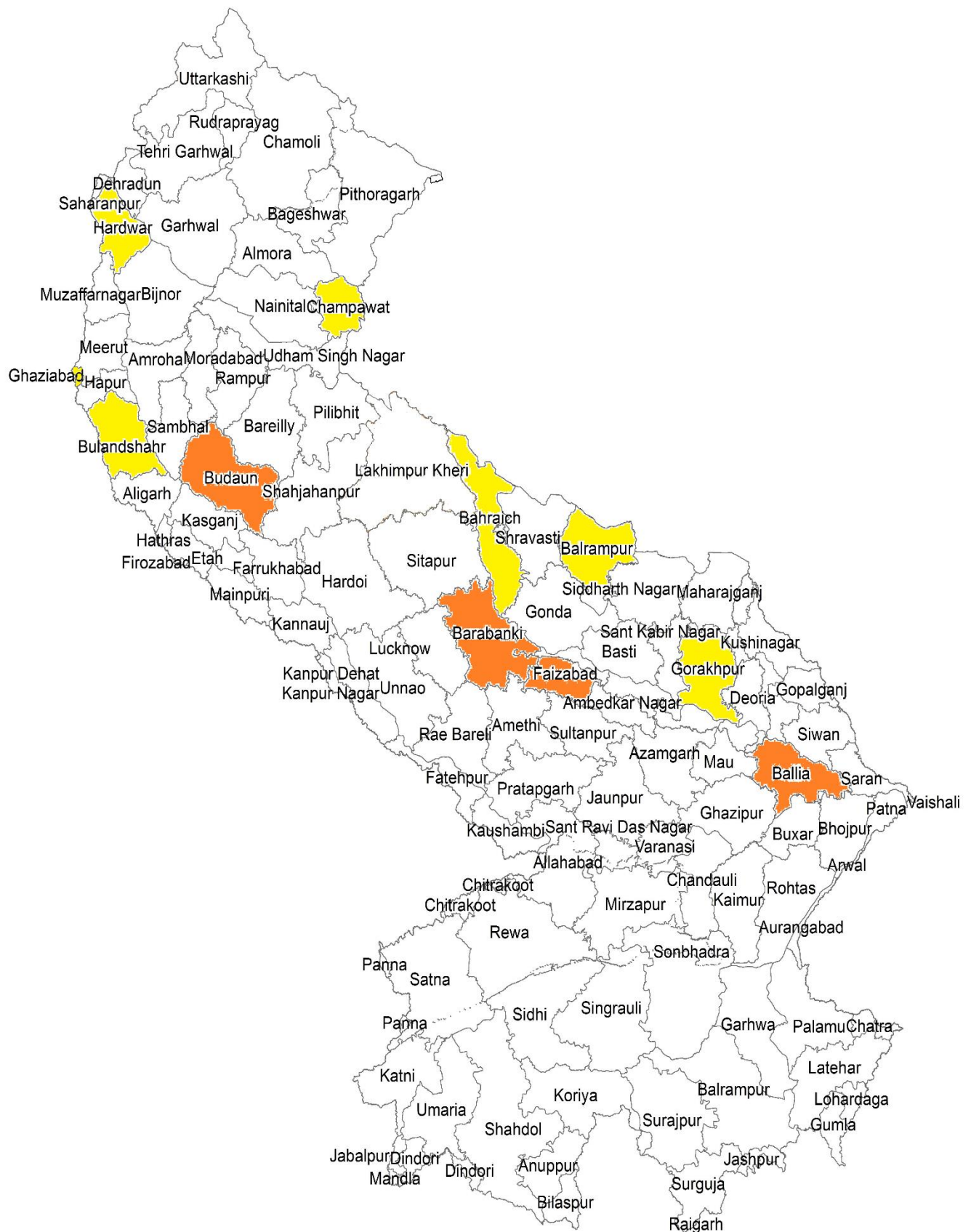
Alaknanda = 3 mm	Rapti = 16 mm
Bhagirathi = 5 mm	Sai = 34 mm
Chhatnagto Mirzapur = 23 mm	Sharda = 10 mm
Ganga Narorato Ohaphamau = 23 mm	Sharda (Nepal) = 7 mm
Ganga Phaphamauto Ballia = 26 mm	Upper Ganga = 9 mm
Gomti = 22 mm	Upper Ghaghra = 8 mm
Lower Ghaghara = 23 mm	Upper Ghaghra1 (Nepal) = 11 mm
Lower Rapti (Nepal) = 8 mm	Upper Ghaghra2 (Nepal) = 10 mm
Middle Ghaghara = 16 mm	Upper Rapti (Nepal) = 6 mm
Ramganga = 12 mm	

OUTPUT FROM WRF V3.6.1 MODEL

WE = 1001 ; SN = 945 ; Levels = 45 ; Dls = 9km ; Phys Opt = 16 ; PBL Opt = 2 ; Cu Opt = 5

2. Summary of flood situation as per CWC flood forecasting network

Flood Situation on 12 AUGUST, 2020



1. River Sarda at Paliakalan in KHERI district of Uttar Pradesh continues to flow in SEVERE SITUATION at 14:00 hrs today. At 14:00 hrs, it was flowing at a level of 154.89m with steady trend which is 0.79m above its Danger Level of 154.1 m and 0.43m below its previous HFL of 155.32 m (2014-07-21).
2. River Ghagra at Turtipar in BALLIA district of Uttar Pradesh continues to flow in SEVERE SITUATION at 14:00 hrs today. At 14:00 hrs, it was flowing at a level of 64.34m with rising trend which is 0.33 above its Danger Level of 64.01 m and 1.66 m below its previous HFL of 66.0 m (1998-08-28).
3. River Ghagra at Elginbridge in BARABANKI district of Uttar Pradesh continues to flow in SEVERE SITUATION at 14:00 hrs today. At 14:00 hrs, it was flowing at a level of 106.996m with rising trend which is 0.926 m above its Danger Level of 106.07 m and 0.62m below its previous HFL of 107.616 m (2014-08-18).
4. River Ghagra at Ayodhya in FAIZABAD district of Uttar Pradesh continues to flow in SEVERE SITUATION at 14:00 hrs today. At 14:00 hrs, it was flowing at a level of 93.21 m with steady trend which is 0.48 m above its Danger Level of 92.73 m and 0.80 m below its previous HFL of 94.01 m (2009-10-11).

2.1 Rainfall Situation

Amount of rainfall recorded at 8:30 hours IST of today (≥ 50 mm or more)

Name of Place (State)	Rainfall (in mm)
Ayodhya (U.P)	75.0
Bareilly (U.P)	55.2
Kalnour (U.P)	53.8
Hetimpur (U.P)	80.4
Neemsar (U.P)	54.2
Bhatpurwa Ghat (U.P)	94.0
Colonelganj (U.P)	110.0
Gaighat (U.P)	72.0
Elginbridge (U.P)	220.4
Salempur (U.P)	108.0
Hrishikesh (U.K)	80.9
Bangapani (U.K)	51.4
Thal (U.K)	86.4
Haridwar (U.K)	48.8

2.2 LEVEL FORECAST

LEVEL FORECAST		
S.No.	Flood Situations	No. of Forecasting Sites
A.	Extreme Flood Situation:	
	(Site (s) where the previous Highest Flood Level (HFL) is exceeded or equalized)	0
B.	Severe Flood Situation :	
	(Site(s) where water Level touching or exceeding the Danger Level but below Highest Flood Level(HFL)	4
C.	Above Normal Flood Situation:	
	(Site (s) where water level touching or exceeding the warning Level but below Danger Level)	4
Total Numbers of Sites above Warning Level (A+B+C)		8
INFLOW FORECAST		
Number of Sites for which inflow forecasts issued:		4
(Where inflow are equal or exceed the specified Threshold Limit for a particular reservoir/ barrage)		4

2.3 Above Normal (Water Level touching or exceeding the warning Level but below Danger Level)

Name of river	Flood Forecasting Sites	District	State	Danger Level(m)	Warning Level (m)	Previous Highest		Actual Level			Forecast			
						Level (m)	Date	Level (m)	Time	Trend	Level (m)	Date	Time	Trend
Rapti	Balrampur	Balrampur	U.P	104.62	103.62	105.54	2015	103.76	0800	S	103.60	13.08.20	0800	R
Rapti	Birdghat	Gorakhpur	U.P	74.98	73.98	77.54	1998	74.58	0800	S	74.68	13.08.20	0800	F
Ganga	Garhmukteshwar	Ghaziabad	U.P	199.33	198.33	199.9	2010	198.67	0800	R	198.85	13.08.20	0800	R
Ganga	Haridwar	Haridwar	U.K	294.00	293.00	296.3	2010	293.45	0800	F	293.40	13.08.20	1200	F

2.4 Severe Flood Situation (Water Level touching or exceeding the Danger Level but below Highest Flood Level (HFL))

Name of river	Flood Forecasting Sites	District	State	Danger Level(m)	Warning Level (m)	Previous Highest		Actual Level			Forecast			
						Level(m)	Date	Level(m)	Time	Trend	Level (m)	Date	Time	Trend
Ghaghra	Turtipar	Baliya	U.P	64.01	63.01	66.00	1998	64.31	0800	R	64.50	13.08.20	0800	R
Ghaghra	Elgin Bridge	Barabanki	U.P	106.07	105.07	107.616	2014	106.976	0800	R	107.15	13.08.20	0800	R
Ghaghra	Ayodhya	Faizabad	U.P	92.73	91.73	94.01	2009	93.17	0800	R	93.50	13.08.20	0800	R
Ganga	Kachhla bridge	Budaun	U.P	161.00	162.00	162.79	2010	161.89	0800	R	162.40	13.08.20	0800	R

2.5 Extreme Flood Situation (Water Level exceeded or equalized Highest Flood Level (HFL))

Name of river	Flood Forecasting Sites	District	State	Danger Level(m)	Warning Level (m)	Previous Highest		Actual Level			Forecast			
						Level(m)	Date	Level(m)	Time	Trend	Level (m)	Date	Time	Trend

Note - No Station is in this situation Dated 12.08.2020

2.6 Inflow Forecast

Name of river	Flood Forecasting Sites	District	State	HFL(m)	FRL(m)	Previous Highest		Actual Level			Forecast			
						Discharge (Q)	Date	Discharge (Q)	Time	Trend	D (Q)	Date	Time	Trend
Ghaghra	Katerniaghat Barrage	Bahraich	U.P.		138			5100.062	0800	S	4300.00	13.08.20	0800	F
Sharda	Banbasa Barrage	Champawat	U.K		222.96			4321.859	0800	S	3600.00	13.08.20	0800	F
Sharda	Narora Barrage	Bulandshahr	U.P					2044.6	0800	S	3256.8	13.08.20	0800	R
Sone	Bansagar Dam	Harda	M.P.		341.64				0800	R	766.00	13.08.20	0800	R

Advisory on Hydro Meteorological Situation Expected from 13-08-2020 to 14-08-2020

As per rainfall pattern given in section II, Alaknanda, Bhagirathi, Ganga rivers are expected to receive moderate to heavy rain at widespread areas in next 48 hrs. Ghaghra, Ramganga, Sharda & Rapti river basins are expected to receive moderate to heavy rain at widespread areas in next 48 hours. Water level at most of CWC stations are expected to raise in next 48 hours. Level forecast will be issued if the level of river at stations are likely to touch or cross warning level. From the given QPF, Severe flood like situation is expected in Ghaghra, Rapti & Sharda river basins.

अधिशसीअभियंता

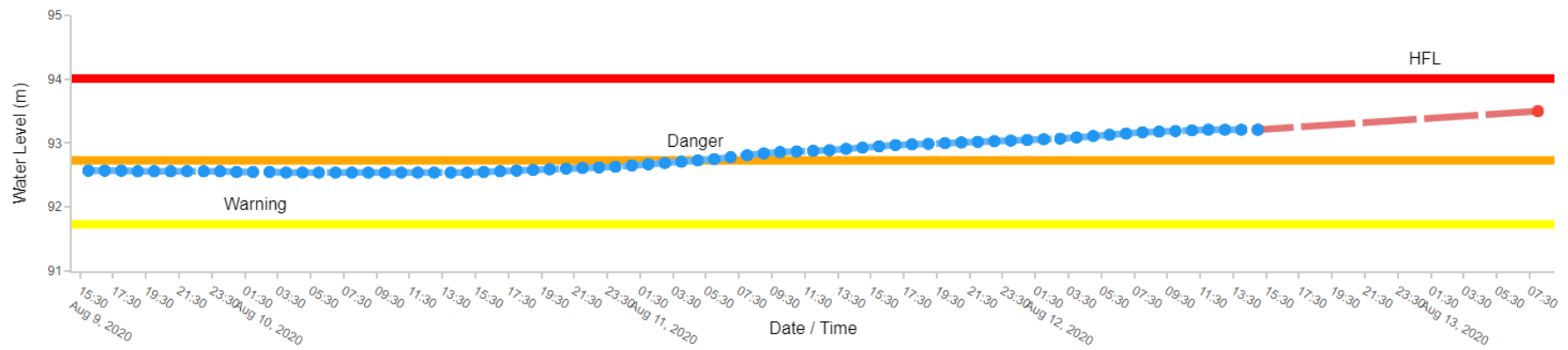
मध्य गंगा मण्डल -1 लखनऊ

Hydrograph view of - Ayodhya



District	Basin	River	Division
FAIZABAD	Ganga	Ghagra	Middle Ganga Division-I(MGD-I), Lucknow

● Forecasted Water Level
 ● Measured Water Level

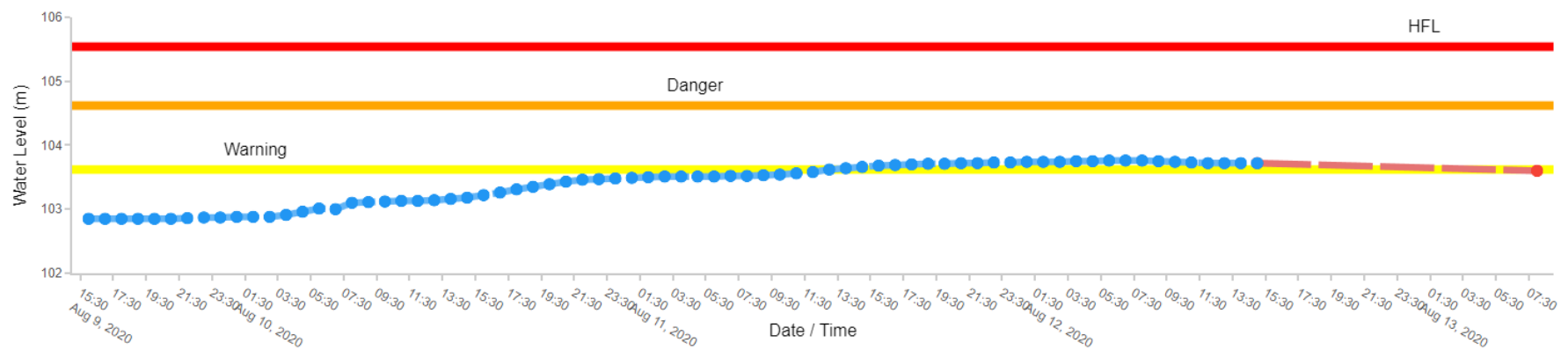


Hydrograph view of - Balrampur



District	Basin	River	Division
BALRAMPUR	Ganga	Rapti	Middle Ganga Division-I(MGD-I), Lucknow

—●— Forecasted Water Level
 —●— Measured Water Level

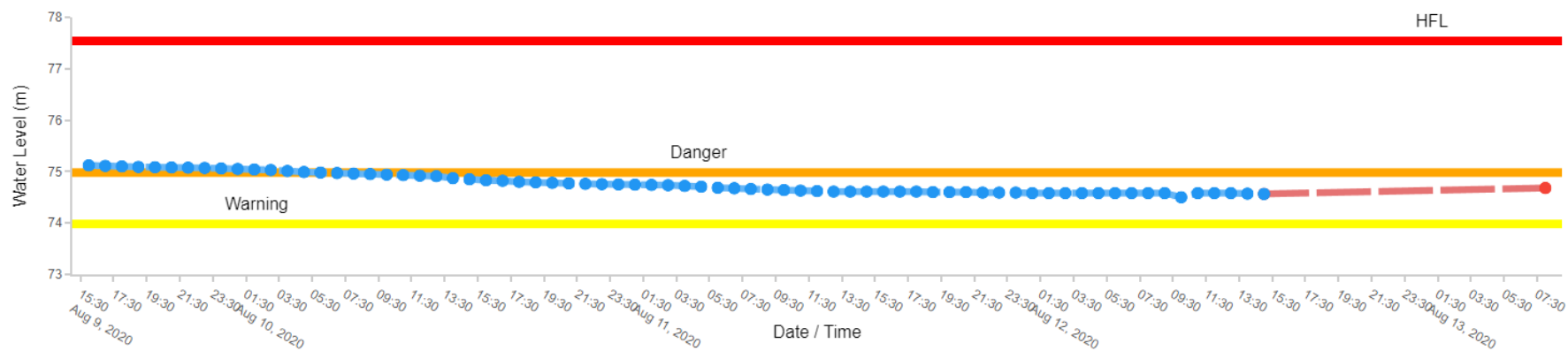


Hydrograph view of - Birdghat



District	Basin	River	Division
GORAKHPUR	Ganga	Rapti	Middle Ganga Division-I(MGD-I), Lucknow

● Forecasted Water Level
 ● Measured Water Level

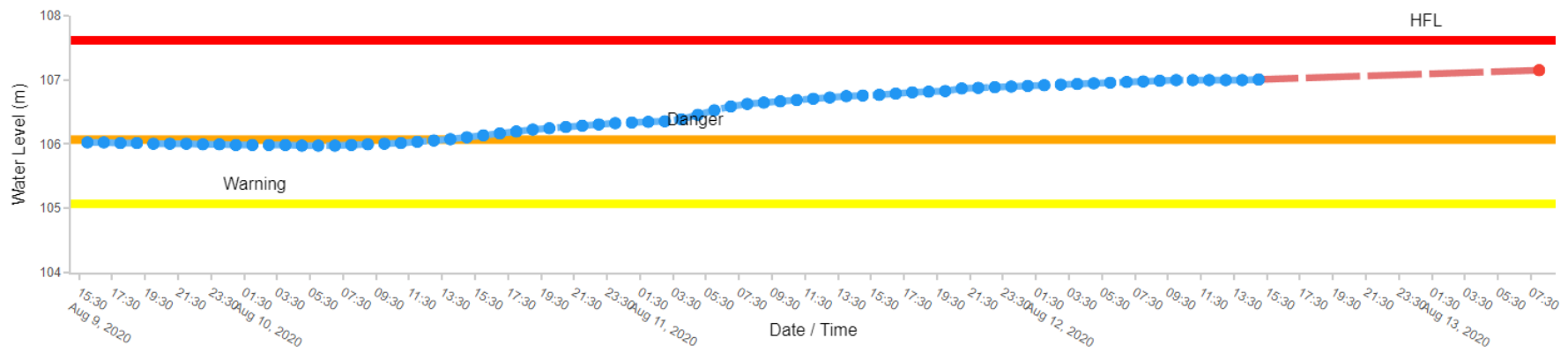


Hydrograph view of - Elginbridge



District	Basin	River	Division
BARABANKI	Ganga	Ghagra	Middle Ganga Division-I(MGD-I), Lucknow

—●— Forecasted Water Level
 —●— Measured Water Level

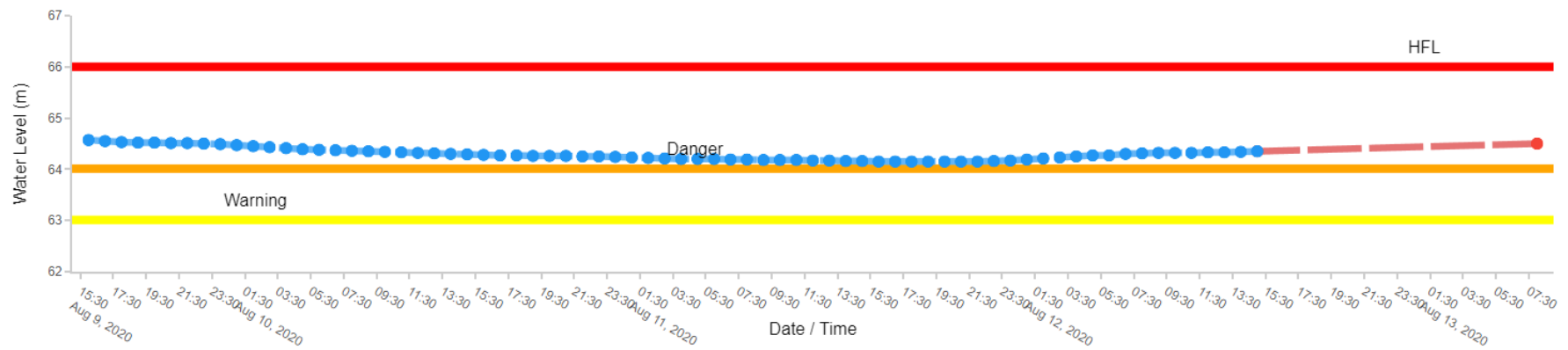


Hydrograph view of - Turtipar



District	Basin	River	Division
BALLIA	Ganga	Ghagra	Middle Ganga Division-I(MGD-I), Lucknow

● Forecasted Water Level
 ● Measured Water Level

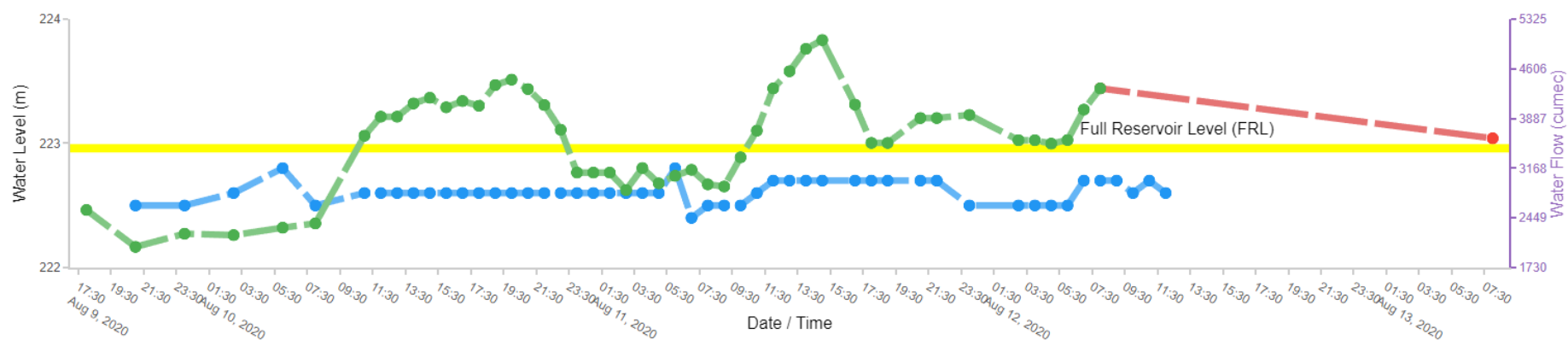


Hydrograph view of - Banbasa Barrage



District	Basin	River	Division
Champawat	Ganga	Sarda	Middle Ganga Division-I(MGD-I), Lucknow

● Measured Water Level
● Forecasted Water Flow
● Inflow

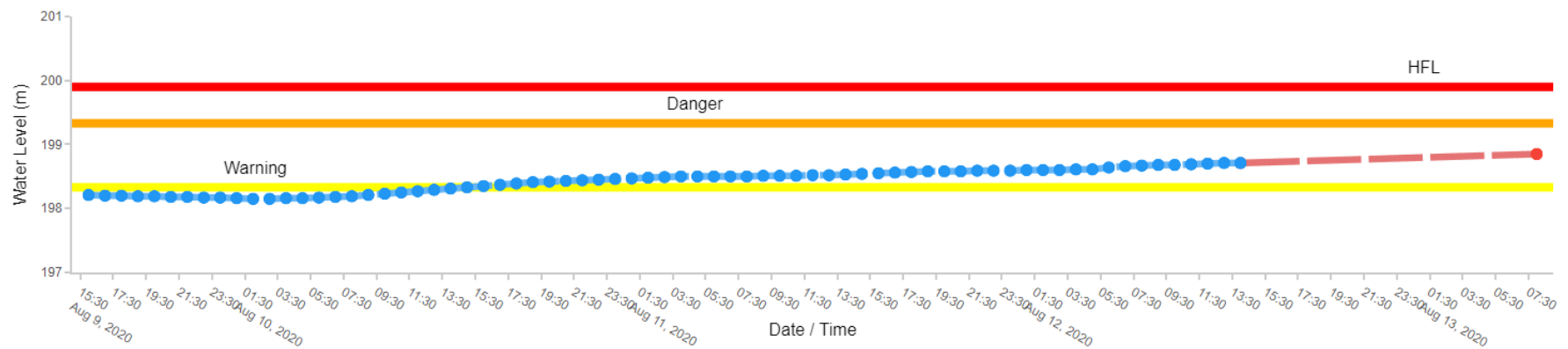


Hydrograph view of - Garhmukteshwar



District	Basin	River	Division
GHAZIABAD	Ganga	Ganga	Middle Ganga Division-II(MGD-II), Lucknow

—●— Forecasted Water Level
 —●— Measured Water Level

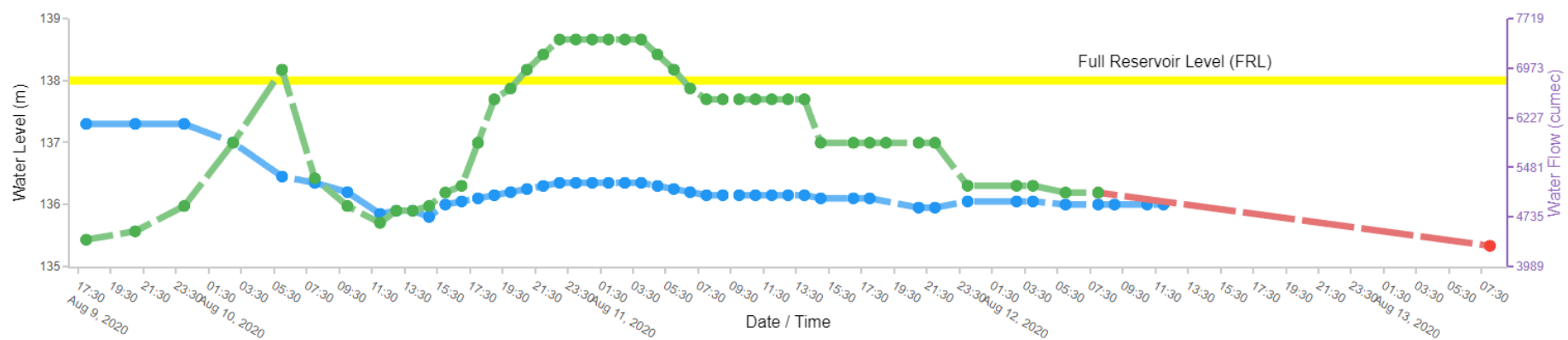


Hydrograph view of - Katarniaghat Barrage



District	Basin	River	Division
BAHRAICH	Ganga	Ghagra	Middle Ganga Division-I(MGD-I), Lucknow

Measured Water Level
Forecasted Water Flow
Inflow

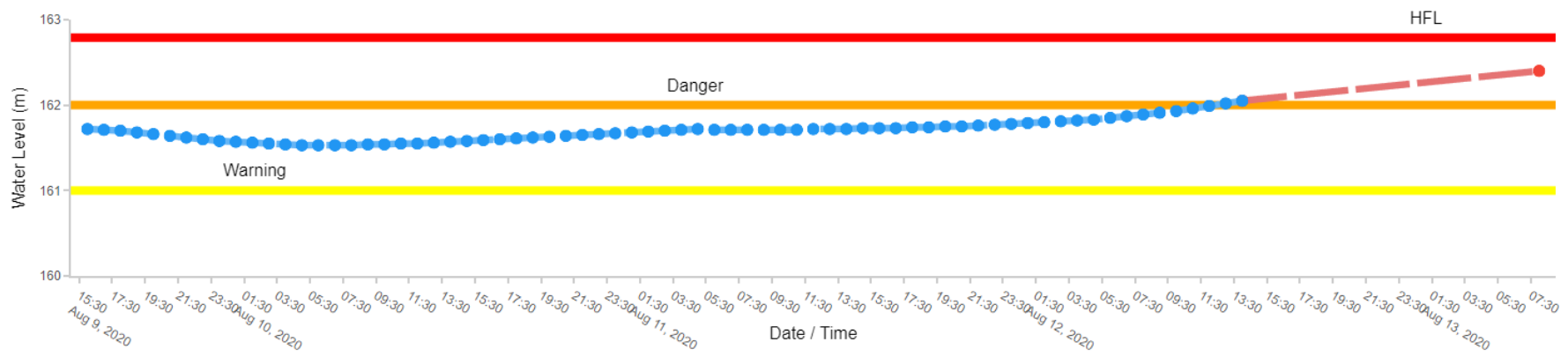


Hydrograph view of - Kachhlabridge



District	Basin	River	Division
BUDAUN	Ganga	Ganga	Middle Ganga Division-II(MGD-II), Lucknow

—●— Forecasted Water Level
 —●— Measured Water Level

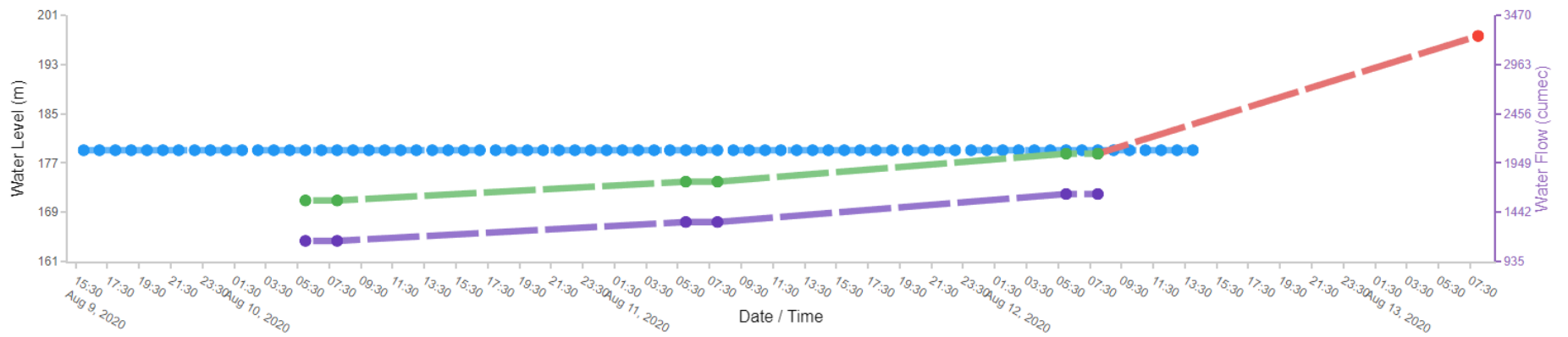


Hydrograph view of - NARORA Barrage



District	Basin	River	Division
BULANDSHAHR	Ganga	Ganga	Middle Ganga Division-II(MGD-II), Lucknow

Measured Water Level
Forecasted Water Flow
Inflow
Canal Outflow

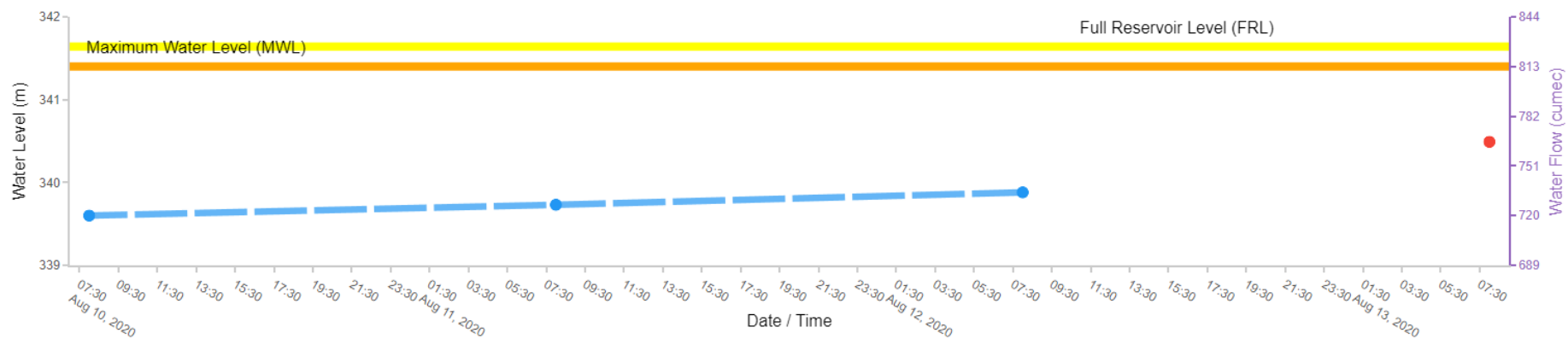


Hydrograph view of - Bansagar Dam



District	Basin	River	Division
HARDA	Ganga	Sone	Middle Ganga Division-III(MGD-III), Varanasi

● Measured Water Level
● Forecasted Water Flow



Hydrograph view of - Haridwar



District	Basin	River	Division
Haridwar	Ganga	Ganga	Himalayan Ganga Division(HGD),Dehradun

Measured Water Level

