भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन नदी विकास एवं
गंगा संरक्षण विभाग
केंद्रीय जल आयोग
राष्ट्रीय जल अकादमी

Government of India
Ministry of Jal Shakti
Department of Water
Resources, River
Development & Ganga
Rejuvenation
Central Water Commission
National Water Academy

संख्या. T-980120/10/2023-NWA/ 6872- 6922 Dated : 10 अक्टूबर 2023

प्रति

राष्ट्रीय जल विज्ञान परियोजना (NHP) की सभी केन्द्रीय /राज्य कार्यान्वयन एजेंसीया (संलग्न सूची के अनुसार)

विषय: 25-27 अक्टूबर 2023 के दौरान राष्ट्रीय जल विज्ञान परियोजना (NHP) के तहत 'Global Data Processing using Python and Notebooks in Geospatial Platform' पर 3 दिवसीय प्रशिक्षण कार्यक्रम - नामांकन के लिए अनुरोध - संबंधित

महोदय/महोदया ,

विश्व बैंक और राष्ट्रीय वायुमंडलीय अनुसंधान प्रयोगशाला (नेशनल सेंटर फॉर ऍटमोस्फोरिक रिसर्च) (NCAR), यूएसए के सहयोग से 25-27 अक्टूबर 2023 के दौरान के राष्ट्रीय जल विज्ञान परियोजना (एनएचपी) जल संसाधन, नदी विकास और गंगा संरक्षण विभाग, जल शक्ति मंत्रालय, भारत सरकार के तहत राष्ट्रीय जल अकादमी, केंद्रीय जल आयोग, पुणे **'Global Data Processing using Python and Notebooks in Geospatial Platform'** पर 3 दिवसीय प्रशिक्षण कार्यक्रम का आयोजन कर रहा है। प्रशिक्षण कार्यक्रम की सूचना विवरणिका और अस्थायी अनुसूची तत्काल संदर्भ के लिए संलग्न है।

यह कार्यक्रम राष्ट्रीय जल विज्ञान परियोजना की केंद्रीय और राज्य कार्यान्वयन एजेंसियों (IAs) से संबंधित अधिकारियों के लिए है, जिन्हें रिमोट सेंसिंग, जीआईएस और कंप्यूटर प्रोग्रामिंग की अवधारणाओं के बारे में बुनियादी जानकारी है। नामांकित प्रतिभागियों को राष्ट्रीय जल अकादमी, पुणे के परिसर में कार्यक्रम में शारीरिक रूप से शामील होना होगा NCAR, यूएसए के प्रशिक्षक / विशेषज्ञ संसाधन व्यक्ति ऑनलाइन मोड़ में प्रशिक्षण सत्र देंगे , जबकि राष्ट्रीय जल अकादमी के संकाय व्यक्तिगत रूप से व्यावहारिक सत्र आयोजित करने में सहायता करेगा । कार्यक्रम में भाग लेने के लिए कोई पाठ्यक्रम शुल्क नहीं है। राष्ट्रीय जल अकादमी अतिथी निवास में आवास और भोजन भुगतान के आधार पर उपलब्ध कराया जाएगा।

तदनुसार, अनुरोध है कि कृपया उक्त प्रशिक्षण कार्यक्रम में भाग लेने के लिए अपने विभाग/संगठन से 1-2 अधिकारियों को नामित करें। नामांकित अधिकारियों को 23.10.2023 तक यह फॉर्म (https://forms.gle/idhJe28iaMB3kgx37) भरने के लिए भी कहा जा सकता है।

(PTO)

पुणे सिंहगड़ रोड,
खडकवासला आर.एस पुणे 411024
दूरभाष – 020- 24380392 Extn 114
Mob : 9910771794
ई मेल deputydirector1-nwa@gov.in/nwa.mah@nic.in

Pune-Sinhgad Road,
Khadakwasla R.S., Pune – 411 024
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Mob : 9910771794
E-mail - deputydirector1-nwa@gov.in/nwa.mah@nic.in

यह मुख्य अभियंता, राष्ट्रीय जल अकादमी, केन्द्रीय जल आयोग, पुणे के अनुमोदन से जारी किया जाता है ।

संलग्न : उपरोक्त अनुसार

भवदीय

K. S. Chaitanya 10/10/23

(चैतन्य के एस)
उप निदेशक एवं कार्यक्रम निदेशक

प्रतिलिपी जानकारी के लिए

1) वरिष्ठ संयुक्त आयुक्त-I , एनपीएमयू - राष्ट्रीय जल विज्ञान परियोजना, जल संसाधन, नदी विकास और गंगा संरक्षण विभाग, जल शक्ति मंत्रालय, नई दिल्ली - राष्ट्रीय जल विज्ञान परियोजना के एमआईएस पर कार्यक्रम की घोषणा करने के अनुरोध के साथ
2) निदेशक, नदी डेटा संकलन निदेशालय (RDC-I Dte), के.ज.आ., नई दिल्ली
3) निदेशक, प्रशिक्षण निदेशालय (Training Dte), के.ज.आ., नई दिल्ली, के.ज.आ. अधिकारियों के नामांकन मांगने के अनुरोध के साथ

भारत सरकार
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Lr. No: T-980120/10/2023-NWA/6872-6922 Dated : 10 October 2023

To

All Central/State Implementing Agencies of NHP (As per list enclosed)

Sub: 3-day Training Program on **'Global Data Processing using Python and Notebooks in Geospatial Platform'** under National Hydrology Project (NHP) during 25th–27th October 2023 - Request for Nominations - Reg

Sir/Madam,

National Water Academy, Central Water Commission, Pune is organizing a 3-day training program on **'Global Data Processing using Python and Notebooks in Geospatial Platform'** under National Hydrology Project (NHP) of DoWR, RD & GR, MoJS, Govt. of India during **25th-27th October 2023** in cooperation with the World Bank and the National Centre for Atmospheric Research (NCAR), USA. Information brochure and tentative schedule of the training program is enclosed for ready reference.

The program is intended for officers belonging to the Central and State Implementing Agencies (IAs) of NHP who have basic knowledge about the concepts of Remote Sensing, Geographical Information Systems (GIS) and Computer Programming. The nominated participants will have to physically attend the program at the NWA campus in Pune. Trainers/expert resource persons from the NCAR, USA, will deliver training sessions in online mode, whereas NWA faculty will assist in conducting the hands-on sessions in person. There is no course fee for attending the program. Lodging & boarding will be provided at NWA guest house on payment basis.

Accordingly, it is requested to kindly nominate 1-2 officers from your agency/organization for participation in the said training program. Nominated officers may also be asked to fill up this form (https://forms.gle/idhJe28iaMB3kgx37) positively by 23.10.2023.

This issues with the approval of Chief Engineer, NWA, CWC, Pune.

Yours Sincerely,

K. S. Chaitanya 10/10/23

(Chaitanya K S)
Dy. Director & Course Director

Copy for kind information to:

1) Senior Joint Commissioner-I, NPMU-NHP, DoWR, RD & GR, MoJS, New Delhi with a request to announce the program on MIS of NHP
2) Director, RDC-I Dte, CWC, New Delhi
3) Director, Training Dte., CWC, New Delhi with a request to seek nominations of CWC officials

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खडकवासला आर.एस पुणे 411024
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Tel – 020- 24380392 Extn 114
Mob : 9910771794
E-mail - deputydirector1-nwa@gov.in/nwa.mah@nic.in

NHP Implementing Agencies

Sr No	State Code	Agencies	Address	Website Link	Email ID
1	28	Andhra Pradesh GW	O/o The Director, Ground Water & Water Audit Department, GoAP, 4th & 5th Floors, Vysya Bhavan, 14-7-29 Namburi Gopal Rao Street, Hanumanpet, Vijayawada - 520003	http://www.apsgwd.gov.in	andhragw@gmail.com
2	28	Andhra Pradesh SW	Water Resources Department. Govt. Of Andhra Pradesh, AP Secretariat, Bldg No-4, Velagapudi, Amaravathi, Guntur District, AP	http://hp-apsw.cgg.gov.in	andhrasw@ap.gov.in
3	18	Assam	Water Resources Department, Govt. of Assam, Dispur, Guwahati-6	http://waterresources.assam.gov.in	assamwrd@gmail.com
4	10	Bihar GW	Minor Water Resources Departments, Government of Bihar, Vikas Bhawan, Patna – 800 015	https://state.bihar.gov.in/mwrd/	nhpbihar@gmail.com
5	10	Bihar SW	Dept. of Water Resources, Government of Bihar, Sinchai Bhawan, Patna – 800 015	www.wrd.bih.nic.in	biharswhp3@gmail.com
6	22	Chhattisgarh	Secretary, Water Resources Deptt., Mahanadi Bhawan, Naya Raipur, Chhattisgarh.	http://hydrologyproject.cg.gov.in	chattishgarhwrd@gmail.com
7	30	Goa	Chief Engineer, Water Resources Department Sinchai Bhawan, Nr Police Station, Porvorim, Goa.	http://www.goawrd.gov.in	ce-wrd.goa@nic.in
8	24	Gujarat	Secretary, Water Resources Department, Government of Gujarat, New Sachivalaya Complex, Gandhinagar-382010	http://guj-nwrws.gujarat.gov.in	gujaratsw@gmail.com
9	6	Haryana	Principal Secretary, Deptt. of Irrigation & Water Resources, Govt. of Haryana, Civil Secretariat, Chandigarh-160001	https://hid.gov.in	eicirrigation@yahoo.com
10	2	Himachal Pradesh	Secretary, Jal Shakti Vibhag, Govt. of Himachal Pradesh, HP Secretariat, Shimla-171002	http://www.hpiph.org	iphsecy-hp@nic.in
11	20	Jharkhand	Principal Secretary, Water Resources Department, Govt. of Jharkhand, Nepal House, Doranda, Ranchi	http://wrdjharkhand.nic.in	nhp.jharkhand@gmail.com

12	29	Karnataka	Secretary, Water Resources Department, Govt. of Karnataka, Vikas Soudha, Bangaluru-560001	www.waterresources.kar.nic.in	karnatakasw@gmail.com
13	32	Kerala GW	Directorate of Groundwater Department 3rd Floor, Jalavijnana Bhavan Ambalamukku Kowdiar.P. O Thiruvananthapuram-03	http://www.hpkerala.org	keralagwhp3@gmail.com
14	32	Kerala SW	Chief Engineer (Irrigation & Design), IDRB, Vikas Bhavan, Thiruvananthapuram - 695033, Kerala.	http://www.hpkerala.org	keralaswhp3@gmail.com
15	23	Madhya Pradesh	Principal Secretary, Department of Water Resources, Govt. of Madhya Pradesh, Mantralaya, Vallabh Bhawan, Bhopal-462004	http://www.mp.gov.in/en/web/guest/home	madhyawrd@gmail.com
16	27	Maharashtra GW	Bhujal Bhavan, Groundwater Surveys and Development Agency, Wakdewadi Marg, Shivaji Nagar, Pune - 411005, Maharashtra	http:/gsda.maharashtra.gov.in	nhp.gsda@gmail.com
17	27	Maharashtra SW	Shri I S Chahal, Principal Secretary(WRP & D), Water Resources Department, Govt. of Maharashtra, Mantralaya, Mumbai-400032	https://wrd.mahharashtra.gov.in	cehp.nashikwrd@maharashtra.gov.in
18	14	Manipur	Commissioner/ Secretary, Old Secretariat, Water Resources, Govt. of Manipur, Imphal, Manipur-795001	https://wrd.mn.gov.in/en/	nhpmanipur@gmail.com
19	17	Meghalaya	Govt. Fruit Garden, Opposite St. Edmund's College Main Gate, Shillong - 793014	http://megwaterresources.gov.in	meghalayawrd@gmail.com
20	15	Mizoram	Office of the Chief Engineer, Irrigation & Water Resources Department, Govt. of Mizoram.New Secretariat Complex, KhatlaAizawl-796001	https://irrigation.mizoram.gov.in	mizoramwrd@gmail.com
21	13	Nagaland	Secretary, Water Resources Department, Govt. of Nagaland, Kohima-797004	ifcd.nagaland.gov.in	nagalandwrd@gmail.com
22	21	Odisha	Chief Engineer & Director, GWD, HP Building, Delta Square, Unit-8,	www.dowrodisha.gov.in	odishagwhp3@gmail.com

			Bhubaneswar-751012, Odisha		
23	3	Punjab	Principal Secretary(Irrigation), 527, Punjab Mini Secretariat, Sector-9, Govt. of Punjab, Chandigarh-160009	http://irrigation.punjab.gov.in	punjabwrd@gmail.com
24	8	Rajasthan	Sinchai Bhawan, J L N Marg, Water Resources Department, Jaipur	waterresources.rajasthan.gov.in	rajasthanwrd@gmail.com
25	11	Sikkim	Secretary, Water Resources & River Development Department, Govt. of Sikkim, Nirman Bhawan, Gangtok-737101(No website of Department, hence web address of State Govt is provided)	www.sikkim.gov.in	sikkimwrd@gmail.com
26	33	Tamil Nadu	Principal Secretary, Public Works Department, Govt. of Tamil Nadu, Chennai-600009	groundwatertnpwd.org.in	tamilnaduwrd@gmail.com
27	36	Telangana GW	Director, Telangana State Ground Water Department, Govt. of Telangana, #6-2-916/1, Opp. Govt. Degree College,Chintal Basti, Khairatabad, Hyderabad - 500004	www.gwd.telangana.gov.in	hp.gwd-ts@gov.in
28	36	Telangana SW	Superintending Engineer, Hydrology, O/o.Engineer-in-Chief(General), I & CAD Department, 2nd floor,Jalasoudha, Erramanzil, Hyderabad,Telangana-500082.	https://irrigation.telangana.gov.in	telanganasw@gmail.com
29	16	Tripura	Chief Engineer, PWD (Water Resources department) Kunjaban , Agartala-799006	http://pwd.tripura.gov.in/pwd/index.php	cepwdwr@gmail.com
30	9	Uttar Pradesh SW	Ground Water department, 9th Floor, Indira Bhawan, Lucknow, Uttar Pradesh	https://upgwd.gov.in	uttargw@gmail.com
31	9	Uttar Pradesh GW	Information System Organisation, 3rd Floor. Dr. Ram Manohar Lohia Parikalp Bhawan. Telibagh, Lucknow, Uttar Pradesh	https://idup.gov.in/en	ceisoiduplu-up@nic.in
32	5	Uttarakhand	Irrigation Research Institute, Roorkee, Distt. – Haridwar Uttarakhand - 247667	www.iriroorkee.res.in	uttarkhandwrd@gmail.com

33	19	West Bengal SW	Secretary, DWRI&DD, II A, Mirza Galib St., Block - A, Fifth Floor, Kolkata-700087, West Bengal	http://www.wbwridd.gov.in	bengalgw@gmail.com
34	19	West Bengal GW	Principal Secretary, Irrigation & Waterways Department of Irrigation & Waterways Department, Govt. of West Bengal, First Floor, Jalsampad Bhawan, Salt Lake, Kolkata-91	www.wbiwd.gov.in	bengalsw@gmail.com
Union Territories					
1	7	Delhi	Office of Chief Engineer (I and FC), LM Bund, Office Complex, Shastri Nagar, Delhi-31	http://delhi.gov.in/wps/wcm/connect/doit_irrigation/Irrigation+and+Flood+Control/Home/Organizational+Setup	ifcfcii@gmail.com
2	34	Puducherry	Chief Secretary, cum Chairman,Puducherry Water Resources Organization ,Opposite to MNGP College, Govt. Staff Quarters Block 29,Lawspet, Puducherry - 605 008.	www.pdywaterinfo.in	puducherrywrd@gmail.com
Central Agencies					
1	7	DoWR	National Hydrology Project (NHP), 2nd Floor, Rear Wing, MDSS Building, MTNL, 9, CGO Complex, Lodi Road, New Delhi-3	http://nhp.mowr.gov.in	nhp-mowr@nic.in
2	7	CWC	Central Water Commission, Ministry of Water Resources, Sewa Bhawan, R.K.Puram, New Delhi - 110 066 India	http://www.cwc.gov.in	cwchp3@gmail.com
3	6	CGWB	CENTRAL GROUND WATER BOARD , Bhujal Bhawan, NH-IV, Faridabad - 121001	http://www.cgwb.gov.in	hp-cgwb@nic.in
4	5	NIH	National Institute of Hydrology, Roorkee - 247667	http://www.nihroorkee.gov.in	nhp.nih@gmail.com
5	27	CWPRS	Central Water and Power Research Station, Khadakwasla, Pune-411024	http://cwprs.gov.in	cwprshp3@gmail.com
6	7	CPCB	Parivesh Bhawan, East Arjun Nagar, DELHI - 110 032, INDIA	http://cpcb.nic.in	cpcbhp3@gmail.com
7	28	SOI	Office of Surveyor General of India Hathibarkala Estate, Dehra Dun Uttarakhand, PIN-248001 INDIA	http://www.surveyofindia.gov.in	pdo.nhp.soi@gov.in

8	36	NRSC	Balanagar, Hyderabad, Telangana, 500037	https://nrsc.gov.in	nhp_nrsc@nrsc.gov.in
9	7	NWIC	National Water Informatics Center (NWIC)	http://nwic.gov.in	nwic.mowr@gmail.com
River Basin					
1	28	NCA	Narmada Sadan, Sector B, Scheme No 74, Vijay Nagar, Indore - 452010	http://nca.gov.in	ddhm.nca@gov.in
2	3	BBMB	Plot No.6B, Sector-19B, Madhya Marg, Chandigarh-160019 #70, SLDC Complex, BBMB, Industrial Area, Phase-1, Chandigarh, 160002	http://bbmb.gov.in	bbmbhp3@gmail.com
3	20	DVC	Combined Administrative Building, Area-6, PO-Maithon Dam, DHANBAD, JHARKHAND- 828207	www.dvc.gov.in	dvchp3@gmail.com

Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation

Training Program
on

'Global Data Processing using Python and Notebooks in Geospatial Platform'

(under National Hydrology Project)

25-27 October 2023

Hosted by

NATIONAL WATER ACADEMY
CENTRAL WATER COMMISSION, PUNE

in cooperation with

World Bank
National Centre for Atmospheric Research (NCAR), USA

INTRODUCTION & BACKGROUND

Python is an open-source general-purpose programming language that has a strong presence in the GIS industry. It is the primary scripting language for many GIS software programs. With its extensive libraries and support from an active user community, Python programming has become a popular choice for geospatial data analysis, visualization, and automation of workflows. One of the best places to start with Python programming is through a Jupyter Notebook, a web application for creating and sharing documents containing code. ESRI's ArcGIS Notebooks are built on top of the Jupyter Notebook, and they include Python libraries optimized for geospatial analysis. With ArcGIS Notebooks integrated into ArcGIS Pro, a fully featured desktop GIS software, one can perform analysis, view results in a geographic context, interact with the emerging data, document, and automate workflows, and save it for later use or share it.

This training program will introduce the hydrological tools and methods available with ArcGIS pro and will focus on techniques to remove bias and errors in long lead hydrologic forecasts. It will enable the participants to learn how to integrate Python tools and code using ArcGIS Notebooks for integrating open-source Python libraries within the GIS environment to empower geospatial analyses.

PROGRAM FORMAT

The program will be delivered in a hybrid format, with participants joining in-person for lectures and hands-on sessions at the training facility of the National Water Academy (NWA) campus in Pune. Trainers/Expert Resource Persons from the National Centre for Atmospheric Research, USA will provide the training in virtual mode through a 2-way interactive system.

TARGET GROUP

The program is intended to benefit the Central and State Implementing Agencies (IAs) of the National Hydrology Project (NHP). Officers having knowledge of the concepts of Remote Sensing, Geographical Information Systems, Python Programming are preferred.

Nominated participants may fill in Google form using the link given below on or before 23.10.2023 without failure (in addition to registration on NHP MIS)

https://forms.gle/idhJe28iaMB3kgx37

PROGRAM FEE

There is no program fee.

LOCATION

National Water Academy is located on the south-western side of the Pune city on Pune-Sinhghad Road between Nanded Phata and Kirkatwadi villages. It is 12 Kms from Swargate Bus Stand, 18 Kms from Pune Station and 29 Kms from Pune Airport.

Click here for directions from Pune Airport to NWA

Click here for directions from Pune Railway Station to NWA

LOCAL HOSPITALITY AND WEATHER

NWA has a self-contained residential campus, and all out-station participants would be provided with accommodation in the NWA Hostels which are comfortable & fully furnished (viz. television with cable connection, refrigerator, micro-oven, tea maker, intercom etc.). Meals are available (self-service dining) in Canteen/Mess which is in the same residential campus. Participants are required to pay for lodging and boarding charges.

During the month of October, normally the weather is quite pleasant, and the average temperature of Pune may be around 25°C to 30° C

CONTACT

For sending nominations or for any information on this program, please contact:

Chaitanya K S
Deputy Director & Course Director
National Water Academy
Central Water Commission
Khadakwasla, Sinhagad Road
Pune – 411 024; Tel: 020 – 24380392 Extn 114, Fax: 020-24380110
Mob:9910771794
E-mail: nwa.mah@nic.in / deputydirector1-nwa@gov.in

COVERAGE OF TOPICS

Date	Coverage of Topics	Faculty
25 Oct 2023	**Introducing tools available in the ArcGIS Pro environment** A. Review of ArcGIS Pro environment B.Review of Hydrological Tools and Methods within ArcGIS Pro, including Spatial Analyst C. Incorporating Python tools within the ArcGIS Pro environment. Introduction to ESRI Notebooks.	Kevin Sampson Thomas Hopson
26 Oct 2023	**Bias-Correcting a GloFAS/GEOGLOWS forecast** A. Theory: Bias correction and post-processing of ensemble river flow forecast data B. Bias correcting and mapping GloFAS/GEOGLOWS ensemble flow forecasts to river stage observations using quantile-to-quantile (Q2Q) mapping	Kevin Sampson Thomas Hopson Emily Riddle
27 Oct 2023	**Working with a multi-dimensional rainfall forecast** A. Introduction to working with multi-dimensional rainfall forecasts: data formats, python tools, etc. B. Demo: End-to-end processing of GFS rainfall forecast: Part I: Download, regrid, explore dataset, delineate basins, spatial averages Part II: Bias correction methods, compare with river stage observations	Kevin Sampson Thomas Hopson Emily Riddle