

AGENDA AND AGENDA NOTES
78th meeting of the
Technical Advisory Committee (TAC) of N.I.H.

August 08, 2024
at 11:00 Hours
Through Online Meeting



NATIONAL INSTITUTE OF HYDROLOGY
ROORKEE – 247 667

**AGENDA AND AGENDA NOTES FOR THE 78th MEETING
OF THE TAC OF N.I.H.**

AGENDA ITEMS

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ITEM # 78.1 Opening remarks by the Chairman

ITEM # 78.2 Confirmation of minutes of 77th meeting of the TAC

The 77th meeting of the TAC was held on Feb.19, 2024 in online mode. The minutes of the meeting, after approval of the competent authority, have been submitted to the members along with the present agenda. If there are any comments, the same may be informed. Otherwise, the minutes may be confirmed.

ITEM # 78.3: Action taken on the decisions/recommendations in previous meeting

S. No.	Query/Suggestion	Action Taken
1.	Comments on Completed Study: Water quality assessment of South-west Punjab emphasizing carcinogenic contaminants and their possible remedial measures. The Chairman advised that the report may be sent to NMCG for expert review.	Complied.
2.	The Chairman suggested to work together with line-organizations like CWC, CGWB, etc. in various areas of water resources. He also desired an effective collaboration of NIH with CWC on specific areas of research (viz. climate change studies etc.).	<ul style="list-style-type: none">• A proposal has been prepared for joint collaboration of CWC, NIH, and CWPRS for testing of non-contact discharge measurement techniques and draft MoU has been sent.• Centre for Cryosphere and Climate Change Studies has been established at NIH with representation from CWC.• CWC members participated in the last Working Group meeting and RCC meetings of different RCs.• NIH Scientists actively participate in various committees of CWC.
3.	The Chairman also desired to identify needs for capacity building of scientists in various areas of hydrology & water resources and to impart and conduct training activities.	<ul style="list-style-type: none">• NIH has initiated a Training Cell for coordinating internal and external trainings and course organization.• NIH Scientists are being regularly sent for training in NWA on various topics.• Senior Scientists are invited as faculty at NWA to conduct specialized courses.• Active discussions are underway with IIRS for short-term trainings on advanced applications of SAR, GRACE/DRONE technology, Cloud computing etc.• We also organize in-house courses on PYTHON and R programming, GEE applications and other advanced topics.

4.	<p>Director, NIH informed that a non-contact discharge estimation methodology has been developed recently (at Ph.D. work at DoH, IIT-Roorkee) and subsequent modified and the same needs to be tested at some gauging stations before its recommendation for wider applicability. Further, CWPRS has developed another non-contact methodology based on infrared sensor and photography. It is desirable to test and verify the results of various techniques before their wider usage. As CWC has a vast network of discharge gauging stations in the whole country, he suggested to identify 3- 4 gauging sites of CWC in different parts of the country (probably with facilities of ADCP, AWLR, AWVR etc.) for testing of the methodologies and comparison of results. The Chairman agreed and advised to consult with Shri D. P. Mathuria, CE (CWC) in this matter.</p>	<ul style="list-style-type: none"> • Draft proposal and MoU has been formulated in consultation with CWC. • The same is under review with CWPRS. • 5 Gauging sites have been identified in the Godavari and Krishna River basins in consultation with CWC for comparison of different methodologies. • NIH has already initiated for the procurement of equipment required for the study.
5.	<p>It was desired by the Chairman to have a 1 or 2-day long physical meet of TAC in Roorkee for detailed discussions on the technical work of NIH, preferably during restriction period because of elections.</p>	<ul style="list-style-type: none"> • The work program of the Institute, recommended by the Working Group and RCCs of RCs, is approved by the TAC. • In this light, efforts were made to complete the Working Group and RCC meetings at the earliest and could be completed by May 17, 2024. • A request was made to have a TAC meet in May, 2024 but could not be held.

ITEM # 78.4: Status of Work Programme for the Year 2023-24

I. List of Completed Studies

S. No	Title of the project	PI	Division	Internal/Sponsored
1.	Characterization of Groundwater Dynamics in Krishna-Godavari Delta interims using groundwater levels Hydrochemistry, Isotopes and emerging Contaminants	M K Sharma	EHD	Internal
2.	Integrated Management of Water Resources for Quantity and Quality in Upper Yamuna Basin up to Delhi	Anupma Sharma	GWHD	Sponsored
3.	Leachate Transport Modeling for Gazipur landfill site for suggesting ameliorative measures	Anjali	HID	Sponsored
4.	Hydrogeological and Isotopic investigation of groundwater in Himalayan Watershed of Kashmir, India	Gopal Krishan	HID	Internal
5.	Expansion of the Indo-German Competence Centre for Riverbank Filtration –CCRBF	Gopal Krishan	HID	Sponsored
6.	Development of Cloud Data based Integrated Framework to Forecast Flood for efficient operation of Reservoirs	A K Lohani	SWHD	Internal
7.	Hydraulic force-inversion equation for exact modeling of hydraulic jumps in rectangular channels	S K Singh	SWHD	Internal
8.	Identification of source and causes of the gushing water in the premises of Jaypee Colony in the night of 02 January, 2023	S S Rawat	C4S	Sponsored
9.	Impacts of Glacier and Climate Change on Runoff for Selected Basins of Himalaya	Vishal Singh	C4S	Internal
10.	Long term hydrological assessment for the development of water security plan into three sub-basins namely Barak, Minor rivers draining into Bangladesh and Minor rivers draining into Myanmar subbasins in the state of Mizoram	Vishal Singh	C4S	Sponsored
11.	Monitoring and hydrological modeling of Henval watershed in lesser Himalaya	M K Nema	WRSD	Internal
12.	Investigating gap areas, current trends and future directions of research in climate change impact on hydrology and water resources in India through Scientometrics	Archana Sarkar	WRSD	Internal
13.	Hydrology-based scenario planning for water productivity and optimization of income from farming practices in Mewat region, Haryana	A R Senthil Kumar	WRSD	Internal
14.	Snow and glacier contribution and impact of climate change in Teesta river basin in Eastern Himalaya	P K Singh	WRSD	Sponsored

15.	Development of Water Accounts for the different sub-basins of Brahmaputra and Barak river basins in the state of Meghalaya using Water Accounting Plus (WA+) Framework.	P K Singh	WRSD	Sponsored
16.	Development of Water Accounts for the selected sub-basins of Brahmaputra, Barak and Irrawady-Chindwin in the state of Nagaland using Water Accounting Plus (WA+) Framework.	P K Mishra	WRSD	Sponsored
17.	Monitoring and Evaluation of Groundwater Quality of Belagavi City, Karnataka, India	Varadarajan N	Belagavi	Internal
18.	Hydrological Modeling for Evaluation of Return flow and Irrigation Planning for Optimal utilization of water Resource in the command of Sanjay Sagar Project in Madhya Pradesh	R K Jaiswal	Bhopal	Sponsored
19.	Integrated Assessment of the Impacts of Climate Change and Land use Change on the Hydrology of the Narmada basin through Hydrological Modelling Approaches	T Thomas	Bhopal	Sponsored
20.	Identification of recharge and discharge areas of Palar river basin in Tamilnadu	V S Jeyakanthan	Kakinada	Internal
21.	A Coupled Hydrodynamic and Bank Dynamic Modeling Approach for Forensic Analysis of Bankline erosion Process along Majuli Island- the Largest Inhabited River Island in the World	Swapnali Barman	Guwahati	Sponsored
22.	Design flood estimation for small structures in the South Bihar area	Pankaj Mani	Patna	Internal

II. Presentation of Completed Studies:

ITEM # 78.5: Report of proceedings of the Working Group and RCC Meetings

The 54th meeting of the Working Group of NIH was held during 22-23 Feb., 2024. The Working Group considered the status of the work programme for the year 2023-24 under two categories: (i) internally funded projects, and (ii) sponsored/consultancy projects. The approved minutes of the 54th meeting of the NIH Working Group is given in Appendix A78.2 (Vol.-II). General comments/suggestions by the members during the 54th meeting of WG are as follows:

- Suggestion to carry out extensive review while planning a new study and inclusion of the beneficiary in all studies.
- Need to work together with related organisations/inter-divisions to overcome challenges of climate change and to devise a mechanism for data sharing/R&D findings with CWC and other related organisations in the country.
- The suggestions/ recommendations by the experts in the previous meeting and the action taken, should be mentioned during the presentations of ongoing studies.
- The scientific divisions should plan to write text books in their domain areas of R&D and to convert R&D works in IS codes.
- Encouraged to utilise all features of SWAT model for water quantity as well as for water quality aspects of watersheds.
- Need for induction and other related trainings for Scientists on regular basis.
- Dissemination of knowledge/R&D output of studies for benefit of general public/stakeholders through short video films highlighting important features of the selected studies and to uploaded on the NIH website, youtube and other social media platforms.
- The WG meeting should be held for three days instead of two days in order to give more time for presentations and subsequent discussions.
- Need based engagement of retired scientists to utilize their experience/knowledge for the Institute's R&D activities.

RCC meetings:

- NWRC, Jodhpur - 2nd RCC – 15 March, 2024
- NERC, Guwahati - 19th RCC – 19 March, 2024
- CFMS, Patna - 23rd RCC – 21 March, 2024
- DRC, Kakinada - 33rd RCC – 16 April, 2024
- CIHRC, Bhopal - 22nd RCC – 22 April, 2024
- WHRC, Jammu - 28th RCC – 08 May, 2024
- HRRC, Belagavi - 34th RCC – 17 May, 2024

The TAC may please note the proceedings of the meetings of the Working Group and RCC.

No. of Studies/Projects During the Year 2023-24					
Division	New		Ongoing		Total
	R & D	Sponsored	R & D	Sponsored	
C4S	-	-	4	4	08
Environmental Hydrology	2	-	3	5	10
Groundwater Hydrology	2	-	2	3	07
Hydrologic Investigation	-	-	4	4	08
Surface Water Hydrology	-	-	5	1	06
Water Resources System	-	-	4	3	07
HRRC, Belagavi	-	-	4	3	07
WHRC, Jammu	-	-	5	1	06
CIHRC, Bhopal	-	2	3	3	08
DRC, Kakinada	3	1	2	1	07
NERC, Guwahati	4	-	1	1	06
CFMS, Patna	2	-	1	1	04
Total	13	03	38	30	84

ITEM # 78.6: Work Programme for the year 2024-25

The approved work programme of the Divisions at the Headquarters and RC/CFMS of the Institute for the year 2024-25 is given in the tables below, and details are provided in Appendix A78.2 (Vol.-II) and Appendix A78.3 (Vol.-II) respectively:

1. Centre for Cryosphere and Climate Change Studies (C4S)
2. Environmental Hydrology Division
3. Ground Water Hydrology Division
4. Hydrological Investigation Division
5. Surface Water Hydrology Division
6. Water Resources Systems Division
7. Hard Rock Regional Centre, Belagavi
8. Western Himalayan Regional Centre, Jammu
9. Central India Hydrology Regional Centre, Bhopal
10. Deltaic Regional Centre, Kakinada
11. NIH-North Eastern Regional Centre, Guwahati
12. CFMS (Ganga Basin), Patna
13. North Western Regional Centre, Jodhpur

Number of studies/projects handled by each Division are given below:

No. of Studies/Projects During the Year 2024-25					
Division	New		Ongoing		Total
	R & D	Sponsored	R & D	Sponsored	
C4S	8	-	8	2	18
Environmental Hydrology	4	2	5	3	14
Groundwater Hydrology	5	2	4	1	12
Hydrologic Investigation	5	-	3	4	12
Surface Water Hydrology	6	-	6	1	13
Water Resources System	8	-	5	3	16
HRRC, Belagavi	2	-	3	3	08
WHRC, Jammu	4	-	2	1	07
CIHRC, Bhopal	-	-	3	4	07
DRC, Kakinada	3	-	5	1	09
NERC, Guwahati	3	-	5	-	08
CFMS, Patna	4	-	1	1	06
NWRC, Jodhpur	4	1	3	-	08
Total	56	5	53	24	138

CENTRE FOR CRYOSPHERE AND CLIMATE CHANGE STUDIES (C4S)

Recommended Work Programme for the Year 2024-25

S. N.	Title of Project/Study	Study Team	Duration	Funding
Internal Studies (Ongoing)				
1.	Ascertaining the efficacy of use of State of the art technologies for spring mapping and sustainability of springs through suitable interventions	SS Rawat (PI), Sudhir Kumar, SM Pingale, PK Mishra, DS Bisht, Rajesh Singh	3 years (04/22-03/25) Ongoing	NIH
2.	Geo-Hydro-Chemical and Isotopic Aspects of occurrence of Springs: A case study from the major settlement areas of Bhagirathi basin, Uttarakhand, India	SS Rawat (PI), Suhas Khobragade, MK Sharma, MS Rao, SM Pingale, PK Mishra	03 Years (04/23 -03/26) Ongoing	NIH
3.	Climate Change Scenarios for Andhra Pradesh and its impact on streamflow and groundwater levels in Pennar River Basin	Sunil Gurrapu (PI) YRS Rao, RV Ramana, Nitesh Patidar, TVNAR Kumar, CE, WRD, GoAP	02 years (04/22-09/24) Ongoing	NIH
4.	Real time monitoring of snow-glacier related parameters and Ensemble Hydrological Modeling (EHM) to study the Triloki Group of Glaciers and Khatling glaciers part of Western Himalaya, India under climate change scenarios	Vishal Singh (PI), Surjeet Singh, Sunil Gurrapu, Lavkush Patel, Akshaya Verma, Madhusudan Thapliyal	05 Years (03/23-02/28) Ongoing	NIH
5.	Investigation on occurrences of extreme rain events across Northwest Himalaya in relation to global atmospheric thermal and circulation changes	Ashwini Ranade (PI), PK Mishra, Sunil Gurrapu	03 years (04/22-03/25) Ongoing	NIH
6.	Early Signatures of 21st Century on Snow Cover Dynamics in Zaskar River Basin, Ladakh	DS Bisht (PI) PG Jose	03 years (07/21-06/24) Ongoing	NIH
7.	Comparative Analysis of Fine Scale Satellite & Reanalysis Precipitation Products in Upper Ganga Basin using Multicriterion Decision-Making	DS Bisht (PI) MK Goel	02 years (06/22-06/24) Ongoing	NIH
8.	Monitoring and Modelling of the Gangotri glacier catchment under different Climate Scenarios	Lavkush Kr Patel (PI), Akshaya Verma, Vishal Singh, Kapil Kesarwani, Surjeet Singh, Jatin Malhotra	03 years (04/23-03/26) Ongoing	NIH
Internal Studies (New)				
9.	Updation of Glaciers and Glacial Lakes in Indian Himalayan Region	Surjeet Singh (PI), Vishal Singh, Lavkush Kr Patel, Akshaya Verma, M. Thapliyal	02 years (04/24-03/26) New	NIH
10.	Assessment of Hydrological Extremes and Impact on Future Water Availability in Pennar River Basin under Changing Climate	Sunil Gurrapu (PI), Surjeet Singh, Vishal Singh, YRS Rao, RV Ramana, M. Thapliyal, TVNAR Kumar, CE, WRD, GoAP	01 year (04/24-03/25) New	NIH

11.	Glacio-hydrological and GLOF investigations over the Triloki glacier, Bhaga basin, Western Himalaya	Lavkush Kr Patel (PI), Akshaya Verma, Vishal Singh, Surjeet Singh	03 years (03/24-03/27) New	NIH
12.	WRF-based dynamical downscaling of CMIP6 climate projections over Himalaya and surrounding Region	Kuldeep Sharma (PI), Ashwini Ranade, Sahidul Islam, Associate Director, CDAC, Pune	03 years (04/24-03/27) New	NIH
13.	Integrated long-term monitoring of Khatling Glacier, Bhilangana basin, Uttarakhand	Akshaya Verma (PI), Vishal Singh, Sunil Gurrapu, Lavkush Patel, Surjeet Singh	04 years (04/24-03/28) New	NIH
14.	A Spatially Explicit Assessment of CMIP6 General Circulation Models for the Indian Himalayan Region	Deepak Singh Bisht (PI), Nitesh Patidar, SS Rawat, Surjeet Singh	02 years (04/24-03/26) New	NIH
15.	Climate change impacts on water resources availability and hydropower potential assessment in the Himalayan Satluj river basin (up to Kasol).	Rajat Kumar (PI), Vishal Singh, Surjeet Singh, Shakti Suryavanshi	02 years (04/24-03/26) New	NIH
16.	Influence of Climate Change and Future Response of the Milam Glacier (Central Himalaya, India): Science – Practice - Policy	Kapil Kesarwani (PI), Surjeet Singh, Lavkush Kumar Patel, DS Bisht, Akshaya Verma, Madhusudan Thapliyal	03 years (04/24-03/27) New	NIH
Sponsored/Collaborative Projects				
1.	Assessment of glacier-climate functional relationships across the Indian Himalayan region through long-term network observations	Vishal Singh, Lead Co-PI, NIH Roorkee	03 years (12/23-11/26) Ongoing	Sponsored by NMHS-GBPNIHE
2.	Satellite based mountain hazard assessment and monitoring (MHAM) in Uttarakhand, joint with IIRS Dehradun – Sponsored by IIRS	Vishal Singh (PI-NIH), RS Chatterjee (Lead PI-IIRS), Praveen K Thakur, Pankaj R. Dhote, NIH Roorkee (PI-NIH) Sanjay K Jain (Ex. Sc., NIH)	01 year (01/23-01/24) Funds Recvd Nov-23. Ongoing	Sponsored by IIRS, Dehradun
Consultancy Studies				
1.	System Studies for Proposed Farakka-Sundarban Link Project	Surjeet Singh (PI), MK Goel, PK Singh, PK Mishra, Vishal Singh, Nitesh Patidar	1.5 years (12/22-05/24) Ongoing	Sponsored by NWDA

ENVIRONMENTAL HYDROLOGY DIVISION

Recommended Work Programme for the Year 2024-25

S. No.	Study Title	Study Team	Duration/Status
Sponsored R&D Projects (Ongoing)			
1.	Innovation Centre for Eco-Prudent Wastewater Solutions (IC-EcoWS)	Omkar Singh (PI), Rajesh Singh (Co-PI), Jyoti P Patil, VK Tyagi, Kalzang Chhoden, Rajesh Agarwal Partners: NIH, MNIT-Jaipur, IIT-Bombay, IRMA-Anand	5 Years (04/19 - 09/24) Extended upto 08/2024. Project Cost: 5.1 Crore Sponsored by: DST Status: In-progress

2.	Irrigation Efficiency Improvement for Medium Irrigation Project (MIP) Shahnehar, H.P.	RP Pandey (PI), J P Patra, Rajesh Singh, Shakti Suryavanshi, SK Kumre, NK Bhatnagar	3 Years (12/17-06/24) Project Cost: 75 Lakh Sponsored by: NHP Status: In-progress
3.	Anaerobic Co-digestion of Thermochemically Pretreated Organic Fraction of Municipal Solid Waste and Sewage Sludge: Effect on Process Performance and Microbial Community Development	Vinay Kumar Tyagi (PI)	5 Years (2018-2024) Project Cost: 106 Lakhs Sponsored by: DBT Status: In-progress
Sponsored R&D Projects (New)			
4.	Development of innovative sewage treatment technology with minimum energy requirement	Vinay Kumar Tyagi (PI) Rajesh Singh (Co-PI) Partner: IIT Roorkee	Duration: 3 Yrs. (Mar 2024-Mar 2027) Project Cost: Rs. 97.50 Lakhs (THDC Ltd.)
5.	Innovative approach towards achieving energy self-sufficiency at municipal wastewater treatment plants thru hydrothermal pretreatment of sewage sludge and OFMSW	Vinay Kumar Tyagi (PI) Rajesh Singh (Co-PI) Partner: IIT Roorkee	Duration: 3 Yrs. (Mar. 2024-Mar. 2027) Project Cost: Rs. 98.50 Lakhs (THDC Ltd.)
Collaborative R&D Projects (Ongoing)			
6.	Isotopic and geochemical approach to study vulnerable confined and unconfined drinking water aquifers in Varanasi and surrounding area, India	Rajesh Singh (PI), R.P. Pandey BHU, Varanasi (Lead) Other Collaborators: BARC, Mumbai, ICER, Hungary	3 Years (07/21-06/24) Sponsored by: BHU Status: In-progress
7.	Comprehensive characterization of variably processed sewage sludge in Ganga basin to classify its suitability for safe disposal	VK Tyagi, (Co-PI) AA Kazmi (PI, IITR)	02 Years (01/22-06/24) Sponsored by: Central Pollution Control Board (CPCB)-NMCG Status: In-progress
8.	SARASWATI 2.0 - Identifying best available technologies for decentralized wastewater treatment and resources recovery for India	VK Tyagi, (Co-PI) AA Kazmi (PI, IITR)	4 Years (03/20-06/24) Sponsored by: DST Status: In-progress
Internal Study (Ongoing)			
9.	Characterisation of Groundwater Dynamics in Krishna-Godavari Delta interims using groundwater levels, Hydrochemistry, Isotopes and Emerging Contaminants	MK Sharma (PI), Suhas Khobragade, Rajesh Singh	2 Years (04/22-06/24) Status: In-progress
10.	Understanding arsenic mobilization in groundwater of Haridwar and formulating remediation measures	Rajesh Singh (PI), RP Pandey, Sumant Kumar, Pradeep Kumar, MK Sharma, VK Tyagi, Kalzang Chhoden	3 Years (07/21-06/24) Status: In-progress
11.	Simulation of Non-Point Source Pollution Processes in Song River	Pradeep Kumar (PI), MK Sharma, Rajesh Singh	4 Years (11/19-06/24) Status: In-progress
12.	Hydrological Studies for the Conservation of Rewalsar Lake	Kalzang Chhoden (PI) Rajesh Singh, RP Pandey, P Kumar, VK Tyagi, Omkar Singh, Suhas Khobragade DS Malik, GKU, Haridwar	3 Years (12/22-11/25) Status: In-Progress

13.	Comprehensive evaluation of disinfection units of STPs in Ganga basin: Occurrence and control the formation of emerging oxidation precursors	VK Tyagi (PI), Rajesh Singh, MK Sharma, P Kumar, JP Patra, Kalzang Chhoden, RP Pandey	3 Years (04/23 - 03/26) Status: In-Progress
Internal Study (New)			
14.	Nanotechnology-enabled Multifunctional Materials for the Detection and Remediation of Arsenic in Contaminated Water	PK Sahoo (PI), Rajesh Singh, RP Pandey, MK Sharma, Pradeep Kumar, VK Tyagi, Sumant Kumar, Kalzang Chhoden	3 Years (04/24 - 03/27)
15.	Land and water management plan for rejuvenation of Manorama River	Shakti Suryavanshi (PI), SK Kumre, RP Pandey, Pradeep Kumar, Rajesh Singh, MK Sharma, VK Tyagi	3 Years (04/24 - 03/27)
16.	Groundwater Quality Assessment of Tripura with Special Reference to Arsenic and Fluoride	Rajesh Singh (PI), VK Tyagi, Mk Sharma, PK Sahoo, Kalzang Chhoden, Shakti Suryavanshi, S.K. Sharma, Swapnali Barman, WR Singh, Rajib Paul (TSPCB)	3 Years (04/24 - 03/27)
17.	Comprehensive Hydrological Study for River Health Assessment and Development of Environmental Management Plan for River Yamuna	Pradeep Kumar (Lead-PI) and team of scientists from EHD, GWHD & HI	5 Years (04/24 - 03/29)
Consultancy Projects (Ongoing)			
18.	Water Quality Studies for Tehri Reservoir Tehri HPP (4x250MW)	Sudhir Kumar, RP Pandey, MK Sharma (PI), P Kumar, Rajesh Singh, SK Kumre	2 Years (02/23-01/25) Funded by: THDC, India Limited Cost: Rs. 6.91 Lakh Status: In-Progress
19.	Preparation of District/State Action Plans for Source Sustainability of Drinking Water Supply Schemes under Jal Jeevan Mission, Uttarakhand	RP Pandey (PI), Rajesh Singh (Co-PI), P Kumar, MK Sharma, VK Tyagi, Kalzang Chhoden, PK Sahoo, Shakti Suryavanshi, Shailendra Kumre	08 Months (10/23-06/24) Funded by: Uttarakhand Jal Jeevan Mission Cost: Rs. 1.06 Crore Status: In-Progress

GROUNDWATER HYDROLOGY DIVISION

Recommended Work Programme for the Year 2024-25

S. No.	Project	Project Team	Duration & Status	Funding
Internal Studies (Ongoing)				
1. NI H/GWH/22-25	Studying arsenic genesis and developing alternate water supply management strategies in Ganga basin	Sumant Kumar (PI), Surjeet Singh, Nitesh Patidar, Rajesh Singh, Gopal Krishan, M.K. Sharma, Vinay Tyagi, Soban Singh Rawat, P.K. Mishra	3 years (04/22 – 03/25) Status: In-progress	Internal Study
2. NI H/GWH/22-24	Conjunctive Management of Water Resources in IGNP Command	Nitesh Patidar (PI), M. K. Goel, Anupma Sharma, Surjeet Singh, Gopal Krishan, Sumant Kumar	2 years (04/22 – 03/24) Status: In-progress ext. till May 2024	Internal Study

3. NIH/G WH/23-24	Development of Archive of Soil Hydraulic Characteristics	Nitesh Patidar (PI), Surjeet Singh, M.K. Goel, Anupma Sharma	1 year (04/23 – 03/24) Status: In-progress ext. till Sept. 2024	Internal Study
4. NI H/GWH/23-25	Enhancement and application of NIH_WISDOM	Nitesh Patidar (PI) Deepak Singh Bisht, M.K. Goel, T. Thomas, Sunil Gurrapu, Anupma Sharma, Surjeet Singh	2 years (10/23 – 09/25) Status: In-progress	Internal Study
Sponsored Projects (Ongoing)				
1. NI H/GWH/D ST/19-23	Enhancing Food and Water Security in Arid Region through Improved Understanding of Quantity, Quality and Management of Blue, Green and Grey Water	Anupma Sharma (PI-NIH), Gopal Krishan, Nitesh Patidar, P.K. Mishra (Lead: CAZRI Jodhpur, Partners: NIH Roorkee, IISWC Dehradun, CSWRI & CIAH, Bikaner, NIAM Jaipur)	5 years (03/19 - 07/24) Status: In progress	DST
Sponsored Projects (New)				
1. NI H/GWH/DST-SERB/23-25	Use of deep learning models to understand the impact of climate and land use changes on future groundwater resources, with a focus on data scarce regions.	L. Surinaidu (PI-NIH) (Lead: IIT Hyderabad, Partner: McGill University, Canada)	2 years 06/23-07/25 Status: New Study Transferred to NIH	DST-SERB
2. NI H/GWH/MoES/22-24	Carriers of Mass Transport Contamination in Delhi, NCR	L. Surinaidu (PI-NIH) (Lead: NGRI, Hyderabad)	2 years 10/22-09/24 Status: New Transferred to NIH	MoES
Internal Studies (New)				
1. NI H/GWH/24-27	Surface water-groundwater interactions through field techniques and hydrological modelling in Yamuna basin	Sumant Kumar (PI), Nitesh Patidar, L. Surinaidu, Pintu Gupta, Ajit Kumar Behera, Anupma Sharma, Shailendra Kumre, Gopal Krishan	3 years (04/24 – 03/27) Status: New Study	Internal Study
Major Project with sub-projects (S.N. 2-5)	Enhancing the Sustainability of Water Resources Through Integrated Assessment and Management Techniques in the LUNI River Basin – Rajasthan	Anupma Sharma (Project Coordinator) Scientists from GWH Div. & NWRC Jodhpur	3 years (04/24 – 03/27) Status: New Study	Internal Study
2. NI H/GWH / 24-26	Estimation of Soil Characteristics and Simulation of Groundwater Recharge in the Luni River Basin	Satendra Kumar (PI) Anupma Sharma, L. Surinaidu, Ajit K. Behera, Pintu K. Gupta, Nitesh Patidar	2 years (04/24 – 03/26) Status: New Study	Internal Study
3. NI H/GWH/24-27	Hydrogeochemical Evolution and role of Paleochannels on	Ajit Kumar Behera (PI), L. Surinaidu, Pintu Gupta, Malkhan Singh	3 years (04/24 – 03/27) Status: New Study	Internal Study

	groundwater quality in the Luni Basin	Jatav, Anupma Sharma, M. K. Sharma, Dr. A. H. Laskar (PRL)		
4. NI H/GWH/24-26	Hydrogeological Investigations in the Luni River Basin	Pintu Kumar Gupta (PI), L. Surinaidu, Nitesh Patidar, Ajit Kumar Behera, Satendra Kumar, Sudesh Chaudhary	2 years (04/24 – 03/26) Status: New Study	Internal Study
5. NI H/GWH/24-27	Characterisation and Modeling of Multi Aquifer System of Luni River Basin in Rajasthan Under Climate and Anthropogenic Influences	L. Surinaidu (PI), Anupma Sharma, Ajit K. Behera Sumant Kumar, Sudesh Chaudhary	3 years (04/24 – 03/27) Status: New Study	Internal Study

HYDROLOGICAL INVESTIGATIONS DIVISION

Recommended Work Programme for the year 2024-25

S. N.	Project Title	Study Team	Duration	Status
Internal Studies (Ongoing)				
1.	Assessment of the Possible Impact of Climate Change on Evapotranspiration for Different Climatic Regions Of India	SD Khobragade (PI), Vishal Singh, Sudhir Kumar	3 years (04/22-03/25)	On-going
2.	Runoff and Water Storage Capacity Estimation for Deciding Rainwater Harvesting Strategies	S.M. Pingale(PI), Soban Singh Rawat, S. D. Khobragade, Rajeev Gupta	2 Years (04/23-03/25)	On-going
3.	Sedimentation and Water Quality Study of Fulhar Lake, Pilibhit (U.P.)	Rajeev Gupta (PI) S.D. Khobragade SM Pingale	2 Years (04/23-03/25)	On-going
Internal Studies (New)				
4.	Development of radiocarbon dating facility	Tripti Muguli (PI), Someshwar Rao, Amit Pandey	1 year (04/24-04/25)	New Study
5.	Understanding Surface Water Groundwater Interactions in the Narmada River Basin and its Hydrological Implications	Amit Pandey (PI)	3 years (04/24-03/27)	New Study
6.	Hydrological and hydrogeological investigations in the Yamuna river basin using isotope techniques.	Tripti Muguli (Project Co-ordinator), Suhas Khobragade, M. Someshwar Rao, Ruchir Patidar, Vipin Agrawal, Amit Pandey	3 years (04/24-03/27)	New Study

S. N.	Project Title	Study Team	Duration	Status
7	Fingerprinting of aquifer dynamics in India through isotopic and geochemical approach: demand driven investigations at regional scale under NAQUIM 2.0	Tripti Muguli (PI), S.D. Khobragade	3 years (04/24-03/27)	New Study
8.	Quantifying Current and Future Meteorological Drought Characteristics and Identifying Risk Zones in Central India.	Ruchir Patidar (PI), S.M. Pingale, S.D. Khobragade	3 years (04/24-03/27)	New Study
<u>SPONSORED PROJECTS:</u>				
1.	Groundwater Fluctuations and Conductivity Monitoring in Punjab - Groundwater resilience in Punjab and adaptation to future changes in climate and water resource demands -title modified by funding agency	Gopal Krishan)PI, S .Singh, M .S .Rao <i>BGS, UK:</i> Dr .Dan Lapworth Dr .Alan MacDonald Dr .Daren Goody BGS, UK	5 years 12/17-11/24(On-going
2.	Expansion of the Indo-German Competence Centre for Riverbank Filtration –CCRBF	Gopal Krishan)PI & Co-coordinator(Federal Min .of Education and Research, Germany	3 years)07/20 – 03/24((likely to be extended further)	On-going
3.	Partitioning Evapotranspiration into Evaporation and Transpiration fluxes using Stable Isotopes of Oxygen and Hydrogen	Gopal Krishan)PI, MS Rao DSTSERB	3 years)04/21 – 03/24((likely to be extended upto 10/2024)	On-going
4.	Changing The Fate of the Hindon River by Evaluating the Impact of Agriculture On the Water Balance: Developing a Template for a Cleaner Ganga River	M. K. Sharma (PI) Anjali, Vishal Singh SM Pingale, S.D. Khobragade, Pradeep Kumar, Nitesh Patidar, Surjeet Singh.	5years (04/22-03/27)	On-going

SURFACE WATER HYDROLOGY DIVISION
Recommended Work Programme for the year 2024-25

S. No.	Title of Project/Study	Study Team	Duration	Funding
Internal studies (Ongoing)				
1.	Flood Forecasting under Changing Climate Conditions - Role of Machine Learning and Conceptual/Physical based Model	P. C. Nayak; A. K. Lohani; J. P. Patra; Sunil Gurrapu; T. Thomas; Om Prakash; Jatin Malhotra	03 Year (July 2022 - June 2025)	NIH
2.	Hydrological Study for revival and restoration of traditional water bodies in Bikaner, Rajasthan	L. N. Thakural; J. P. Patra; M. K. Sharma; R. K. Jaiswal; P. K. Mishra; Nitesh Patidar; N. K. Bhatnagar; Jatin Malhotra; Anil Kumar Chhangani	02 Year (Apr 2022 - March 2024) (Extension required for Six months.ie upto Sep. 2024)	NIH
3.	Review of design flood and dam break analysis of Khadakhai Dam in Odisha	J.P. Patra; A. K. Lohani; Pankaj Mani; P. C. Nayak Sanjay Kumar	03 Year (April 2022 - March 2025)	NIH
4.	Investigation of hydrodynamic approach of flood inundation mapping along with assessment of changes in river planforms using a cloud-based Google Earth Engine (GEE) computing platform in data-scarce Western Himalayan River basin	R. V. Kale; A. K. Lohani J. P. Patra; D. Khurana	03 Years (September 2021- October 2024)	NIH
5.	Estimation of confidence intervals of index flow duration curves	Sanjay Kumar; Sunil Gurrapu; L. N. Thakural J. P Patra	02 Years (April 2023 - March 2025)	NIH
6.	Hydrologic and hydraulic study for Jata Ganga river at Jageshwar dham	J.P. Patra; A. K. Lohani; Pankaj Mani; D. S Bisht; S. S. Rawat	01 Years (July 2023 - July 2024)	NIH
Sponsored Projects (Ongoing)				
1.	Operational coastal flood management through short-to-medium range (real-time) flood vulnerability mapping in the Brahmani-Baitarani River Basin integrating human and climate induced impacts	B. Sahoo, (PI, IIT-Kgp) R. V. Kale, (Co-PI)	04 years (July, 2020 – June, 2024)	STARS (MHRD, GoI)
Internal studies (proposed)				
1.	Entropy and Image Processing Based Non-Contact Discharge Monitoring Techniques: Testing and Implementation for Indian rivers	NIH: R, V, Kale; M. K. Goel; A. K. Lohani CWPRS: Dr. Selva Balan	1.5 Years (April 2024 - September 2025)	NIH

		External Expert: Prof. M. Perumal		
2.	A Flood Forecasting Framework Coupling a High Resolution WRF Ensemble with 2D Hydrodynamics Model for Himalayan Mountainous Area.	R. V. Kale; K. Sharma; S. Kumar; A. K, Lohani	03 Year (April 2024 - March 2027)	NIH
3.	Basin-scale, integrated water resources assessment through integrated hydrological modelling.	S. Sahoo; A. K, Lohani; P. C. Nayak; R. V. Kale; J. P. Patra	2.5 Years (April 2024 - September 2026)	NIH
4.	Comprehensive Mapping of Water Budget Dynamics and Reservoir Sedimentation in the Upper Krishna Basin using Google Earth Engine.	Chandra Prakash; A. K. Lohani; R. V. Kale; Richa Pandey	02 Years (April 2024 - March 2026)	NIH
5.	Water Resources Planning and Management using DSS (PM) under Changing Climatic and Land-Use Conditions	Richa Pandey, Chandra Prakash, Sukant Jain, J. P. Patra, R. K. Jaiswal, A. K. Lohani	02 Years (April 2024 - March 2026)	NIH
6.	Web based platform for IDF Design Rainfall Estimates for India	Sukant Jain; A. K. Lohani; J. P. Patra; Richa Pandey; Chandra Prakash	1.5 Years (April 2024 - September 2025)	NIH

WATER RESOURCES SYSTEMS DIVISION
Recommended Work Program for the year 2024-25

SN	Title	Study Team	Duration	Funding (Rs. Lakhs)
Sponsored Studies (Ongoing)				
1.	Snow and glacier contribution and impact of climate change in Teesta river basin in Eastern Himalaya	P K Singh; Vishal Singh; A K Lohani	3 years (11/19-11/22) Extended up to 03/24	NMHS-MoEF (143)
2.	Development of Water Accounts for the different sub-basins of Brahmaputra and Barak River Basins in the state of Meghalaya Using Water Accounting Plus (WA+) Framework.	P K Singh; P K Mishra	2 years (08/20-07/22) Extended up to 03/24	NHP (14.50)
3.	Monitoring and Assessment of Mountain Ecosystem and Services in North-West Himalaya (Phase-II): Monitoring and Modeling of Hydrological Processes in Glaciated and Non-Glaciated Watersheds of North-West Himalaya	M K Nema; P. K. Mishra; P. R. Patil; Praveen Thakur (IIRS)	3 years (04/22-03/25)	IIRS (30.91)
Internal Studies (Ongoing)				
4.	Development of Water Accounts for the selected sub-basins of Brahmaputra, Barak and Irrawady-Chindwin basins in	P K Mishra; P K Singh	2 years (04/21-06/23) Extended up to 03/24	NHP (9.00)

	the state of Nagaland using Water Accounting Plus (WA+) Framework.			
5.	Hydrological Assessment of Ungauged Basins (Aghanashini, Dasanakatte, Sita Nadi, Madisala Hole, Swarna Nadi and Gurupur River Basins) of the West Flowing Rivers in the Western Ghat Region of Karnataka	Vishal Singh, P K Singh, Harsh Upadhyay; Abhilash R.	3 years (04/22-03/25)	NHP (54.0)
6.	Monitoring and hydrological modeling of Henva watershed in Lesser Himalaya	M K Nema; P K Mishra	3.5 years (08/20-03/24)	NIH (10.22)
7.	Spatio-temporal Water Availability under Changing Climate and Land-use Scenarios in Wainganga River Basin	M K Nema; P K Mishra	3 years (04/22-03/25)	NIH (9.72)
8.	Investigating gap areas, current trends and future directions of research in Climate Change Impact on Hydrology and water Resources in India through Scientometrics	Archana Sarkar; Jyoti Patil; Charu Pandey	2 years (05/22-04/24)	NIH
Internal Studies (New)				
1.	Simulation of operation of multiple reservoirs in Wainganga Basin for conservation and flood control under changing climate scenario	A R Senthil Kumar; T Thomas; M K Nema; Harsh Upadhyay; Sunil Gurrapu	3 years (04/24-03/27)	NIH (21.02)
2.	ResSed – Tool development for prediction of elevation-area-capacity curves of the reservoirs	A R Senthil Kumar; U K Singh; P. R. Patil; Harsh Upadhyay; Nitesh Patidar	2 years (04/24-03/26)	NIH (11.18)
3.	Integrated operation of Bisalpur and Isarda reservoirs in Banas river basin, Rajasthan	Archana Sarkar; A R Senthil Kumar; P K Mishra; Harsh Upadhyay; Mr. Sanjay Agarwal	3 years (04/24-03/27)	NIH (19.30)
4.	Water and Land Productivity Accounts for the major river basins of India using water accounting plus: WAPRO-India	P K Mishra; P K Singh; Vishal Singh; Harsh Upadhyay; P R Patil; A. R. Senthil kumar	2 years (04/24-03/26)	NIH (43.48)
5.	Development of rule-based integrated operation framework for the Mahanadi basin	P K Mishra; M K Goel; A R Senthil Kumar, Harsh Upadhyay	1.5 years (04/24-09/25)	NIH (5.0)
6.	Assessment of Precipitation Gradients and Temperature Lapse Rates for Hydrological Modelling in a Himalayan Catchment	P R Patil; M K Nema; P K Mishra; A R Senthil Kumar; Asif	3 years (04/24-03/27)	NIH (20.0)
7.	Evaluation of Area-Design Curve to estimate sediment distribution in Indian reservoirs	U K Singh; A R Senthil Kumar; M K Goel; P R Patil	2 years (04/24-03/26)	NIH (1.0)

8.	Water yield potential and flash flood risk assessment under changing climate and land use and strengthening of existing instrumentation in the Teesta River basin up to Domohani	Harsh Upadhyay; Vishal Singh; P K Singh; A R Senthil Kumar; P R Patil	3 years (04/24-03/27)	NIH (44.52)
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HARD ROCK REGIONAL CENTRE, BELAGAVI
Recommended Work Programme for the year 2024-25

S. No.	Project Title	Study Team	Duration	Status
INTERNAL STUDIES				
1.	Comprehensive Assessment of Basin Hydrology of Rivers Originating from Western Ghats of Karnataka	Venkatesh B. (PI) Abhilash R. N. Varadarajan	3 years (4/23-4/26)	On-going
2.	Studies on Occurrence, Distribution of Springs in parts of Western Ghats, India	Abhilash R. (PI) Venkatesh B.	1 year (4/23-3/24)	On-going
3.	Water Productivity assessment in Irrigation Projects by Geo-Spatial Optimization Techniques	Abhilash R. (PI) Venkatesh B.	3 years (4/23-4/26)	On-going
4.	Groundwater Model Development in Micro Basin of Hard Rock in Krishna and Godavari River Basins of Telangana	B. Venkatesh (PI) Abhilash R. & officials from TSGWD	3 years (Sept 2019 – Aug 2022) extended up to March, 2025	On-going
5.	Impact of Sand Mining on Groundwater Regime in Parts of Manjira River Basin, Telangana State	Abhilash R. (PI) B. Venkatesh and officials from TSGWD	2 years (Sept 2021 – Aug 2023) extended up to March, 2025	On-going
6.	Comprehensive Assessment of Water Availability, Use and Issues for Goa State	B. Venkatesh (PI) Abhilash R. and Officials of WRD Goa	2 years (01/22 to 12/23) extended up to March, 2025	On-going
New Study				
1.	Comprehensive Assessment of groundwater resources in Shallow Coastal Aquifers of Gurupur and Pavanje basins of Dakshin Kannada, Karnataka	Sushmita Wadde Abhilash R. and B. Venkatesh	2 years June, 2024 – May, 2026	PI presented the objectives of the study. The members expressed that, there is need to delineate the area so as to exclude the saline affected

S. No.	Project Title	Study Team	Duration	Status
				portion of the study area.
2.	Coastal Salinity Studies in Bardez and Tiswai Taluk of Goa State	Abhilash R. (PI) Tripti M. (HQ) Venkatesh B. & Sushmita Wadde	1 year June, 2024 – May, 2025	The CGWB official expressed the objectives and purpose of the study. They also expressed their interest to collaborate with NIH for isotope study. In response, the Chairman expressed that the NIH scientist will collaborate and will carry out the necessary experiments and isotope analysis which are required for this study.

WESTERN HIMALAYAN REGIONAL CENTRE, JAMMU
Recommended Work Programme for the year 2024-25

S. No.	Title of Study	Team	Duration	Remarks
Internal Studies				
1.	Estimation of changes in snow cover and climate-cryosphere interaction in Upper Chenab River Basin	P. G. Jose (PI) D. S. Bisht	Aug. 2020 – June 2024	Ongoing
2.	Mass balance of Phuche and Khardung glaciers, Ladakh Range with implications for downstream water availability under changing climate.	P. G. Jose (PI) R. A. Mir D. S. Bisht I. Sharma S. Singh G. Singh	July 2021 - Dec. 2024	Ongoing

S. No.	Title of Study	Team	Duration	Remarks
3.	Understanding hydro-cryospheric processes in response to climate change and atmospheric pollutants: A case study of Jhelum basin, Kashmir Himalaya, India	R. A. Mir (PI) P. G. Jose V. K. Singh I. Sharma S. Singh	May 2024 – Apr. 2027	New Study
4.	Basin-scale inventorying of rock glaciers for permafrost distribution probability mapping, hydrological storage estimation and hazard vulnerability assessment	R. A. Mir (PI) P. G. Jose S. Singh I. Sharma, D. S. Bisht	May 2024 – Apr. 2027	New Study
5.	Site Suitability Mapping for Rainwater Harvesting and Spring Rejuvenation in the Tawi Basin	I. Sharma (PI) S. Singh R. A. Mir	May 2024 – Apr. 2026	New Study
6.	Development of a User-Friendly Web-Portal for Integrated Snow Cover and Meteorological Analysis with Land Use Change Detection Using Google Earth Engine	S. Singh (PI) I. Sharma R. A. Mir	May 2024 – Apr. 2026	New Study
Sponsored/Collaborative Projects (Ongoing)				
1.	Permafrost mapping and characterization of Western Himalayan Region	P. G. Jose (PI) A. P. Dimri (JNU) G. Jeelani (KU) V. Agnihotri (GBPNIHESD)	Aug 2019 – Mar 2024	Ongoing. Funded under NMHS.

CENTRAL INDIA HYDROLOGY REGIONAL CENTRE, BHOPAL
Recommended Work Programme for the year 2024-25

S. No.	Title of Project/Study	Study Team	Duration	Status / Comments	Funding
Internal Studies					
1.	Re-assessment of evapotranspiration (<i>ET_o</i>) estimation for irrigation planning in Madhya Pradesh	NIH Dr. R.V. Galkate Dr. R. K. Jaiswal Dr. A. K. Lohani Ms. Shashi Indwar MP-WRD, Bhopal Sh.Sayyam Jhanjari Sh. Sameer Soni	3 years (Nov 2021 – Oct 2024)	Ongoing	Internal
2.	Water Availability Assessment for Project Formulation in Sub Basins of Ganga River in Madhya Pradesh	NIH Dr. R. K. Jaiswal Dr. Ravi Galkate Dr. A. K. Lohani MP-WRD, Bhopal Dr. B. Baghel	3 years (Nov 2021 – Oct 2024)	On-going	Internal

S. No.	Title of Project/Study	Study Team	Duration	Status / Comments	Funding
3.	Development of Reservoir Operation Plan under Climate Change scenarios for Kolar reservoir	NIH Ms. Shashi Indwar Dr. T. Thomas Dr. R. K. Jaiswal Dr. R. V. Galkate MP-WRD, Bhopal C.E., Hoshangabad S.E., Kolar E.E., Kolar	3 years (Oct 2021 – Sept 2024)	On-going	Internal
Sponsored Projects					
4.	Integrated reservoir operation studies for Mahanadi reservoir project complex in Chhattisgarh: SP-56/2021-22/NIH (CIHRC)	NIH Dr. R. K. Jaiswal Dr. Ravi Galkate Mrs. Shashi Indwar Dr. A. K. Lohani Dr. M. K. Goel Dr. Vishal Singh Sh. Sumit Saini Dr. Deepti Rani WRD, CG Sh. A. Verma Sh. J. K. Das Sh. V. K. Dubey Ms. A. Gupta Sh. P. Awadhiya IGKV, Raipur Dr. S. Chandniha	2 years (Apr 2022 - Sept. 2024)	Ongoing	Special Project under NHP
5.	Assessment of impact of climate change on water resources in Shipra river basin	NIH, Bhopal Dr. Ravi Galkate Dr. R. K. Jaiswal Er. Shashi Indwar RNTU, Bhopal Dr. Shalini Yadav Dr. S. K. Sharma	3 years Approval awaited from INCCC. Study will start as internal study from May, 24.	In principle approved by INCCC and final letter of award is awaited.	NIH/ INCCC, MoJS
6.	Water Resource Management for Tawa Reservoir Project under Climate Change	NIH, Bhopal Dr. R. K. Jaiswal Dr. Ravi Galkate Er. Shashi Indwar MPU Bhopal Dr. R. N. Yadav Dr. M. P. Verma	3 years As approval is awaited from INCCC, study will start as internal study from May 2024	In principle approved by INCCC and final letter of award is awaited	NIH/ INCCC, MoJS

DELTAIC REGIONAL CENTRE, KAKINADA
Recommended Work Programme for the year 2024-25

S. No.	Project	Study Team	Status & Comments/Suggestions
Internal Project (Ongoing)			
1.	Identification of Recharge and Discharge areas of Palar River basin in Tamil Nadu	V.S.Jeyakanthan (PI) Tripti Muguli Y.R. Satyaji Rao R. Venkata Ramana	1. Dr. Siva Kumar suggested to include groundwater level fluctuations as one of the layer in Index method. 2. Prof. Madhavi Ganesan suggested to include detailed methodology adopted to get the raster maps of various thematic layers, especially the lineament density map, and to get the final raster map of recharge and discharge areas. 3. Dr. S V Vijaya Kumar suggested to use LMWL or local rain for better identification of recharge areas instead of using GMWL RCC recommended for completion of study with the remark that the above comments are to be incorporated in the final report.
2.	Impact assessment of backwater through drains, creeks and river mouths on groundwater salinity in the Godavari Delta, Andhra Pradesh	Y. R. Satyaji Rao (PI) Sudhir Kumar V. S. Jeyakanthan R. Venkata Ramana	1. Dr. Siva Kumar suggested to compare the salinity leaching phenomena with the present groundwater table in the Godavari delta. 2. Prof. Madhavi Ganesan suggested to identify the sources of high mercury levels in the drains of Godavari delta. 3. Sh. Y. Srinivas suggested to identify the major anthropogenic activities which cause mercury in the drains of Godavari delta RCC recommended the continuation of the study for the year 2024 -2025.
3.	Storm water flood management in the coastal city - A case study	R. Venkata Ramana (PI) Y. R. Satyaji Rao V. S. Jeyakanthan	1. Dr. P. V. Raju suggested to use the high-resolution data for better accuracy to estimate impervious parameters. He also gave consent that NRSC will provide high spatial resolution satellite data free of cost for better LULC representation under Amruth city programs from Bhunidhi platform. RCC recommended the continuation of the study for the year 2024 -2025.
4.	Climate Change Impact Assessment under Future Scenarios over the East Coast of	Sabyasachi Swain (PI) Y. R. Satyaji Rao V. S.Jeyakanthan R. Venkata Ramana	1. Dr. P. V. Raju informed that IMD has carried out trend analysis of historical climate over entire Indian Region using 100 years data. However, the RCC appraised that this study includes new assessment of trends, seasonality/concentration, and

S. No.	Project	Study Team	Status & Comments/Suggestions
	India: A focus on the Hydroclimatic Extremes		<p>extreme characteristics which were not considered in IMD trends in the east coastal region and shall be helpful to identify the hotspots of extremes.</p> <p>2. Chairman emphasized the importance of hydrological modelling to study the implications of climate change on the occurrence and magnitude of floods, and water availability over an east-coastal river basin of India.</p> <p>RCC recommended the continuation of the study with PI from DRC, Kakinada</p>
5.	Evaluation and post-processing of multi-model short-to medium-range precipitation forecasts: Towards developing a flood early warning system over Subarnarekha Basin	Sabyasachi Swain (PI) Y. R. Satyaji Rao Biswajeet Pradhan Saswata Nandi	<p>1. Dr. P. V. Raju suggested that IMD also provides QPFs, which they share with CWC and NRSC, and can be used in this study. Further, he suggested that once the hydrological model is calibrated and validated for QPFs, it can also be utilized for assessing climate change impacts on the future hydrology of the basin.</p> <p>2. The Chairman said that the QPFs from IMD shall be procured by NIH, which can then be used for flow forecasting in this study. This would result in a valuable comparative analysis.</p> <p>RCC recommended the continuation of the study with PI from DRC, Kakinada.</p>
Sponsored Projects			
6.	High performance Advanced Septic System for Villages and Roadside Restaurants	Y. R. Satyaji Rao (PI)	<p>1. The Chairman suggested to look into the possibility of replicability and up scaling of the pilot project for the benefit of community-based toilets for safe disposal of sewage water into the environment.</p> <p>2. Prof. Madavi Ganesan suggested to compute the unit cost of the sewage water treatment and its maintenance cost after the completion of the performance evaluation of the project.</p> <p>RCC recommended for the continuation of the study.</p>
Internal Projects (New)			
1.	A study on Source sustainability – A case study of JJM in Odisha	S. V. Vijayakumar (PI) V. S. Jeyakanthan Y. Siva Prasad P. C. Nayak	1. Dr. P. V. Raju suggested to focus on the difficulties and challenge in quantifying source sustainability in such schemes and to adopt appropriate methodology.

S. No.	Project	Study Team	Status & Comments/Suggestions
			2. The Chairman advised that after conducting the proposed study on the experiences of JJM in select districts in Odisha, same may be extended to address the issues in Pennar basin as well. RCC recommended the proposed study.
2.	Water Accounting of Palar River Basin Using Water Accounting+ (WA+) Framework	V. S. Jeyakanthan (PI) P. K. Mishra Y. R. Satyaji Rao R.Venkata Ramana	1. The Chairman instructed to take up the study in Pennar basin instead of Palar river basin. 2. Dr. Raju informed to use the Indian satellite data wherever possible instead of foreign satellite data. RCC recommended the proposed study
3.	Delineation of fresh groundwater zones and simulation of solute transport modelling for the sustainable use of groundwater in the saline zone of Krishna Godavari Delta, Andhra Pradesh	Y. Siva Prasad (PI) Y. R. Satyaji Rao, V. S. Jeyakanthan R. Venkata Ramana	1. The Chairman instructed to take up a similar study in Pennar delta region instead of the KG Delta. 2. Prof. Madhavi Ganesan suggested to use density dependent SEAWAT model to identify seawater intrusion in the study. 3. Sh. Y. Srinivas suggested to drill few tube well to compare the results of VES surveys. RCC recommended the proposed study.

NORTH EASTERN REGIONAL CENTRE, GUWAHATI
Recommended Work Programme for the year 2024-25

S. No.	Title	Team	Duration	Type	Remarks
1.	Drought characterization and vulnerability assessment in Assam	W R Singh, S Barman, S Arora, S K Sharma, S V Vijayakumar, A K Lohani	2 years (07/22– 06/24)	Internal	Ongoing
2.	Short Term Flood Forecasting Using Bootstrap based Artificial Neural Networks within Beki River Basin	S K Sharma, S Barman, S V Vijaya Kumar, A K Lohani	1 year (07/23– 06/24)	Internal	Ongoing
3.	*Linear hydrological routing using Satellite precipitation datasets for flood forecasting in parts of Brahmaputra Basin	S Arora, W R Singh, S Barman	1.5 years (10/23– 03/25)	Internal	Ongoing
4.	Rainfall Induced Flood Hazard Risk Vulnerability Assessment in East Jaintia Hills, Meghalaya	S K Sharma, S Arora, A K Lohani	1.5 years (10/23– 03/25)	Internal	Ongoing
5.	Hydrodynamic modeling for riverbank protection- A case study	S Barman, W R Singh,	1.5 years	Internal	Ongoing

		S Arora, S K Sharma, S V Vijaya Kumar	(10/23– 03/25)		
6.	*Potential Recharge Zoning and Projection of Future Water Resources Potential in Singda Dam of Manipur	W R Singh, S Barman, S Arora, M Maza	2 years (04/24– 03/26)	Internal	New Study
7.	*Isotope characterization of waters and Hydrograph Separation in Dibang river catchment in Arunachal Pradesh*	S Arora, W R Singh, S Barman, S K Sharma, S S Rawat	3 years (04/24– 03/27)	Internal	New Study
8.	*Flood Inundation Modelling of Pagladiya River Basin of Assam	S K Sharma, S Barman, S Arora	1 years (04/24– 03/25)	Internal	New Study

CENTRE FOR FLOOD MANAGEMENT STUDIES, PATNA
Recommended Work Programme for the year 2024-25

S. No.	Title	Study Team	Duration
Ongoing Internal Study			
1.	Evaluation of hydrologic models for Gandak river basin	Suryansh Mandloi (PI), Pankaj Mani, Shubham Shaurabh, Pravin Rangrao Patil	02 years (05/23-03/25)
Sponsored Study (PDS/NHP)			
1.	Modeling and management of erosion and sedimentation processes in a reach of Gandak river using morphodynamic modeling	Pankaj Mani(PI), J. P. Patra, & WRD Bihar	3 years (05/21-04/24) (requested to extend by 6/24)
New Studies (Proposed)			
1.	Morphological study of Kichha river for selection of new site for Kichha barrage in Udham Singh Nagar, Uttarakhand.	Pankaj Mani (PI), Shubham Shaurabh, Anil Kumar, Atm Prakash	01 years (04/24-03/25)
2.	Urban Flood Modeling and Drainage Design for part of Phulwari Sharif, Patna, Bihar	Shubham Shaurabh, Dr. Pankaj Mani, Suryansh Mandloi, Anil Kumar, Atm Prakash	03 years (04/24-03/27)
3.	Sediment Yield modelling of the Gandak River basin using SWAT Model	Rajesh Ranjan (PI), Dr. Pankaj Mani	3 years (04/24-03/27)
4.	Application of macroscale hydrologic model to estimate design flood in Gandak river basin	Minotshing Maza (PI), Dr. Pankaj Mani, Dr. Waikhom Rahul Singh, Suryansh Mandloi, Dr. Ankur Srivastava (PDF, Univ of Technology, Sydney)	3 years (04/24-03/27)

NORTH WESTERN REGIONAL CENTRE, JODHPUR
Recommended Work Programme for the year 2024-25

S. No.	Project Title	Study Team	Duration	Funding	Status
1.	Assessment of the Groundwater Level Rise Crisis in Jodhpur City, Rajasthan: A Comprehensive Follow-up Study with Challenges and Remedial Approaches	Dr. Sourabh Nema Sh. Sudesh S. Choudhary Dr. Anupma Sharma Dr. Gopal Krishan Sh. Akshay V. Dahiwalwale	1 year 4 months (Nov. 2023 to Mar. 2025)	Internal	Ongoing
2.	Identification of heterogeneous crops at farm scale using remote sensing data in IGNP canal command area	Sh. Sudesh S. Choudhary Dr. Sourabh Nema Dr. Anupma Sharma Dr. Nitesh Patidar Sh. Dilip Barman	1 year 4 months (Dec. 2023 to Mar. 2025)	Internal	Ongoing
3.	Hydrological Monitoring in Jojari River Basin	Dr. Sourabh Nema Sh. Sudesh S. Choudhary Dr. Anupma Sharma Dr. M. K. Sharma Sh. Akshay V. Dahiwalwale Sh. Malkhan Singh Jatav	1 year 4 months (Dec. 2023 to Mar. 2025)	Internal	Ongoing
4.	Enhancing the Sustainability of Water Resources Through Integrated Assessment and Management in LUNI River Basin – Rajasthan (<i>Major project with sub-projects (4-6) at NWRC & 4 sub-projects at NIH Roorkee</i>)	Dr. Anupma Sharma (Project Coordinator) Scientists from GWH Div & NWRC Jodhpur	3 years (04/24 – 03/27)		New
5.	Analyzing the Flash Flood events in the Luni River Basin and Remedial Measures to Store Excess Water.	Sh. Akshay V. Dahiwalwale Dr. Sourabh Nema Dr. Anupma Sharma Sh. Dilip Barman Sh. Malkhan Singh Jatav	1 year 9 months (April 2024 to Dec.2025)	Internal	New
6.	Assessment of Water Productivity, Land Productivity and Agricultural Drought in Luni River Basin	Sh. Dilip Barman Dr. Sourabh Nema Dr. Prabhash K. Mishra Dr. Anupma Sharma Sh. Malkhan Singh Jatav Sh. Akshay V. Dahiwalwale	2 years (April 2024 to March 2026)	Internal	New
7.	Assessment of the Diversified Crop Types Using Remote Sensing Data in Luni River Basin	Sh. Malkhan Singh Jatav Sh. Sudesh S. Choudhary Dr. Anupma Sharma Dr. Nitesh Patidar Sh. Dilip Barman	2 years 6 months (April 2024 to Sept 2026)	Internal	New
8.	Preparation of Status Report of the Salinity Ingress in Coastal Area of Saurashtra and Kachchh, Gujarat State	Dr. Anupma Sharma Dr. Sourabh Nema Sh. Sudesh S. Choudhary Dr. Ajit Behera Dr. L. Surinaidu Dr. Nitesh Patidar Sh. Malkhan Singh Jatav	2 years 6 months (April 2024 to Dec 2026)	External	New

The list of papers published/accepted for publication during the period from April , 2023 to March, 2024 is given in Appendix A78.4 (Vol.-II). The list of workshops/training courses/seminar/symposia organized/attended during 2023-24 is given in Appendix A78.5 (Vol.-II).

S. No.	Item	Published Papers in 2023-24
1.	International Journal	98
2.	National Journal	13
3.	International Conference/ Seminar/ Symposium	115
4.	National Conference/ Seminar/ Symposium	81
5.	Books/Chapters	39
	Total	346

S. No.	Item	2023-24
1.	Training Courses/Workshops/Brain Storming	50

The TAC may please consider the progress and status of the Work Programme of the Divisions and RC/CFMS of NIH for the year 2024-25.

ITEM#78.7: Major projects and activities of national importance:

National Hydrology Project (NHP)

National Institute of Hydrology (NIH) is participating in NHP as one of the central agencies. There are a total of 47 implementing agencies (IAs) including eight central agencies (MoWR, RD&GR; CWC, CGWB, NIH, CPCB, SoI, NRSC and CWPRS), 37 state-level agencies and two river basin organizations (RBO) under NHP. Keeping in view the NHP objectives and initiatives, NIH is involved in the following activities of NHP:

- Demand driven research through Purpose Driven Studies (PDS)
- Training and Capacity building
- Centre of Excellence for Hydrological modeling
- Decision Support System (DSS)

Purpose Driven Studies (PDS)

One of the main focuses of NHP is Research and Development (R & D) in the form of Purpose Driven Studies (PDSs). Considering the peculiarities and large variation in the nature of problems associated with water resources planning and development, the issues involved in research related to particular region and specific project, the NHP is sponsoring research proposals of applied nature along with basic and action research. The research activities of such nature are implemented through R & D Section of NHP which is located at NIH. PDSs are related to specific issues of water management problems identified within the area of operation of implementing agencies and of public concern.

Training and Capacity Building

NIH has been assigned with the important task of planning and organizing the training programmes for capacity building of the IAs under NHP. The main objective of the training and capacity building activities is to create, enhance and develop capacity in IAs at desired level to plan, implement and operate water resources schemes. The NHP training section is involved in identifying the training needs and preparation of annual training programs in relevant areas in consultation with various implementing agencies.

Centre of Excellence for Hydrologic Modelling (CEHM)

Developing a “Centre of Excellence for Hydrologic Modelling” and giving leadership to the Country in hydrologic modelling services is one of the four major tasks assigned to NIH under the NHP. This Centre is hosting knowledge repositories in hydrological processes understanding, advanced tools and techniques, advancement taking place from time-to time globally on hydrological research, tools and techniques to respond to the India’s hydrologic modelling services.

Decision Support System (DSS) Studies

Decision Support System (DSS) component is essential for up-gradation and maintenance of DSS software developed and implemented in the pilot basins of nine state agencies during HP-II project. New applications of DSS in other basins have been considered in association with states data centers and their planning and design departments. These activities would ensure the sustainability of DSS software in state implementing agencies and its utilization for planning various water resources activities.

Innovation Centre for Eco-Prudent Wastewater Solutions (IC-EcoWS)

The project ‘Innovation Centre for Eco-Prudent Wastewater Solutions (IC-EcoWS)’ is funded by Department of Science & Technology (DST), Government of India. The National Institute of Hydrology (NIH) Roorkee is the leading institute for implementation of this project, in collaboration with the project partners from Indian Institute of Technology Bombay (IITB), Malaviya National Institute of Technology (MNIT), Jaipur and Institute of Rural Management Anand (IRMA), Ahmedabad.

The Centre is exploring the vast potential of NTS, especially constructed wetlands (CW) in Indian conditions by conducting research on improving the efficacy of CW in wastewater treatment. Different applications of wastewater treatment are being explored. Already, three stakeholders’ workshops have been conducted at different locations to create awareness and gauge perceptions of the potential users. The emerging concept of a Circular Economy in the field of wastewater treatment and reuse is also being explored at the Centre.

ITEM # 78.8: Reporting Items:

LIST OF ONGOING CONSULTANCY PROJECTS IN NIH

S. No.	PROJECT NO.	TITLE	CLIENT
1.	CS-19/2012-13/NIH(WRSD)	Cumulative Environment Impact Assessment studies for Satluj Basin in Himachal Pradesh	Indian Institute of Technology, Roorkee
2.	CS-21/2012-12/NIH/(SWHD)	Area Drainage Study for Plant and Ash Dyke for Gajmara Super Thermal Power Project (4 x 800 MW) Sponsored by NTPC Ltd, New Delhi.	NTPC, Ltd. NOIDA
3.	CS-30/2012-12/NIH/(SWHD)	Dam Break Analysis and Preparation of Emergency action Plan for Nagarjuna Sagar dam	Irrigation and CAD Dept., Govt. of Andhara Pradesh
4.	CS-31/2012-12/NIH (SWHD)	Dam Break Analysis for Indira Sagar Polavaram Project	Irrigation and CAD Dept., Govt. of Andhara Pradesh
5.	CS-39/2011-13/NIH(HID)	Integrated Hydrological Investigations of Sukhna Lake for its conservation and Management	Deptt of forest & wildlife, Chandigarh Administration, Chandigarh
6.	Cs-40/2012-13/NIH(HID)	Pre-Dredging and Post-Dredging Bathymetric Surveys of Ramgarh Taal, Gorakhpur (UP)	AHEC, IIT Roorkee

S. No.	PROJECT NO.	TITLE	CLIENT
7.	CS-43/2012-2014/NIH(SWHD)	Estimation of Design basis flood and safe grade elevation for Mahi-Banswara Power Project	NPCIL Mumbai
8.	CS-60/2013-2015/NIH (SWHD)	Hydraulic Modelling for Brahmaputra Riverfront Development Project For Guwahati	Guwahati Metropolitan Dev Authority
9.	CS69-2014-2016/NIH(SWHD)	Area Drainage Study including hydrological design of site area drainage for Chutka lake	NPCIL Mumbai
10.	CS-70/2014-15/NIH(SWHD)	EFR of Shogtong Karchham HE project in HP	HPPCL, Kinnaur
11.	CS-74/ 2015-16/NIH(SWHD)	Water loss study for Pushkar Sarovar, Ajmer	Executive Engineer, NLCP, Pushkar, ADA, Ajmer
12.	CS-75/2015-15/NIH(HID)	Estimation of Canal Seepage & Ground Water Recharge using Isotopic Techniques in the Chajlet Block Moradabad Distt	Ground Water Department, Lucknow
13.	CS-77/2015-15/NIH(SWHD)	Environment flow requirement of River Parbati & Tons Nallah by using Hydraulic Rating Method & suitable recommendations thereof for Nakthan HEP	HPPCL, Kinnaur
14.	CS-81/2014-16/NIH (SWHD)	Preparation of emergency action plan for NSRSSP and inundation map associated with dam break analysis in AP	CE, NSRSSP, Hyderabad
15.	CS-87/2015-16/NIH(HID)	Hydro geological study for Harduaganj, 1x660 MW HTPS Distt Aligarh, UP	UPRVUNL Ltd
16.	CS-94/2016-17/NIH(Jammu)	Establishment of silt conservation post in the Bagalihar HEP catchment	Deptt of soil & Water conservation, Narwal, Jammu
17.	CS/99/2016-16/NIH(Kakinada)	Hydrological study/ Water Availability Study of Brahmani River at 2x600 MW power station Odissa	LANCO Gurgaon
18.	CS-113/2017-18/NIH(WRSD)	Land use planning of Farakka Barrage Project area: Land use mapping	Farrakka barrage project MOWR
19.	CS-114/2017-18/NIH(WRSD)	CEIA study for less than 10 MW HEP (Part II) for Satluj basin	AHEC, IIT Roorkee
20.	CS119/2017-18/Bhopal	Preparation of Emergency Action Plan for six projects of MP Water Resources Deptt	Bodhi, WRD Bhopal
21.	CS-120/2017-18/RC-BE	Dam break Analysis for dams in Kali Basin and Flood Review of Kali and Sharavathi Basins	KPCL Bangalore
22.	CS-121/2017-18/RC-BE	Estimation of Yield for Bembla Project in Maharashtra	EE, Lower Penganga Division, Yevatmal, Maharashtra
23.	CS-122/2017-18/RC-BH	Preperation of Emergency Action Plan for Three projects of M. P. WRD	BODHI-WRD Bhopal
24.	CS-129/2018-18/RC-BH	Preparation of Working Table for Multiple Reservoirs of Bina Complex	BODHI, Bhopal
25.	CS-138/2017-21/HID	Hydro Geological Study for dewatering of Jhamkotra mines, Udaipur	Rajasthan State Mines and Mineral ltd Udaipur
26.	CS-142/2017-18/HID	Water Quality and isotopic analysis of groundwater along paleo-channels of Saraswati river in Haryana State	WAPCOS Ltd

S. No.	PROJECT NO.	TITLE	CLIENT
27.	CS-143/2016-19/SWH	Studies for estimation of design basis flood and safe grade elevation for the inland nuclear power plant site at Kaiga in Uttara Kannada district of Karnataka	NPCIL Mumbai
28.	CS-146/2018-19/SWH	Preparation of strategic land and water management plan for rejuvenation of Rispana River Basin	Irrigation Department Uttarakhand
29.	CS-154/2018-19/SWH	Engineering Services for Carrying out area drainage studies for proposed 4x700 MW Mahi Banswara Rajasthan Atomic Power project	NPCIL Ltd
30.	CS-158/2018-19/RC-BE	Preparation of EAP and study of tail channel design flood carrying capacity of Amazon lake Nagpur	SE, CADA, Nagpur
31.	CS-159/2018-19/SWH	Concurrent Evaluation of Flood Management Scheme of Ganga (Distt Haridwar) (Scheme code UK-18)	Uttarakhand Irrigation Deptt Haridwar
32.	CS-161/2018-19/SWH	Concurrent Evaluation of Flood Management Scheme of Ganga (Bhogpur to Baliwala) (Scheme code UK-16)	Uttarakhand Irrigation Deptt Haridwar
33.	CS-165/2018-19/SWH	Design of flood protection walls for proposed Kaiga 5&6 Project at Kaiga Site in Karnataka	NPCIL Ltd Mumbai
34.	CS-166/2018-22/HID	Pollution Source identification using stable isotopic studies in and around chemical division, Nagda, MP	NEERI Hyderabad
35.	CS-173/2019-19/SWH	Environmenal Flow and power potential Studies for Bhilangana-HEP-III	Bhilangana Hydropower Ltd. Noida
36.	CS-176/2019-19/GWH	Water availability study based on Hydrological investigation & rainfall runoff modelling of Upper Hindon Basin	Up Irrigation Saharanpur
37.	CS-178/2019-20/GWH	Assessment of Saline & Fresh water zones in Faridkot, Fazika and Muktsar districts of Malwa Region of Punjab	Department of Agriculture, Punjab
38.	CS-179/2019-19/RC(BH)	Planning of Rainwater Harvesting work at IIT Indore	CPWD, IIT Indore
39.	CS-182/2019-20/WRS	Flood routing in the reach between Rajghat and Matatila dam in Betwa River basinfor the proposed Dhurwara dam project	IWRD Govt of UP
40.	CS-184/2019-20/RC-BE	Preparation of Report on Hydrology of Kalasanala and Bhanduranala Diversion Scheme for Drinking Water Supply in KKhanpur Taluka, Belgaumn, Karnataka	EE, KNNL, Kalasa Project Div , Khanpur
41.	CS-187/2020-21/RC(Belagavi)	Hydro-geological studies in and around "Redi Iron Ore Mine" (Patni Mine) of M/S Minerals & Metals located at Village Redi, Taluka Vengurla, District Sindhudrug, Maharashtra	M/S Minerals & Metals (Patni Mines), Maharashtra
42.	CS-188/2020-21/RC(Belagavi)	Hydro-geological studies in and around "Redi Iron Ore Mine" (Block I) of M/S Gogte Minerals, located at Village Redi, Taluka Vengurla, District Sindhudrug, Maharashtra	M/S Gogte Minerals, 146, Tilakwadi, Belgaum-590006

S. No.	PROJECT NO.	TITLE	CLIENT
43.	CS-191/2020-22/EHD	Estimation of economic losses in real terms per hectare basis due to forest fire in Uttarakhand and Madhya Pradesh	Indian Council of Forestry Research and Education Dehradun
44.	CS-193/2020-20/RC(BH)	Estimation of Revised Capacity and Sedimentation Using Bathymetric Survey of Tigra Dam, Gwalior (MP)	Water Resources Department, Harsi Jal Sansthan Sambhag, Dabra (M.P.)
45.	CS-194/2020-20/RC(BH)	Detection of the Leakage Sources and suggested Measures for Repairs, Renovation & Strengthening for Tigra Dam, Gwalior (MP)	Water Resources Department, Harsi Jal Sansthan Sambhag, Dabra (M.P.)
46.	CS-195/2020-21/WRS	Study of various Possible Scenarios for Understanding the Long-term effect of en-route canal irrigation for Mahandi- Godavari Link	National Water Development Agency, New Delhi
47.	CS-196/2020-21/HID	Hydrological Study of Tanda Thermal Power Plant Stage –II (2x660MW)	NTPC Ltd
48.	CS-197/2020-21/HID	Hydrological Study at NTPC Kudgi	NTPC Ltd
49.	CS-200/2020-20/RC(Belagavi)	Preparation of Emergency Action Plan (EAP) and flood inundation map for Rakasakoppa Dam	KUWS &D Borad, Belagavi
50.	CS-201/2020-20/RC (Belagavi)	Preparation of Flood Management Plan (FMP) and Channel Depth calculation for Unkal Nala, Huballi	Managing Director, HDSCL, Hubballi
51.	CS-202/2020-22/HID	Review of Hydrogeology to assess Impact of NTPC Mouda on surface water and ground regime (especially around ash dyke (St-I & II) and propose specific measures	NTPC Limited, SSC WR1, Surat
52.	CS-204/2020-20/RC(Patna)	Risk Assessment Study for Earthen Reservoir at Nachna & Township for Rajasthan Refinery cum Petrochemical of HPCL Rajasthan Refinery Limited (HRRL)	HPCL Rajasthan Refinery Limited (HRRL)
53.	CS-206/2020-21/GWH	Hydro-geological investigation of the site nearby to the M/S Marshall Cycle and M/S Kathuria Brothers Ghaziabad	Dr. Brijesh Yadav, Deptt. of Hydrology, IIT Roorkee, Roorkee - 247667
54.	CS-207/2020-21/GWH	Geo Environmental Study in and around areas of Oil Marketing Companies located in Manglia, Indore	BPCL Mangila Terminal, Indore
55.	CS-212/2020-21/RC-BL	Hydrological Review of Rakasakoppa Dam	Karnataka Urban water supply and Drainage Board, Belagavi
56.	CS-217/2021-22/SWHD	Hydrological Studies in view of Updation of Hydrological aspects of kishan DPR	Kishan corporation Ltd. Kishan Bhawan, tom colony Dakpathar, vikashnagar Dehradun-248125

S. No.	PROJECT NO.	TITLE	CLIENT
57.	CS-218/2021-22/SWHD	Dam break Flood Analysis and Preparation of Emergency Action plan for Ukai Dam, kadama Dam, Dhanoi Dam, Panam Dam, Shetrunji Dam, Hiran dam, and Machhundri Dam	Water resources Department, Govt. of Gujarat, Gandhinagar
58.	CS-219/2021-22/SWHD	Hydro- geological study in Meja, Prayagraj, U.P	Meja Urja Nigam Pvt. Ltd.
59.	CS-221/2021-22/HID	Feasibility study for implementation of urban run off tretment and rin water harvesting scheme in Krishna Nagar, Roorkee	Nagar Nigam, Roorkee
60.	CS-222/2021-22/HID	Sustainable Ground water management plan for Hapur, Gautam Budh Nagar, Bulandshahar & Ghaziabad	Udyog Bandhu (INVEST UP), Lucknow
61.	CS-223/2021-22/HID	Seepage Problem in the basement of Allahabad High Court, U.P.	Executive Engineer, Constructon Division - 1, PWD, Prayagraj
62.	CS-224/2021-22/EHD	Estimation of sediment land & GHS emission from Redervoir of Chamba I Power Station, NHPC	Innovate water solution Pvt. Ltd, Roorkee
63.	CS-226/2021-22/GWHD	Ground water investigation of Rana Sugar Ltd Butter Seviyan area of Amritsar Distt., Punjab	Dr. B. R. Ambedkar, National institue of technology, Jalandhar, Punjab
64.	CS-227/2021-22/HID	Review of Hydrogeology to assess Impact of NTPC Mouda on surface water and ground regime (especially around ash dyke & prepare specific mitigation measures NTPC Khargaone	
65.	CS-228/2021-22/HID	Biennial review of hydrogeology to assess the impact of NTPC Gadarwara STPP at surface and ground water	
66.	Cs-229/2021-22/HID	Study for finding out the reason of water logging in the adjoining area of Ash Dyke at IGSTPP, Jhajjar	Aravali Power Company Pvt. Ltd. Jhajjar, Haryana
67.	CS-230/2022-23/RMOD	Impact Assesment of rejuvenated ponds in Saharanpur Distt. U.P.	
68.	CS-231/2022-23/SWHD	Engineering Services for carrying out extreme value analysis & statistical analysis of latest metrological data for Mahi Banswara Rajasthan Atomic Power Project (MBRAPP)	
69.	CS-232/2022-23/EHD	Performance evaluation of Nano Catalyistical Instant Water Convertor (NCIWC) equipment for Water waste water treatment	
70.	CS-235/2022-23/HID	Study of Rainwater Harvesting Structure/Facilities/Systems at NTPC Singrauli	
71.	CS-236/2022-23/HID	Study of Rainwater Harvesting Structure/Facilities/Systems at NTPC Jhanor-Gandhar	
72.	CS-237/2022-23/HID	Study of Rainwater Harvesting Structure/Facilities/Systems at NTPC Rihand	

S. No.	PROJECT NO.	TITLE	CLIENT
73.	CS-238/2022-23/HID	Study of Rainwater Harvesting Structure/Facilities/Systems at NTPC Unchahar	
74.	CS-239/2022-23/HID	Study of Rainwater Harvesting Structure/Facilities/Systems at NTPC Anta Rajasthan	
75.	CS-240/2022-23/HID	Study of Rainwater Harvesting Structure/Facilities/Systems at NTPC Sipat	
76.	CS-241/2022-23/HID	Study of Rainwater Harvesting Structure/Facilities/Systems at NTPC Korba	
77.	CS-242/2022-23/HID	Study of Rainwater Harvesting Structure/Facilities/Systems at NTPC Lara	
78.	CS-243/2022-23/HID	Study of Rainwater Harvesting Structure/Facilities/Systems at NTPC Ramagundam	
79.	CS-244/2022-23/HID	Study of Rainwater Harvesting Structure/Facilities/Systems at NTPC Mandsaur	
80.	CS-245/2022-23/HID	Study of Rainwater Harvesting Structure/Facilities/Systems at NTPC Farrakka	
81.	CS-246/2022-23/HID	Hydrogeological study to assess the impact of mining activities in & around Rampura Agucha Mine Area of Hindustan Zinc Ltd in the Bhilwara Distt. Rajasthan	
82.	CS-247/2022-23/HID	Study of Rainwater Harvesting Potential assesment & its review / design to increase the water psibility at Talapalli Coal Mining Project	
83.	CS-248/2022-23/HID	Study of Rainwater Harvesting Structure/Facilities/Systems at NTPC Rajgarh Solar PV Plant	
84.	CS-249/2022-23/HID	Study of Rainwater Harvesting Structure/Facilities/Systems at NTPC Solapur Station	
85.	CS-250/2022-23/HID	Glacial lake outbrust Flood (GLOF) study for Arun-4 HEP	
86.	CS-251/2022-23/HID	Dam Break analysis & flooding simulation, preparation of inundation mapping & emergency action plan for Vasna Barrage, Ahmedabad, Gujarat	
87.	CS-252/2022-23/GWHD	Hydrogeological study to assess the impact of dewatering on Groundwater & its quality in the nearby area of Rajpura Dariba Mine of Hindustan Zinc Ltd.	
88.	CS-253/2022-23/EHD	Site selection for intake well in Alakhnanda River near Srinagar for Marhi Chauras Pumpng Peyjal Yojna	
89.	CS-254/2022-23/EHD	Evaluation of Electrolyte solutions for salt composition	
90.	CS-255/2022-23/RC Bhopal	Verification of Hydrology and Hydraulic study for proposed Barrage cum Bridgebetween Torrent Power and Camp Sadar Bazar for Sabarmati River Front Development Project (SRFDCL), Ahmedabad	

S. No.	PROJECT NO.	TITLE	CLIENT
91.	CS-256/2022-23/EHD	Site selection for intake well in Ganga River Bharpoor Pumpng Peyjal Yojna Phase II	
92.	CS-257/2022-23/GWHD	System studies for proposed Farakka-Sundarban project	
93.	CS-258/2022-23/EHD	Water quality studies for Tehri reservoir, Tehri HPP (4x50mw)	
94.	CS-259/2022-23/EHD	Technical Evaluaction of infiltration well of Dadua -Bhandali minral water pumping scheme of Alaknanda river for Feasible options to maintainthe supply	
95.	CS-260/2022-23/EHD	VOC Analysis of water samples	
96.	CS-261/2022-23/RC-Belagavi	Comprehensive hydrological analysis of Harangi catchment	
97.	CS-262/2022-23/HID	Study of seasonal change in the quality of Ujjani Dam water & identification of sources of contamination wrt increase in ioninc concentrations at Solapur STPP	
98.	CS-263/2022-23/SWHD	Hydrodynamic Modelling of Krishna River to study backwater effect of Almatti Dam & Barrage in Karnatak State	
99.	CS-264/2022-23/EHD	Hydrological study for water avalablity assessment in Sukhnai River & runoff diversion to Saprar Dam	
100.	CS-265/2022-23/EHD	Site selection for intake well of Indra-Tipri pumping wate supply scheme	
101.	CS-266/2022-23/EHD	Site Selection for intake well in Jalkoor River for Jalkoor pumping peyjal yojna	

ITEM # 78.9: Any other item with permission of the Chair