AN APPEAL TO
HYDRO-METEOROLOGICAL DATA USERS
Website: http://www.mahahp.org

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Realizing the need for a sound hydro-meteorological database in the context of comprehensive planning, development and management of water resources on a river basin basis, Hydrology Project was established with assistance of World Bank in Nov.1995 with Hydrological Information System (HIS) in place. The hydro-meteorological data viz. rainfall, river discharge, maximum and minimum temperature, relative humidity, sunshine hours, wind velocity and direction, evaporation, water quality of designated points is regularly observed, recorded with the help of quality instruments spread over the entire state.

This recorded data is fed to the computer with the help of SWDES and validated with HYMOS softwares. The validated quality hydro-meteorological data is finally stored in the State Data Storage Center, Nashik for the use of needy individuals / organizations registered under Hydrological Data Users Group (HDUG) with the Hydrology Project.

The Hydrology Project is functional in 13 States of the country along with 8 Central agencies with uniform working procedure. At the present, Phase-II of Hydrology Project is under implementation since 5 April 2006 and likely to be completed on 30 June 2012. Important HP-II activities are development of hydrological design aids, Decision Support System (DSS), Implementation of Purpose Driven Studies, upgrading of data processing and management system etc.

The project objective is to extend and promote the sustained and effective use of HIS by all potential users concerned with water resources planning and management, both public and private, thereby contributing to improved productivity and cost effectiveness of water related investments in the implementing agencies.
PARTICIPATING AGENCIES

CENTRAL

- Ministry of Water Resources, GoI, New Delhi
- India Meteorology Department, New Delhi
- Central Pollution Control Board, New Delhi
- Bhakra Beas Management Board, New Delhi
- Central Water & Power Research Station, Pune.
- Central Ground Water Board, New Delhi
- National Institute of Hydrology, Roorkee
- Central Water Commission New Delhi

STATES


HP GOALS

- To improve hydrological database in terms of coverage & accuracy.
- To improve capabilities for storage, retrieval & interpretation by means of computerization and advance softwares.
- To ensure rapid data transfer between various agencies by connecting database through satellite, internet & LAN communication links.
- To enhance publication & access of information to eligible data users.
- To impart training to officers & all relevant staff under H.P.

SPECIAL STUDIES AND PROVISIONS IN HP (SW) : MAHARASHTRA

- Calibration of outlets of dams and canals.
- Study of return flows.
- Reservoir sedimentation study by Bathymetric Equipment.
- Installation of Digital Water Level Recorders. (DWLR)
- Water quality testing and monitoring.
- River Basin Simulation Model (RIBASIM) of selected sub-basin
- Experiment of Artificial rain.
- Water Availability Studies for Water Resources Projects.
- DSS (Decision Support System) for Bhima basin up to Ujani dam (For drought management)
- PDS (Purpose driven studies) : I) Optimization of Hydro-meteorological network
  II) Perspective planning study of water utilisation of Jayakwadi Project.
HYDRO-METEOROLOGICAL STATIONS IN MAHARASHTRA

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Category</th>
<th>HP</th>
<th>NHP</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Standard Rain Gauge-SRG</td>
<td>277</td>
<td>447</td>
<td>724</td>
</tr>
<tr>
<td>2</td>
<td>Autographic Rain Gauge-ARG</td>
<td>162</td>
<td>204</td>
<td>366</td>
</tr>
<tr>
<td>3</td>
<td>River Gauge Discharge Site-GD</td>
<td>210</td>
<td>53</td>
<td>263</td>
</tr>
<tr>
<td>4</td>
<td>Full Climatic Station- FCS</td>
<td>67</td>
<td>85</td>
<td>152</td>
</tr>
<tr>
<td>5</td>
<td>Water Quality Lab Level-I</td>
<td>38</td>
<td>0</td>
<td>38</td>
</tr>
<tr>
<td>6</td>
<td>Water Quality Lab Level -II</td>
<td>5</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Water quality Sampling</td>
<td>127</td>
<td>0</td>
<td>127</td>
</tr>
<tr>
<td>8</td>
<td>Sediment Sampling</td>
<td>119</td>
<td>0</td>
<td>119</td>
</tr>
</tbody>
</table>

HYDRO-METEOROLOGICAL DATA COLLECTION

a) Rainfall: -
   i) Daily,... Collected from Standard Rain Gauge (8.30 a.m.)
   ii) Twice Daily,... Collected from Standard Rain Gauge (8.30 a.m. and 17.30 p.m.)
   iii) Hourly... Collected from Autographic Rain Gauge

b) Temperature: -
   i) Maximum
   ii) Minimum -
       Daily twice: 8.30 a.m. & 17.30 p.m.

c) Evaporation
d) Humidity
e) Wind Velocity and direction
f) Sunshine duration (hourly)
g) Water Level of rivers. Collected from River Gauge Site
h) Discharge of river Daily twice: 8.30 a.m. & 17.30 p.m.
WHAT IS HDUG?

Hydrological Data Users Group is a state or national level representative group of current & potential large scale and repeat users of HIS data who have a stake in water resources utilization, assessment & management.

PURPOSE OF HDUG

- To provide a common platform of discussions between hydrological data users & data provider.
- To create awareness amongst users about Hydrological Information System (HIS) data & educate them.
- To understand, analyze & update information on the changing needs of data users.
- To review & recommend addition / deletion in the data collection networks related to HIS, if appropriate.

WHO CAN BE A MEMBER OF HDUG?

The member of HDUG can be

- Government Institutions / Organisations
- Voluntary Non Government Organisations
- Universities, Educational & Research Institutions
- Associations- Farmers, Water users, Industrial etc.
- Individuals engaged in operational Research & Development
- All professional bodies
- Consulting representatives etc.

Hydro-meteorological data will be supplied to HDUG members only.

MEMBERSHIP

The registration for membership of the HDUG is open to all by paying Rs.500/- as a membership fee. Membership of HDUG is valid for a fixed duration of five years, which may be renewed. By paying Rs. 2500/-, one can become life member of HDUG.

PRICES FOR DATA DISSEMINATION

Hydro-meteorological data is supplied at following rates:

- ARG Data.................. Rs.225/Station/Year
- SRG Data.................. Rs.225/Station/Year
- FCS Data.................. Rs.225/Station/Parameter/Year
- GD Data................... Rs.600/Station/Year
- Sedimentation Data. Rs.600/Station/Year
- W.Q.Data.................. Rs.240/Station/Parameter/Year
DISCOUNT IN PRICES

1) For Research and Educational Studies
   (a) 25% of rates are applicable for research carried out by the institutes
   (b) Individual students having no grants for research from any source, data will be supplied free of cost.
2) For individual farmers, data required for agriculture will be charged at 50% rates.
3) Double the rates are applicable for private organisations as the data is used for commercial purpose.

DATA DISSEMINATION TO HDUG MEMBERS

Data will be made available online/offline through any available media such as email, Floppy, CD, hard copy against the payment for the required data. Catalogue services are being launched on central NIC server shortly and will be available on Internet.

HDUG membership fee can be paid in cash or by D.D. drawn in favour of any following Executive Engineer concerned along with duly filled membership form.

- Executive Engineer, Hydrology Project Division, Thane
- Executive Engineer, Hydrology Project Division, Aurangabad
- Executive Engineer, Hydrology Project Division, Pune
- Executive Engineer, Hydrology Project Division, Amravati
- Executive Engineer, Hydrology Project Division, Nagpur

The registration form and DRF (Data request form) may be downloaded from our website-http://www.mahahp.org

APPLICATION OF DATA

The data can be useful for …..

- Fisheries
- Environment
- Research Study
- Water Availability Study
- Establishment of Industries
- Flood & Sedimentation Study
- Water Pollution Control Purposes
- Design of Water Resources Projects
- Calibration of various Hydraulic Structures
- Agriculture Development / Crop Water Requirements.
- Design of Bridges / Culverts & other Cross Drainage Works

APPEAL

Data users are welcome for various hydrological requirements & use the facility available at Hydrology Project on large scale to improve the socio-economic development.
WATER QUALITY MONITORING

INTRODUCTION

Mr. J.G. GRIJSEN, Team Leader (HPI) during his visit on 22.11.2000 to the Water Quality Laboratory Level II, Nashik described the laboratory in the following words:-

“LITTLE COULD I IMAGINE FINDING MYSELF TODAY IN THIS BEAUTIFUL AND WELL KEPT LABORATORY, WHICH IS ULTIMATE RESULT OF OUR WORK IN 1993-94. IT IS GRATIFYING TO SEE A CONCEPT TAKE THE SHAPE IN REALITY, AS IF A DREAM COMES TRUE”

The Water quality monitoring is being carried out under Hydrology Project Maharashtra (SW) takes care of surface water quality monitoring through 127 sampling locations spread over the state throughout the year.

The basic objectives for WQ monitoring are:
- Monitoring for establishing baseline water quality
- Observing trend in water quality changes
- Calculating of flux of water constituents of interest
- Control & management of water pollution

The water quality monitoring system (WQMS) is developed as per WQ network & details of laboratories, water quality sampling locations are as below:

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Basin</th>
<th>Lab Level I</th>
<th>Lab Level II</th>
<th>Water Quality Sampling locations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Krishna Basin</td>
<td>4</td>
<td>2</td>
<td>33</td>
</tr>
<tr>
<td>2</td>
<td>Tapi Basin</td>
<td>8</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>Godavari Basin (NMR &amp; Marathawada)</td>
<td>6</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>Godavari Basin (Vidarbh)</td>
<td>12</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>5</td>
<td>Konkan (west flowing rivers)</td>
<td>8</td>
<td>0</td>
<td>34</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>38</td>
<td>5</td>
<td>127</td>
</tr>
</tbody>
</table>

One W.Q. Lab level II is under construction at Kalwa (Thane)

PERFORMANCE STATUS

A) The water quality monitoring is being carried out under Hydrology Project (SW): Maharashtra through 127 sampling locations spread over the state followed by 26 reservoir locations. The monitoring is done throughout the year.

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Category of Location</th>
<th>Nos</th>
<th>No of parameters analyzed in water year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1st Sample in the water year</td>
</tr>
<tr>
<td>1</td>
<td>Baseline</td>
<td>17</td>
<td>29</td>
</tr>
<tr>
<td>2</td>
<td>Trend</td>
<td>103</td>
<td>29</td>
</tr>
<tr>
<td>3</td>
<td>Flux</td>
<td>3</td>
<td>29</td>
</tr>
<tr>
<td>4</td>
<td>Trend / Flux</td>
<td>4</td>
<td>29</td>
</tr>
<tr>
<td>5</td>
<td>Dam locations</td>
<td>26</td>
<td>31</td>
</tr>
</tbody>
</table>

B) Experience in data Analysis

a) The following case studies were performed,
b) Papers presented in Third International Conference on “Water Quality Management” (February 2008) at Nagpur (Maharashtra)
1. Water Quality of Water Bodies and Ground Water in Maharashtra: An overview
2. Reservoir Water Quality and Irrigation - A case study of Jayakwadi Dam in Maharashtra.
3. Effect of urbanization on river Chandrabhaga- A Case Study of Daryapur
4. Water Pollution: - A Case study of water quality of Bhima sub-basin in Maharashtra state

c) Papers presented in National Seminar on “Conservation and Restoration of Lakes (CAROL-08)”
1. Aspects of Reservoirs Water Quality – Monitoring and Assessment of Pollution Level
2. Impact on Water Quality due to human interference on Saleem Ali Lake at Aurangabad (Maharashtra)

C) Water Testing Facility
Facility on chargeable basis is provided to the users interested in Water Testing through Water Quality Laboratory Level-II Nashik, Nagpur, Pune, Kolhapur and Aurangabad. Rs. 20 Lakhs of REVENUE is generated by this organization and the peoples, NGO’s , Public Sectors, Govt & Semi Govt Organisation are aware and taking benefits of this user friendly facility provided by HP.

D) Valuable Clients of Hydrology Project
2. Thermal Power Station,Eklahare, Nashik.
3. All International Schools in Nashik City.
4. Grampanchayatas and many individuals.
5. Nagarparishad Dhule etc.

ACHIEVEMENTS
1) Water Quality Lab Level-II, Nashik achieved “First rank” in the State and second rank in the country for Quality Performance in water quality field during AQC exercise conducted by CWC through Level-II’ lab Hyderabad in the year 2002-03.
2) Water Quality Lab Level-II, Nashik is selected on the state level panel of qualified laboratories by Water Supply and Sanitation Department, GOM through open competition among government and private laboratories spread over the state.
3) ISO 9001-2000 certification is awarded to Water Quality Laboratory Level-II, Nagpur and Kolhapur.
4) A “Status report on Water Quality of Water Bodies and Ground Water in Maharashtra for the year 2004-05” is prepared by considering water quality data of all government disciplines of surface and ground water. The report is presented in Maharashtra State Cabinet.

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