



Preliminary results on 2010 drought and its related water quality and local responses in rural coastal Bangladesh: A formative research by WQ group

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Background



- An immediate-term activity by the WQ Group of AWCI-GEOSS
- According to NOAA there are: meteorological, agricultural, hydrological and socio-economic droughts
- The goal is to contribute to the effective incorporation of WQ/environmental/societal issues into flood, droughts, climate change adaptation and other activities by AWCI-GEOSS

Objectives of the study



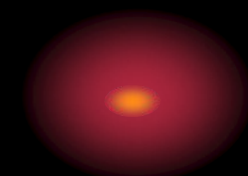
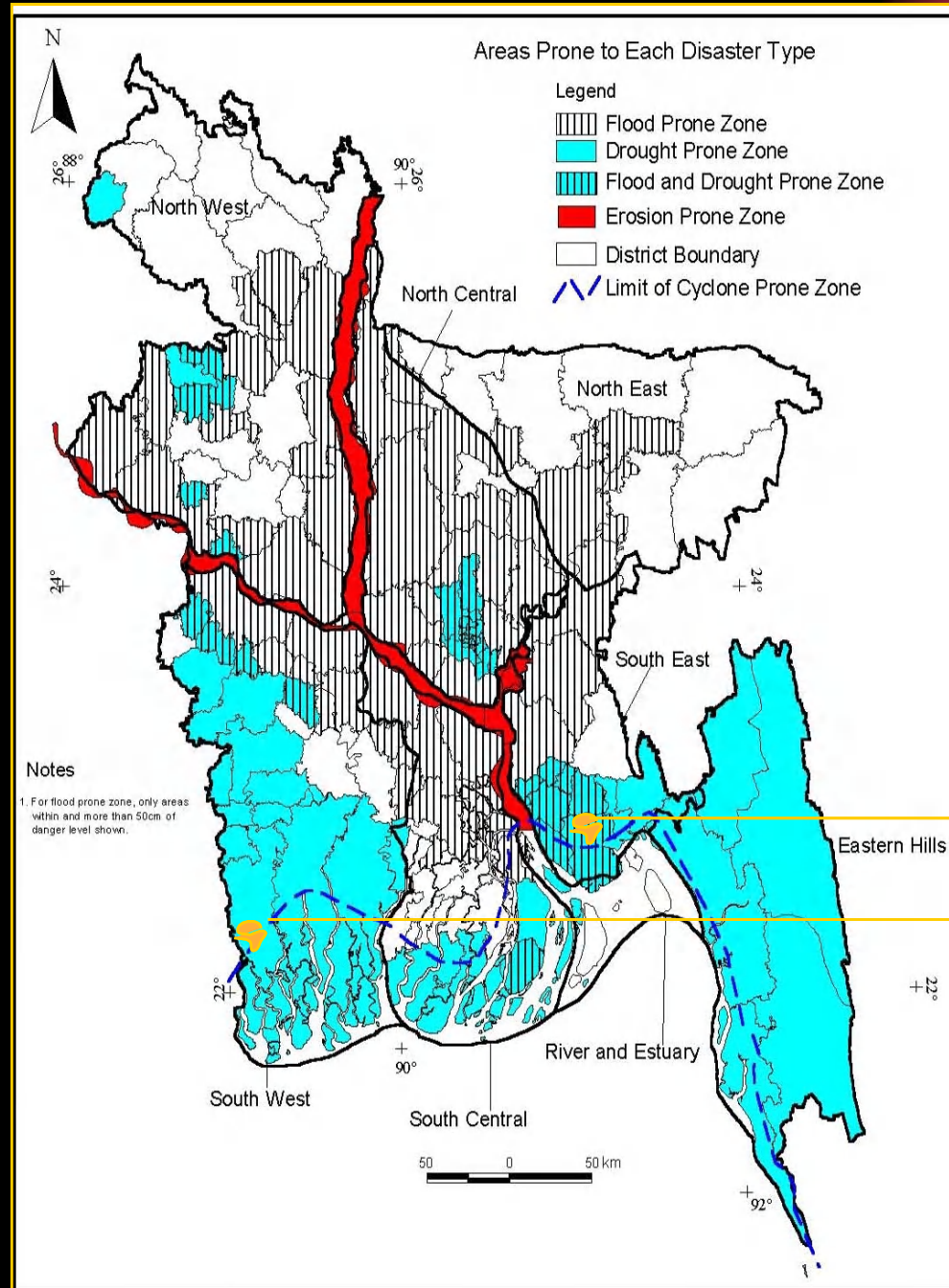
- Study meteorological, hydrological and socio-economic droughts in domestic water perspectives
- Observe cross-cutting impacts/issues (WQ, environmental, societal, health), coping strategies and perceptions about the drought among the populations
- Explore ways to link/transform the formative research to an intervention and policy research in collaboration with other groups of AWCI-GEOSS

Study area and data collection



- **Kapatakha river and ponds which were used for domestic purposes in Shamnagar**
- **Lower Meghna canals and tube-wells which were used for domestic purposes in Ramgoti**
- **E.conductivity, pH, temperature, fecal coliform bacteria, and salinity**
- **Mostly sampled during the first week of a month from October 2009 to onward**
- **Climate data from nearest BMD stations**
- **Interviewed the users of the water sources**
- **Designed as indicative/formative research**

STUDY AREAS



Ramgoti

Shamnagar

Source of Map: CC strategy of BD

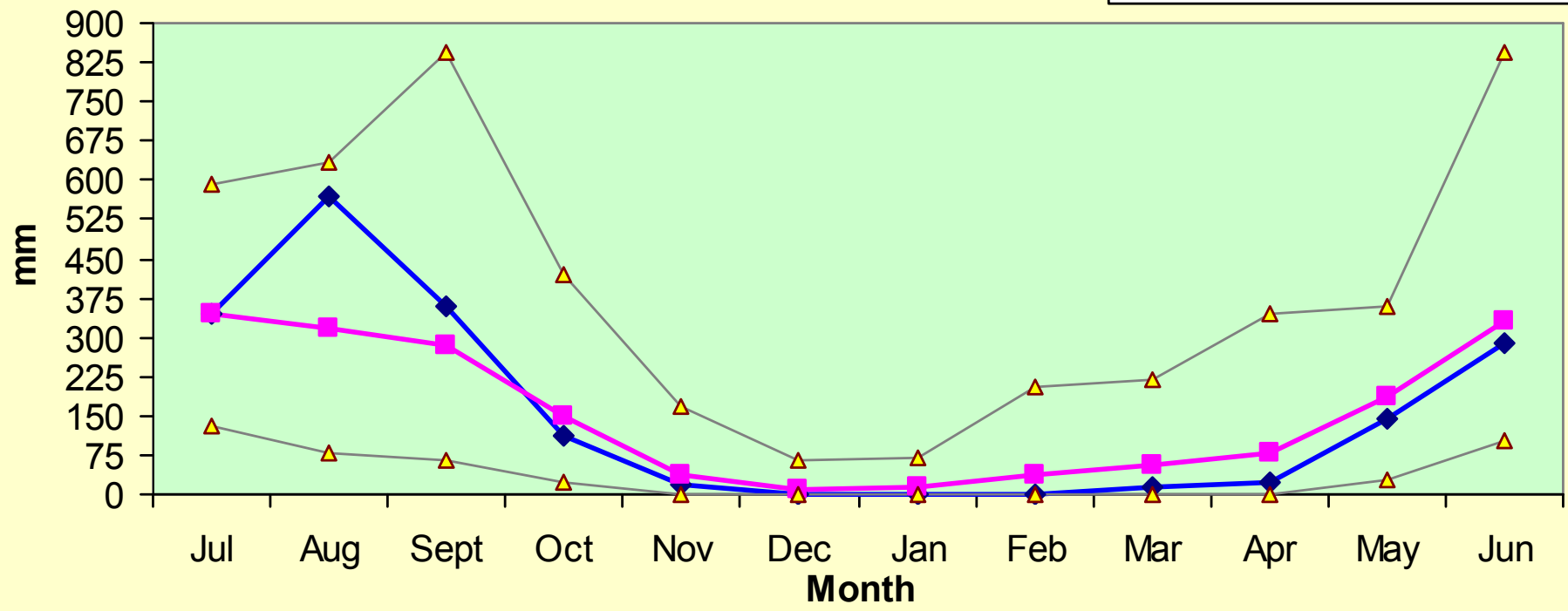
Preliminary results





Monthly Rainfall in Shamnagar

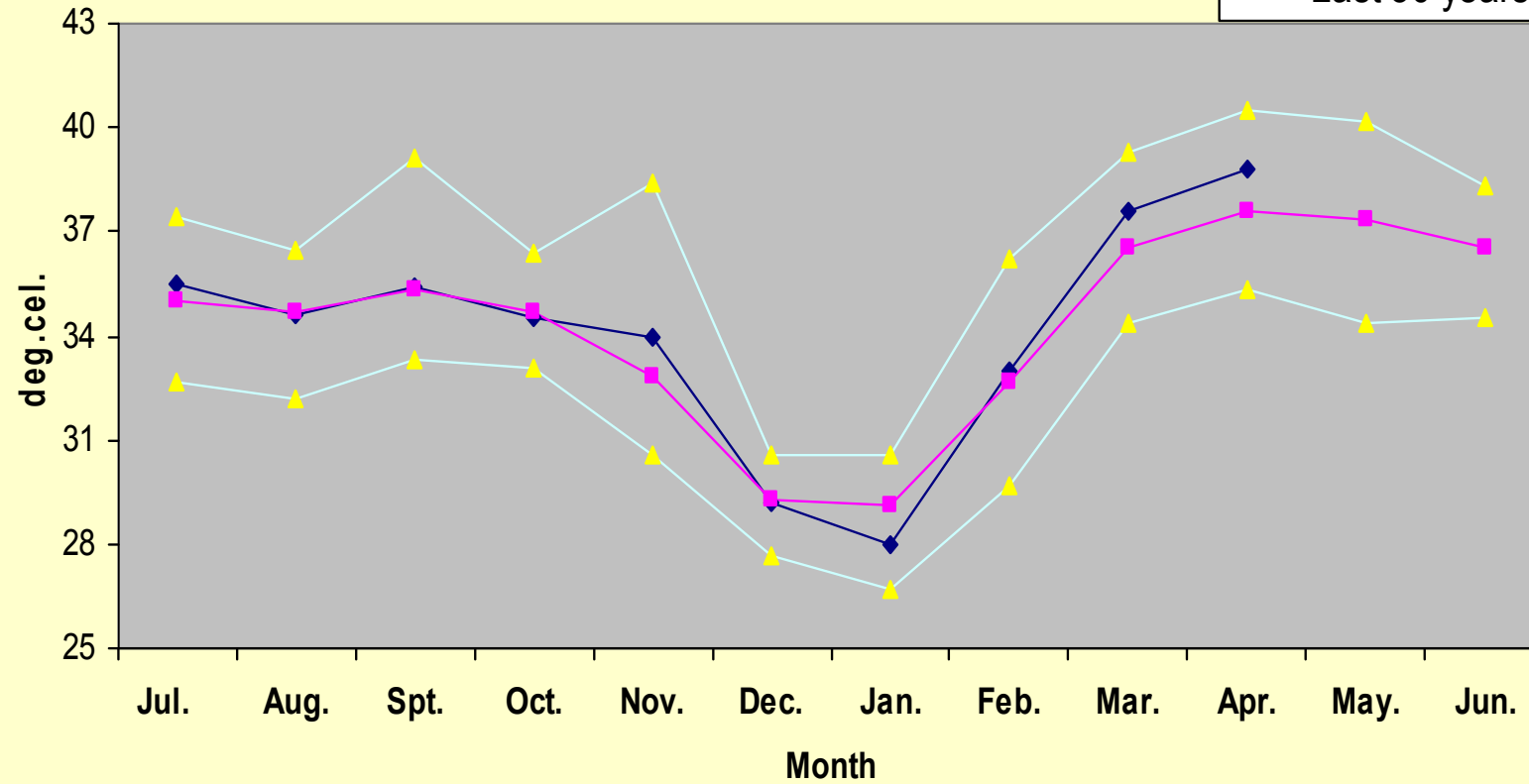
- 2010
- Last 30 years Mean
- Last 30 years Max & Min





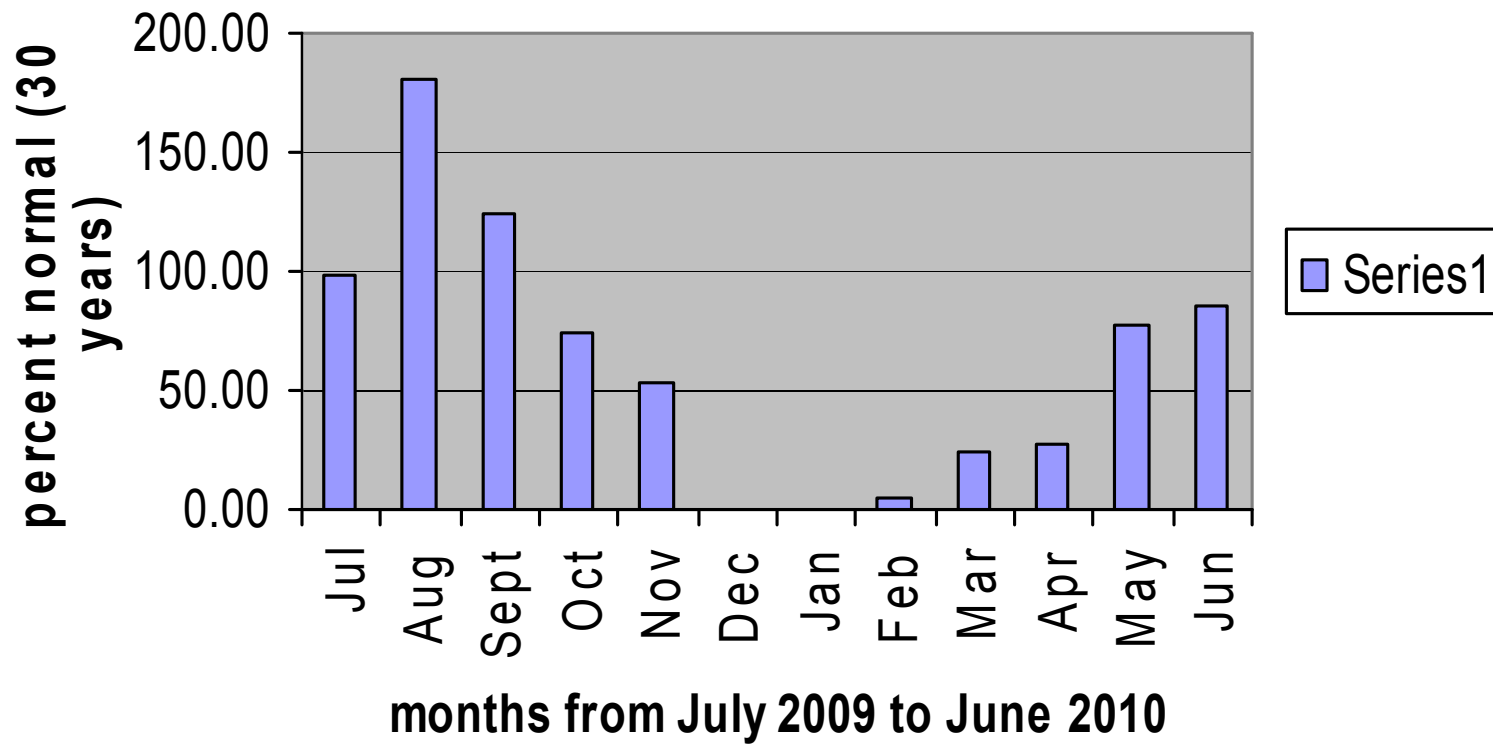
Monthly Temperature in Shamnagar

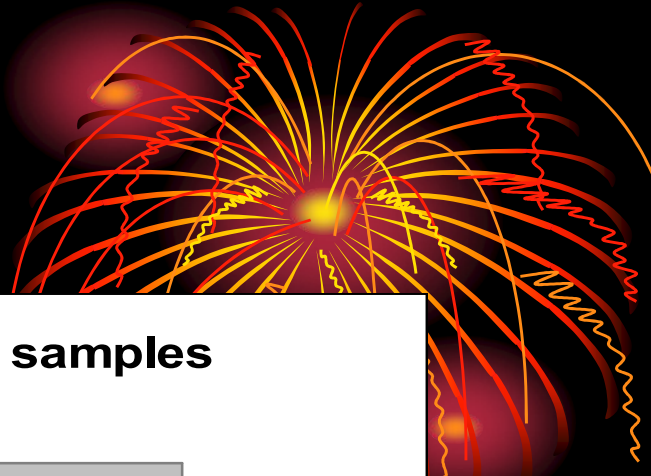
- ◆ 2010
- Last 30 years Mean
- ▲ Last 30 years Max & Min





percent normal precipitation in Shamnagar

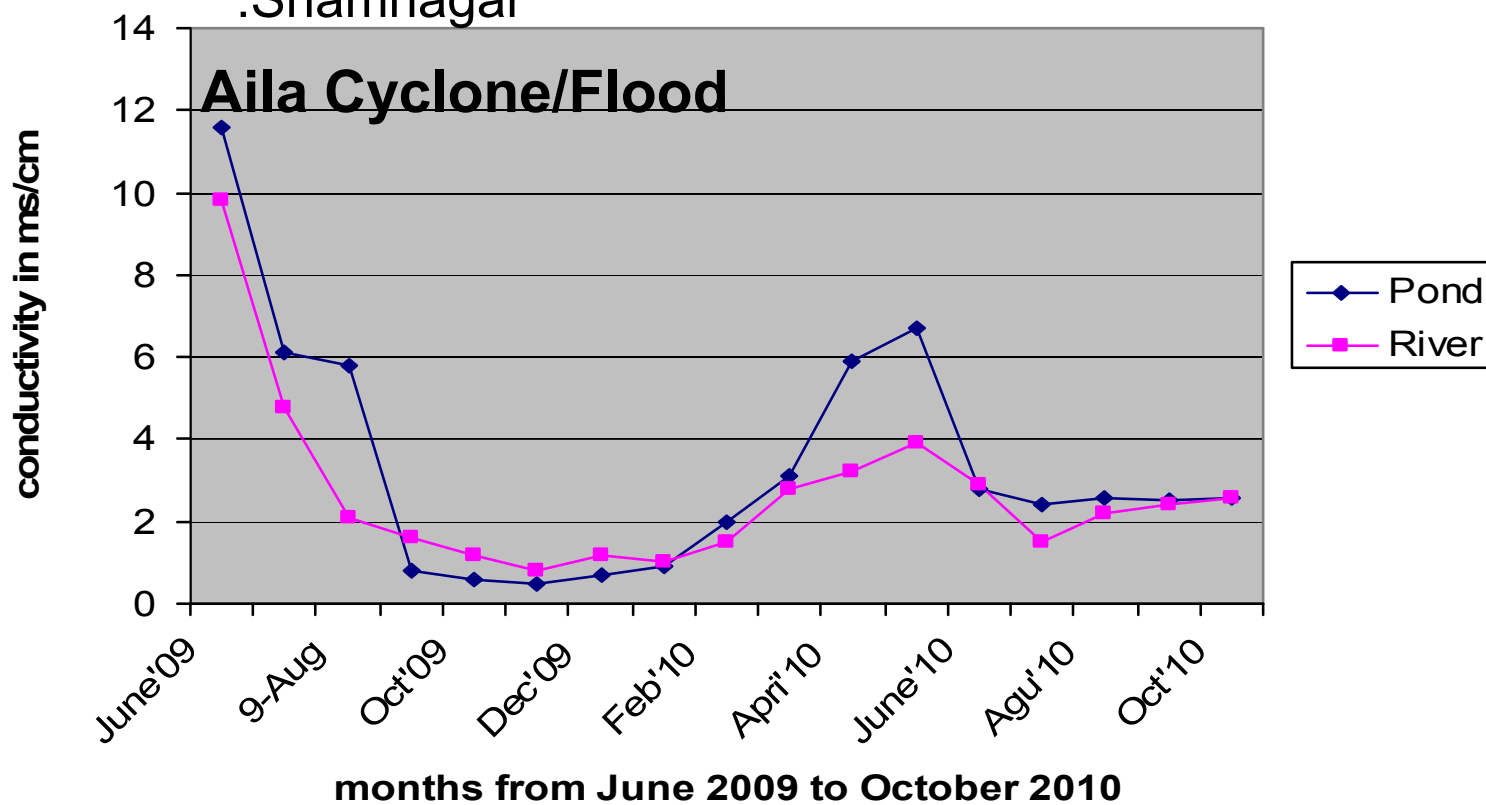




conductivity of pond and river water samples

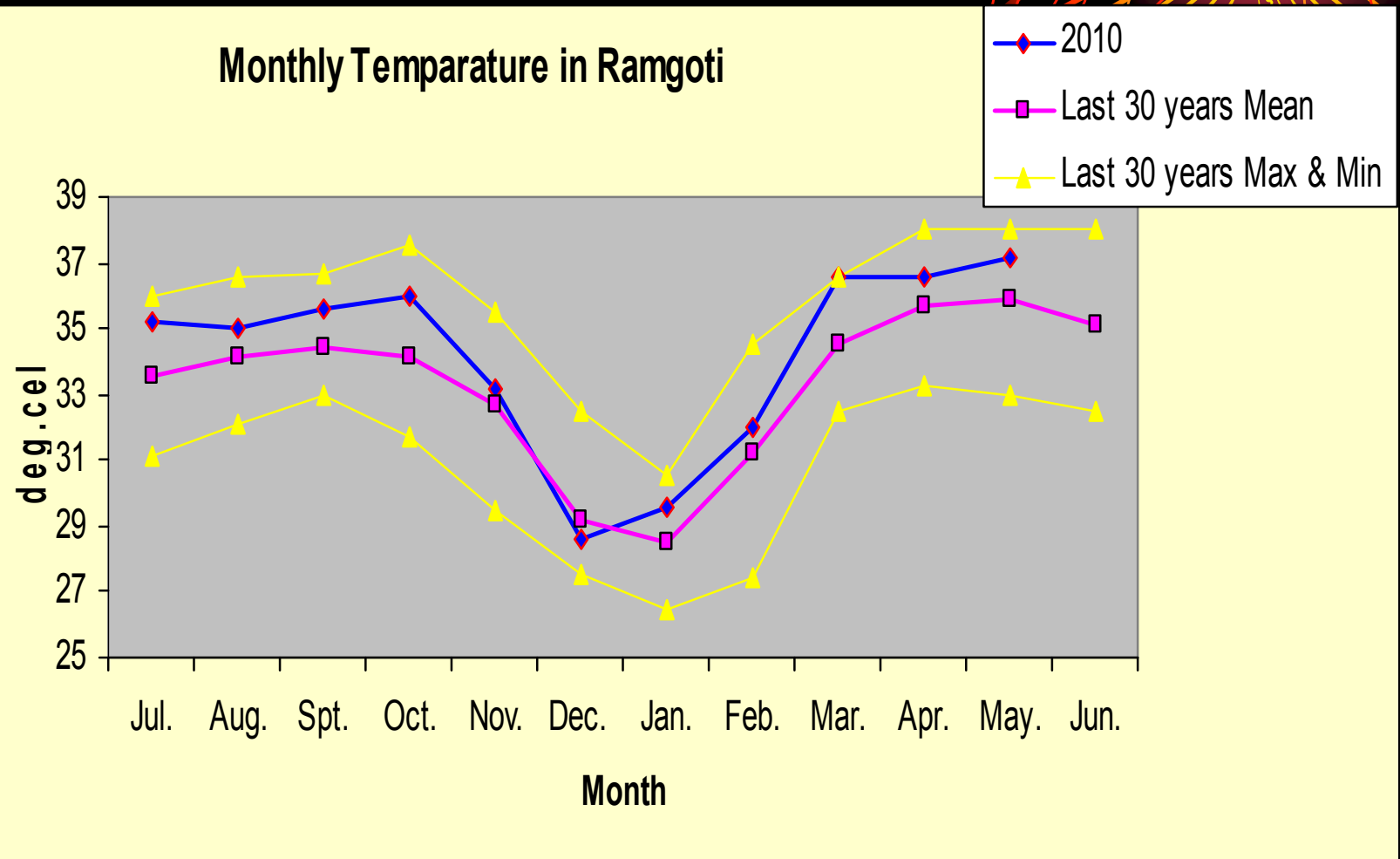
:Shamnagar

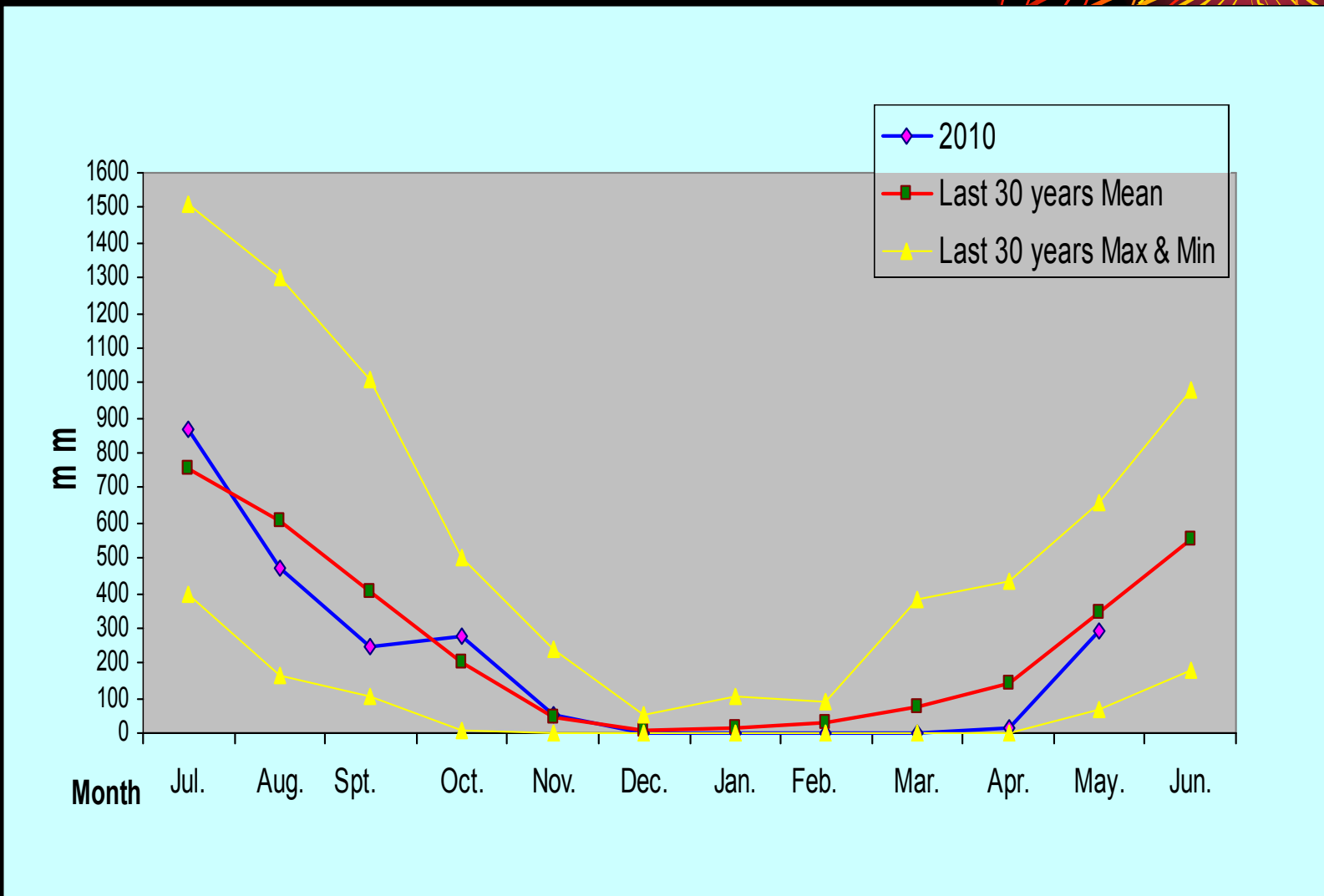
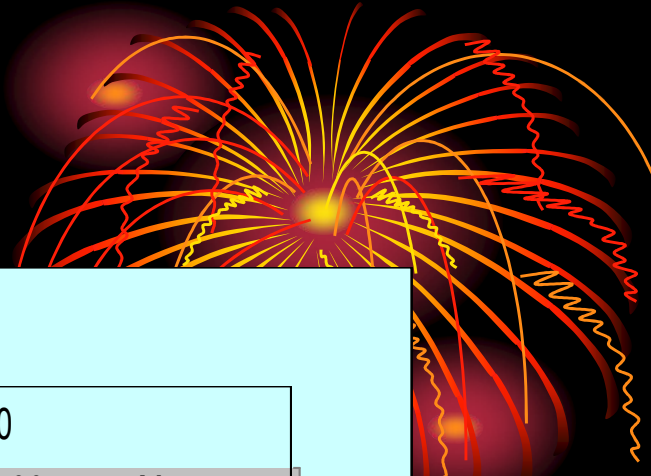
Aila Cyclone/Flood



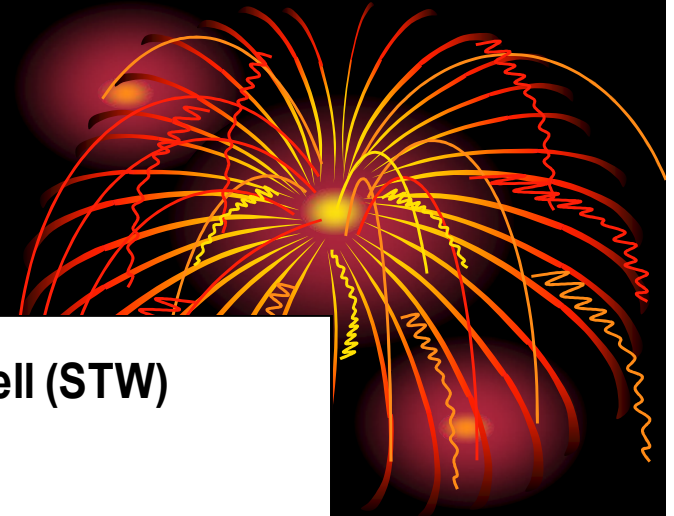


Monthly Temperature in Ramgoti

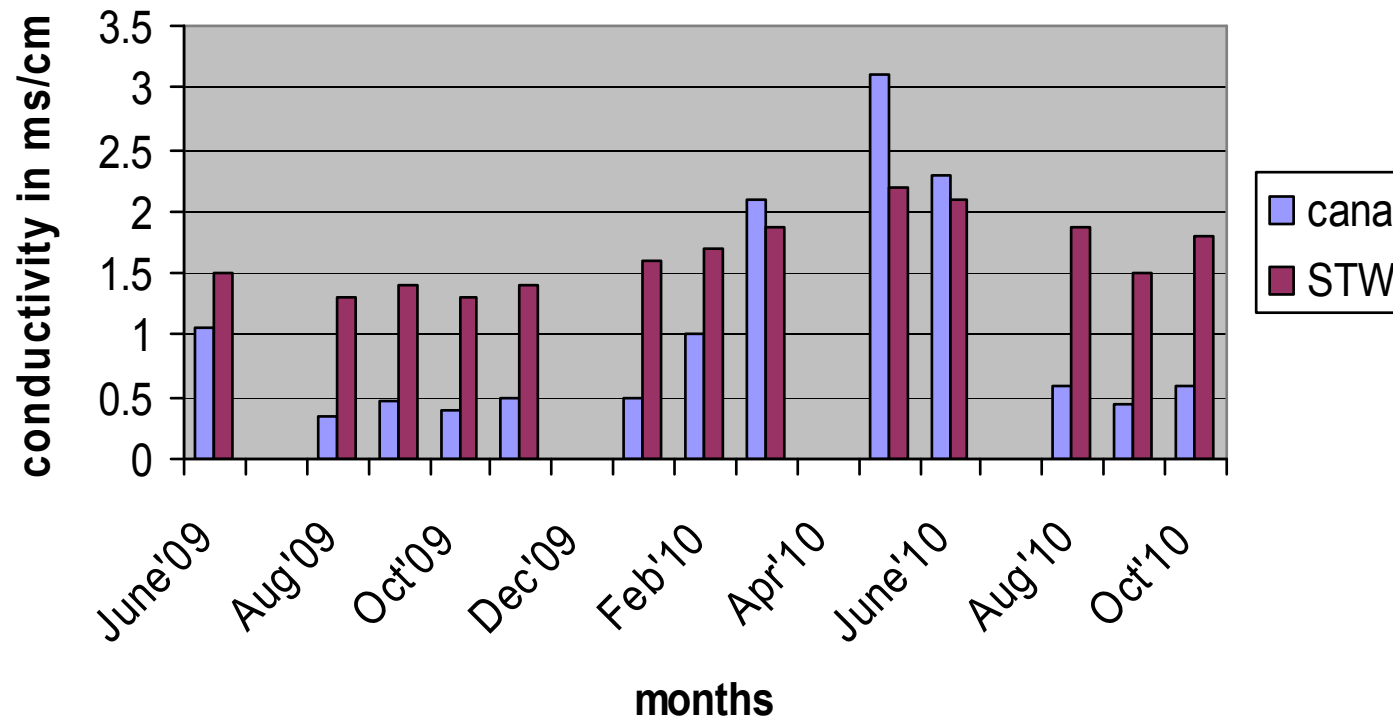




Precipitation near Ramgoti



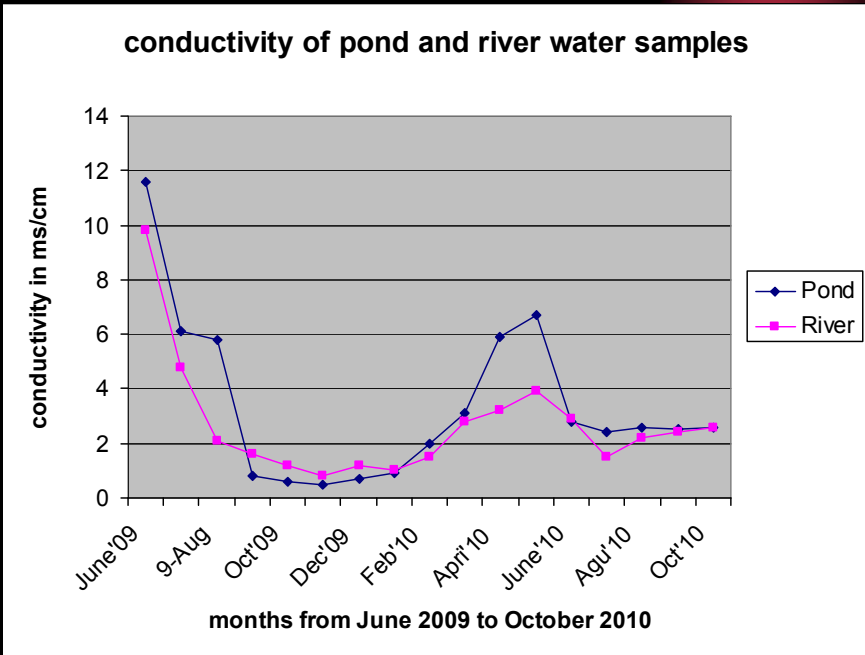
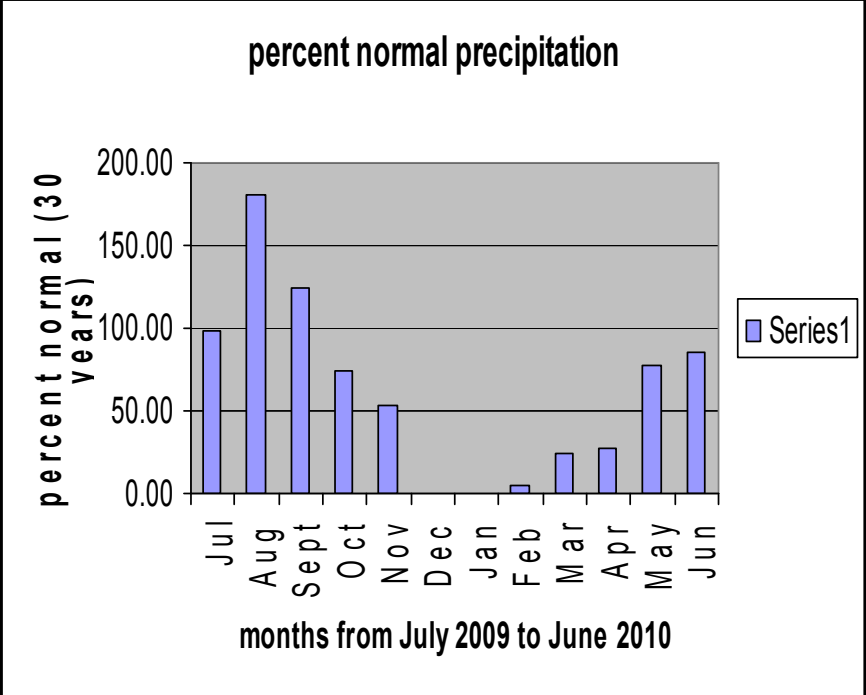
conductivity values if canal and shallow tubewell (STW) water samples



Conductivity results in Ramgoti water samples

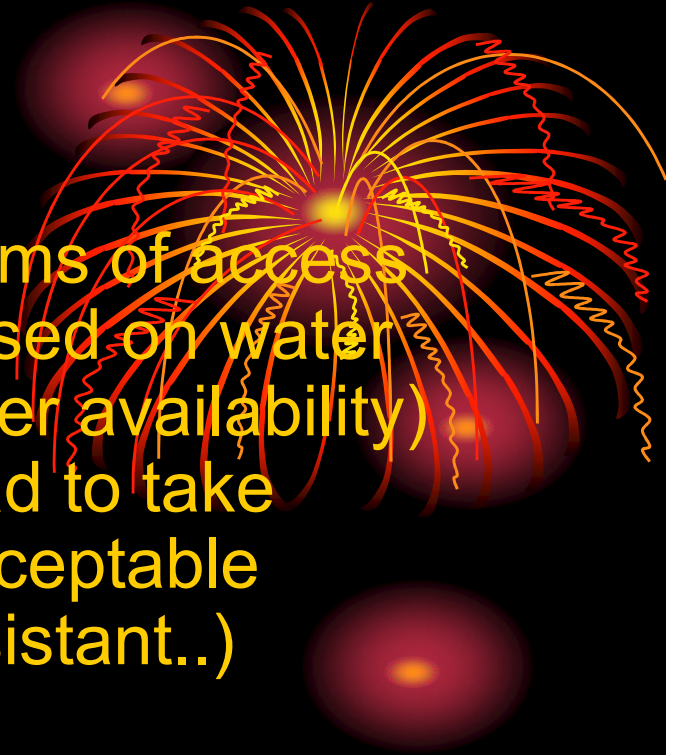
Precipitation vs water quality

in Shamnagar



Preliminary Findings

- Severe socio-economic droughts in terms of access to domestic water supply indicated based on water quality determinants (in addition to water availability) during April-May 2010. Most people had to take serious hardship and risks to locate acceptable domestic water (also agric. For salt resistant..)
- The respective WQ and socio-economic drought was more serious in drought prone Shamnagar than in Ramgoti
- How to define drought? (met., agric, and/or people's perspectives?)



Conclusion

- **The data presented a part of a drinking water project. The drought perspective was explored on it as a formative research to re-emphasize the importance of WQ/environmental and societal issues in sustainable management of water. So the study had limitations.**
- **New pilot projects (including the themes, wQ, environment, people, and advanced tools) needs to be done simultaneously in droughts, flood and/or CC perspectives for sustainable water management .**
- **Both the existing opportunities and new projects as well as capacity building may be considered in this regard.**

