

Modeling Water Resources at the Basin Level

One thing that we constantly tell ourselves is that life as we know it cannot live without water, and where there is water, there is almost always life. For good reason therefore, in its search for extra-terrestrial life, NASA has defined the “habitable zone” as “the distance from a star where one can have liquid water on the surface of a planet.” While we earthlings may not be at a risk of exiting our stars’ habitable zone anytime soon, the situation going ahead may be vastly different. We therefore called on credible oracles – the modelers - to predict what lies ahead and to understand:

- integrated water resource assessments including agricultural, urban water supply, rural water supply, industrial, hydropower and environmental requirements
- water accounting and analysis of supply and demand
- water quality analysis; trade-off analysis
- impact of climate change
- low flow and drought management

Together with a modeling expert, Engineers from Water Resources Department are using eWater SOURCE to generate hydrological river basin models for K2, K3, K4 and K6 sub basins.



CUTTING THROUGH THE COMPLEXITY

Water resources management can be complex with several intertwined processes including decision making which involves several stakeholders.. To act effectively different types of models can be used as support in the decision-making processes in river basins and towards equitable and sustainable allocation and access.

In the days to follow we will be generating several models including rainfall runoff models, water balance and accounting, dam operations, crop models, time series among others and will focus on linking hydrological change to ecological and livelihoods impacts.



CAPACITY BUILDING

At ACIWRM, we are always striving to raise the level of competence of WRD staff in various international river basin competencies. Capacity building is therefore woven into most of the project activities. Nearly 30 WRD staff have trained in modeling using eWater SOURCE. The staff is now working on generating a suite of models that perform the water quantity & quality simulations required to support various assessments.

Going forward we remain committed to building effective understanding of the basin water resources & identifying & describing various challenges involved in basin-scale planning.