

An IAEA/Peaceful Uses Initiative (PUI) funded project

Costa Rica IWAVE Project



Water
Resources
Programme

Costa Rica benefits from relatively abundant surface water resources, though heavy tourism is increasing water use and stressing local supplies. The country's groundwater is largely used to serve seasonal tourism and agriculture needs in drier areas, while a combination of surface and groundwater supplies cities. Water quality concerns exist at the national level, stemming from industrial, domestic, and agricultural pollution as well as concerns about meeting expanding agricultural needs. While the governmental and academic water sector in Costa Rica is well established with substantial expertise, Costa Rica has no regular hydrological monitoring network to assess water quality and quantity, and lacks an integrated approach to water resources.

The Ministry of Environment, Energy, and Telecommunication — lead collaborator in the IWAVE study — undertook in 2012 the development of a document outlining the national approach to water resource management called the Blue Agenda. IWAVE is supporting this undertaking by collaborating with the Ministry to conduct regional workshops and national forums to synthesize input from all Costa Rican water sector stakeholders.



Primary gaps in hydrological understanding in Costa Rica

Gaps in hydrological understanding and capacity in Costa Rica have been identified by national water experts, including:

- Insufficient understanding of surface water and groundwater resources (quality, quantity) to ensure efficient resource management;
- Lack of knowledge of the interaction between surface water, groundwater and ecosystems;
- Inadequate understanding of the capacity of water systems to response to anthropogenic and natural processes;
- Incomplete knowledge of how improving water use efficiency impacts resource sustainability.

These experts also emphasize the need for greater understanding of the economic and ecological benefits of an integrated approach in the water sector.





Activities

2012

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| September | Initiation of the reconnaissance sampling programme for chemical and isotope analysis of water |
| November | Workshop and training on advanced hydrogeological mapping for Costa Rica |
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2013

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| February | Workshop and training for hydrological network design and optimization, to include networks for rainfall and climate, surface water and groundwater |
| March | Workshop on the use of nuclear techniques in the assessment of water resources |
| April | Training in numerical modelling of hydrological systems, including recharge and the interaction of groundwater and surface water |
| July | Training in methods for quantifying or estimating all categories of water use and the development of national indicators of water use efficiency |
| September | Workshop addressing the ecological implications of exploitation of water resources, with a particular focus on wetlands |
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