

FOREWORD

Groundwater is among our Nation's most important natural resources. In coastal zones, it is a vital resource for communities and ecosystems. In many coastal regions, groundwater is the primary or sole source of drinking water supply and irrigation. Groundwater sustains the flow of coastal streams and rivers and is a source of freshwater to coastal ponds, wetlands, and other coastal ecosystems.

However, coastal zones are vulnerable to a variety of hydrological problems including cyclones, storm surges, flooding, seawater sprays, and seawater ingress through surface waters and through porous media. All these hydrological phenomena contribute towards salinization of fresh groundwater making the freshwater unfit for human use. In addition, anthropogenic pressures and other human activities that affect local and regional hydrological conditions are strong drivers for inducing seawater ingress leading to groundwater salinity. Compounding these issues are increasing risks from climate change, particularly sea-level rise.

In coastal regions of India, there is still a great deal to be learned about the hydrogeologic conditions and hydrogeochemical processes that currently influence the prevalence and severity of coastal groundwater salinity.

Because of a growing awareness of the critical role of groundwater in sustaining coastal populations, economies, and ecosystems, it is the right time to review some of the important water-management issues and scientific principles related to groundwater in the coastal zones, and to identify the scientific and management challenges that lie ahead.

The aim of the proposed training course is to impart a 5-day training for officials from Groundwater Departments of HP-II implementing coastal states of India on sustainable groundwater development and management of water supply in coastal regions using recent investigative techniques and modeling tools.

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