

# Study on climate change response of small island groundwater resources

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**Abstract**

Many small island nations rely on groundwater as their only other source of freshwater in addition to rainwater harvesting. The volume of groundwater resource of small island nations are further limited by their smaller surface area and specific hydrogeology. The rapid growth of population and tourism has led to increasing water demands and pollution of available groundwater resources. The predicted climate change effects pose significant threats to the already vulnerable freshwater lens of small islands in the form of rise in sea level, coastal inundation, saltwater intrusion, varied pattern of precipitation leading to droughts and storm surges. The effects of climate change are further aggravated by manmade stresses like increased pumping. Thus small island water resources are highly threatened under the effects of climate change. But due to the limited technical and financial capacity most of the small island developing states were unable to conduct detailed technical investigations on the effects of climate change on their water resources.

In this study, we investigate how well small island countries are preparing for climate change. The current state of freshwater resources, impacts of predicted climate change along with adaptation and management strategies planned and implemented by small island countries are reviewed. Proper assessment and management practices can aid in sustaining the groundwater resources of small islands under climate change.

**Keywords : Climate change, Small islands, Freshwater lens**

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