

Territorial Climate and Infrastructure Workshop
March 28 – 30, 2022

U.S Geological Survey (USGS)
Water-Related Capabilities & Efforts in U.S. Territories

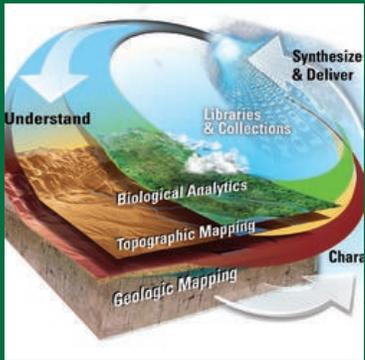
Jill Rolland -- USGS Regional Director

DOI Region 12 – Pacific Islands (American Samoa, Guam, Hawaii, Northern Mariana Islands)
DOI Region 9 – Columbia-Pacific Northwest

USGS – Our Focus & Structure

“As the Nation's largest water, earth, and biological science and civilian mapping agency, we collect, monitor, analyze, and provide science about natural resource conditions, issues, and problems. Our diverse expertise enables large-scale, multidisciplinary investigations and provides impartial scientific information to resource managers, planners, and our customers.”

USGS Mission Areas



Core Science
Systems



Ecosystems



Water
Resources



Natural
Hazards



Energy &
Minerals

Water-Related Challenges in the U.S. Territories

Reliable water supply during droughts

Sea level rise

Climate change

Flooding

Water infrastructure

Broad USGS Capabilities in the U.S. Territories

- **Water Quality, Quantity, Use**
- Changing climate and variability
- Mapping
- Hazards and disaster risk reduction
 - Coastal vulnerability
 - Volcanism and Seismic risk
 - Landslides
- Minerals surveys (land and sea)
- Wildlife health (land and sea)
- Species status and ecosystem function
- Invasive Species



USGS Water-Related Capabilities (1 of 2)

Goals

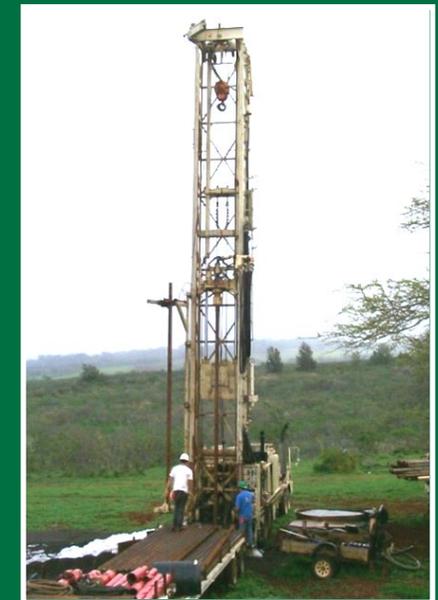
- Collect, analyze, disseminate impartial hydrologic data to help wisely manage water resources for the people of the U.S. Territories
- Analyze hydrologic processes to increase understanding & promote informed decision making
- Develop hydrologic system models for local decision making & planning
- Apply models under projected climate change & sea-level rise scenarios
- Ensure that lessons learned & science are transferrable to the people who need it



USGS Water-Related Capabilities (2 of 2)

Science Focus Areas

- Hydrologic monitoring & streamgages
- Quantity and variability of streamflow
- Groundwater availability
- Water quality (groundwater & surface water)
- Agricultural water use
- Seasonal storm surge monitoring
- Fire, drought, and landscape change
- Climate projection data & models
- Drought impacts for water planning
- Inform coastal management



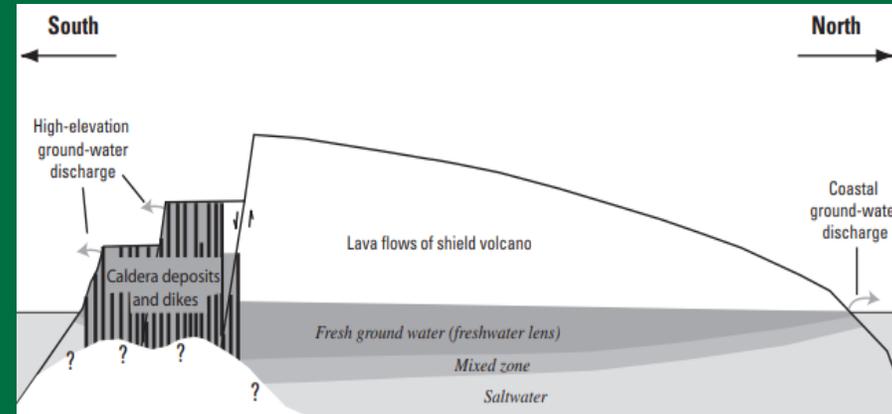
Example USGS Projects in the U.S. Territories

Groundwater conditions and trends, 2009–19, Saipan, Commonwealth of the Northern Mariana Islands



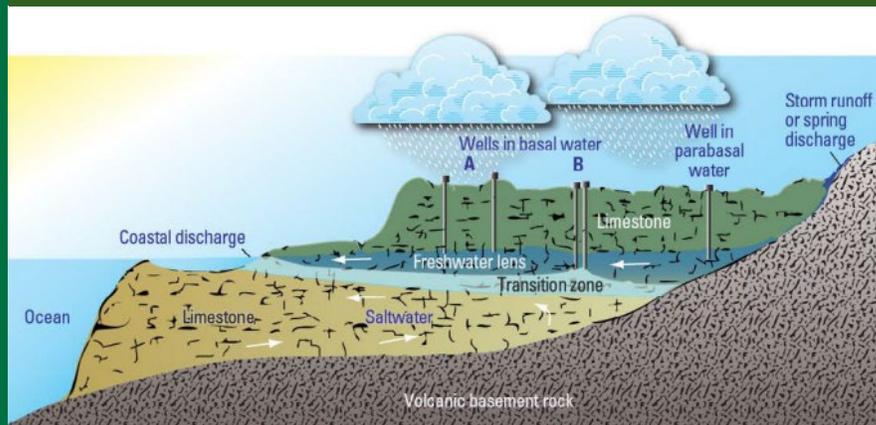
View from Okso' Takpochao (informally known as Mount Tagpochau) looking south

Reconnaissance of the Hydrogeology of Ta'u, American Samoa



Representation of ground-water occurrence in Ta'u,

Water Resources on Guam—Potential Impacts of and Adaptive Response to Climate Change



Schematic cross section of the Northern Guam Lens Aquifer

Monitoring Storm Tide, Flooding, and Precipitation From Hurricane Maria in Puerto Rico and the USVI



St. Croix, U.S. Virgin Islands

Thank you!

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