



# REVELARE

HYDROSPATIAL

6 November 2024

Echoes from the Deep

Revelare combines trusted and respected Australian companies with expertise in the hydrospatial, geospatial and data analytics domains to generate a full spectrum spatial intelligence capability

**REVELARE**   
SYSTEMS

formerly

**PHS**

**REVELARE**   
GEOSPATIAL

PrecisionHydrographicServices

# Echoes from the Deep

Elizabeth Johnstone, Ph.D.



# A message from Pacific Islands Leaders....



PACIFIC ISLANDS FORUM

## Pacific Islands Forum Leaders Ocean Statement 2021



*"We call for increased investment for the establishment of observation systems, to understand impacts of climate change on the Ocean, blue carbon protection and restoration initiatives for climate mitigation and adaptation, as well as monitoring and prediction to strengthen natural disaster response and risk reduction strategies for our islands."*

Source: Pacific Islands Forum Leaders Ocean Statement 2021

## *Geophysical surveys*

crucial in assessing future geohazard risks in the South Pacific due to the region's vulnerability to various natural and man-made hazards:

- Climate change
- Earthquake
- Tsunamis
- Volcanic activity
- Landslides



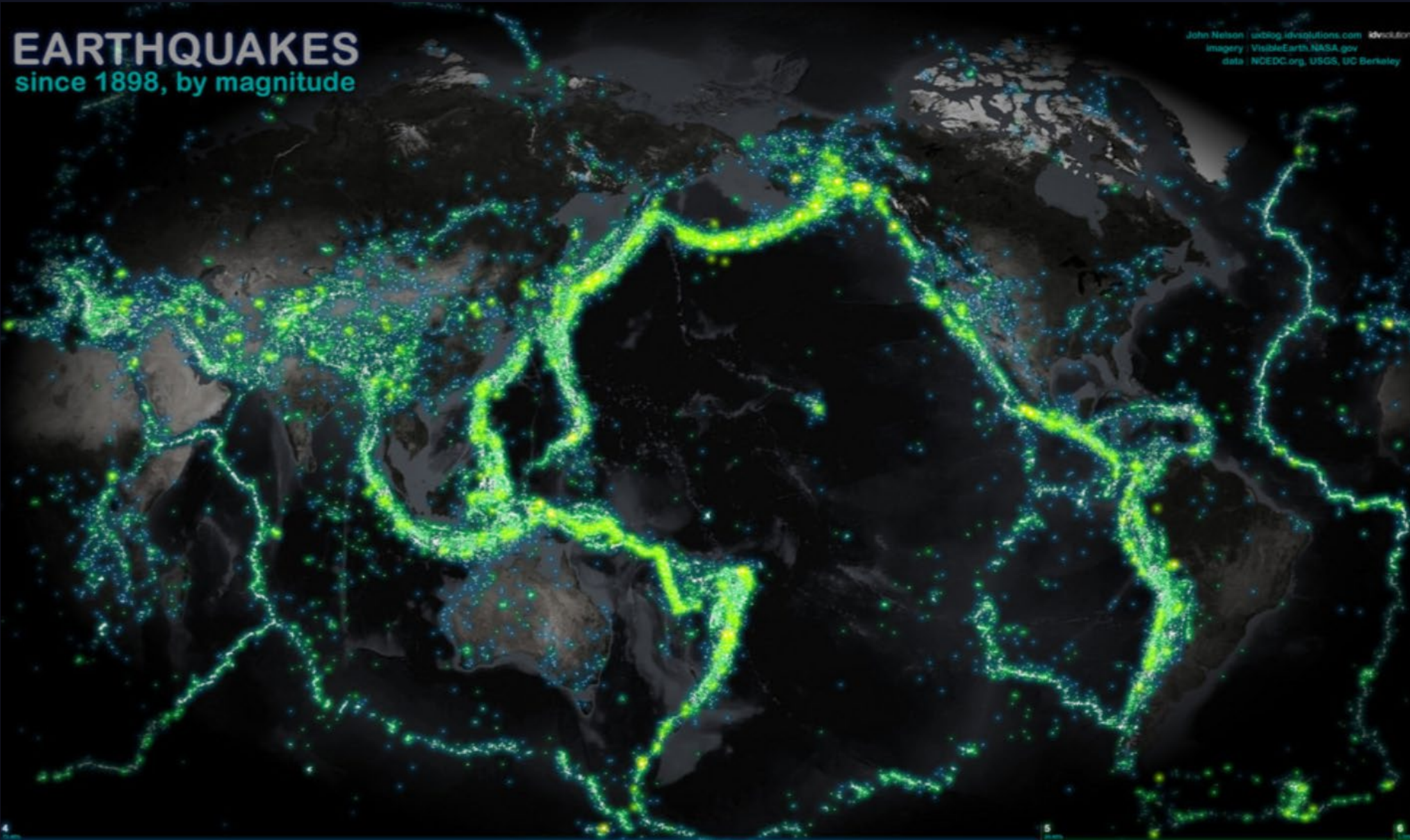
# Climate Change and Sea-Level Rise



*Coastal Erosion and Submersion Risks*

*Coral Reef and Atoll Stability*

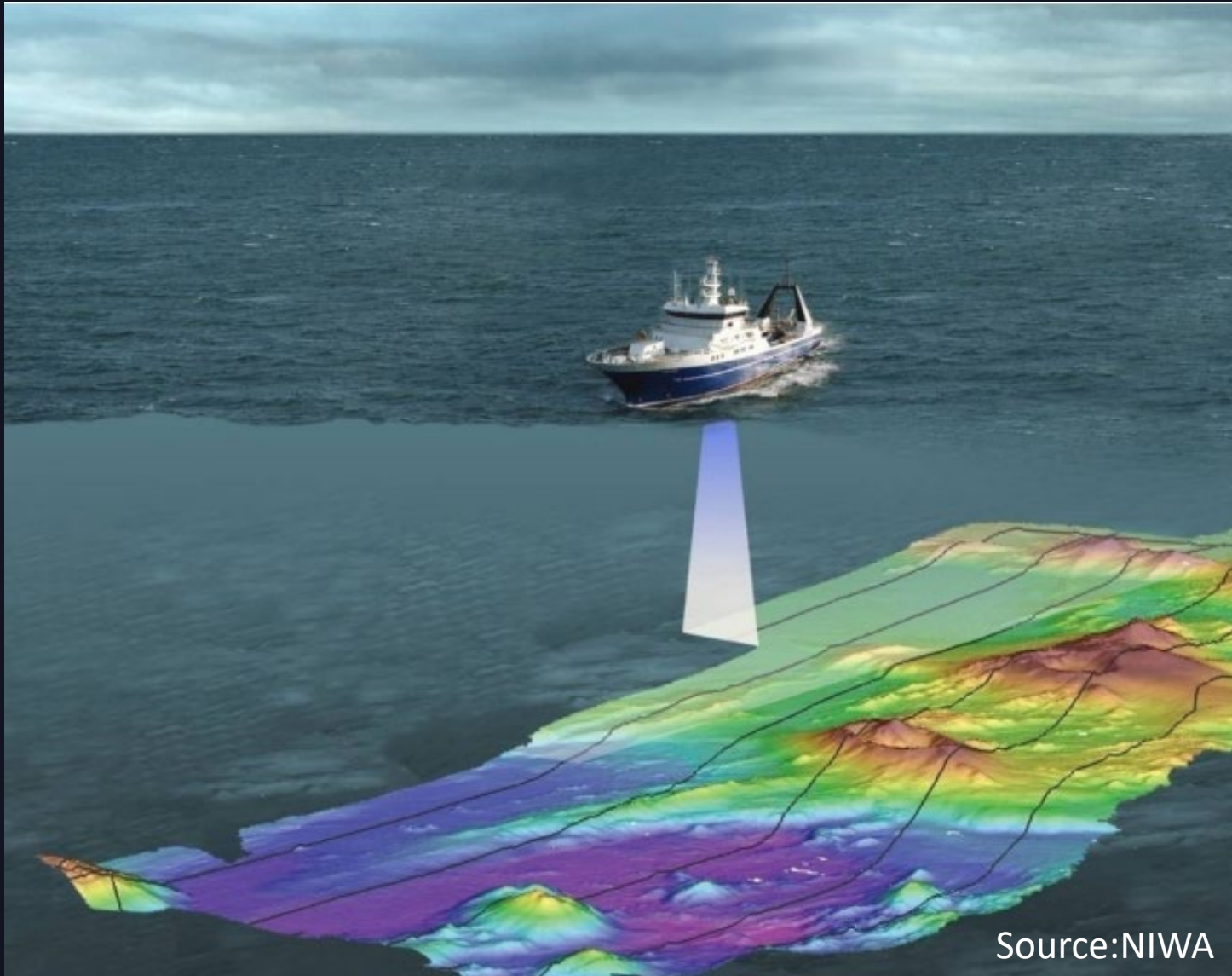
# Seismic Risk



***Earthquake  
Monitoring***

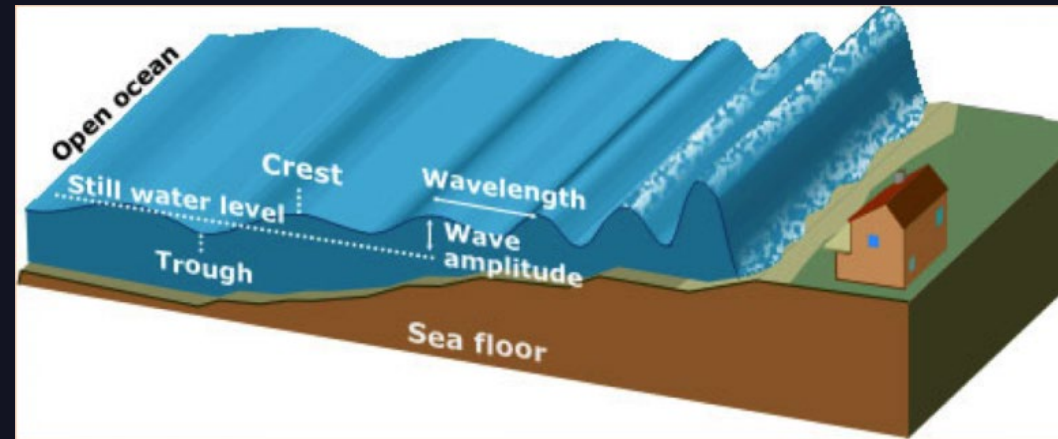
***Subduction  
Zone Analysis***

# Tsunami Hazard Mapping



*Seabed Topography and Sediment Analysis*

*Wave Propagation Modeling*



# Volcanic Hazard Prediction

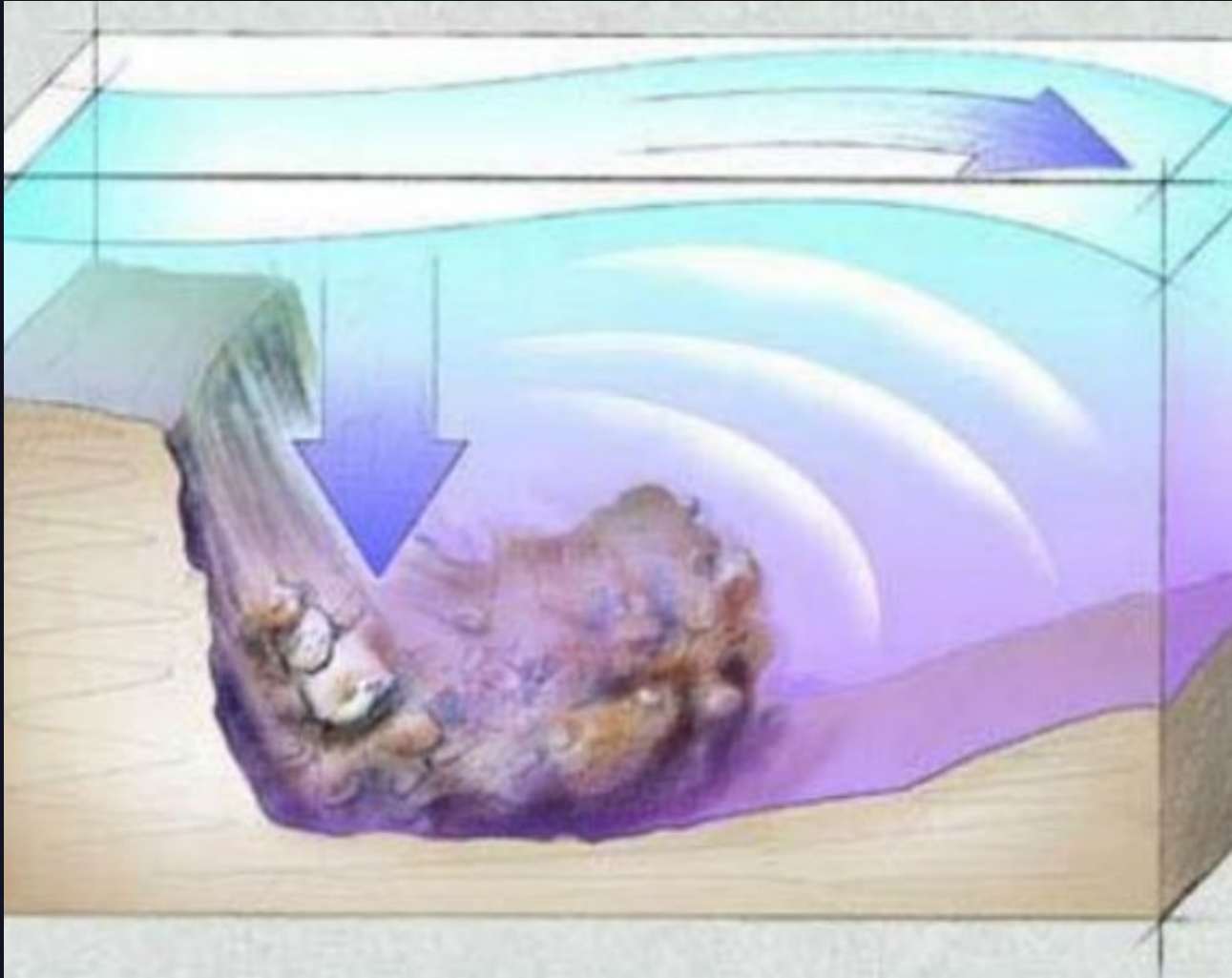


*Submarine  
Volcano  
Monitoring*

*Hydrothermal  
Activity*

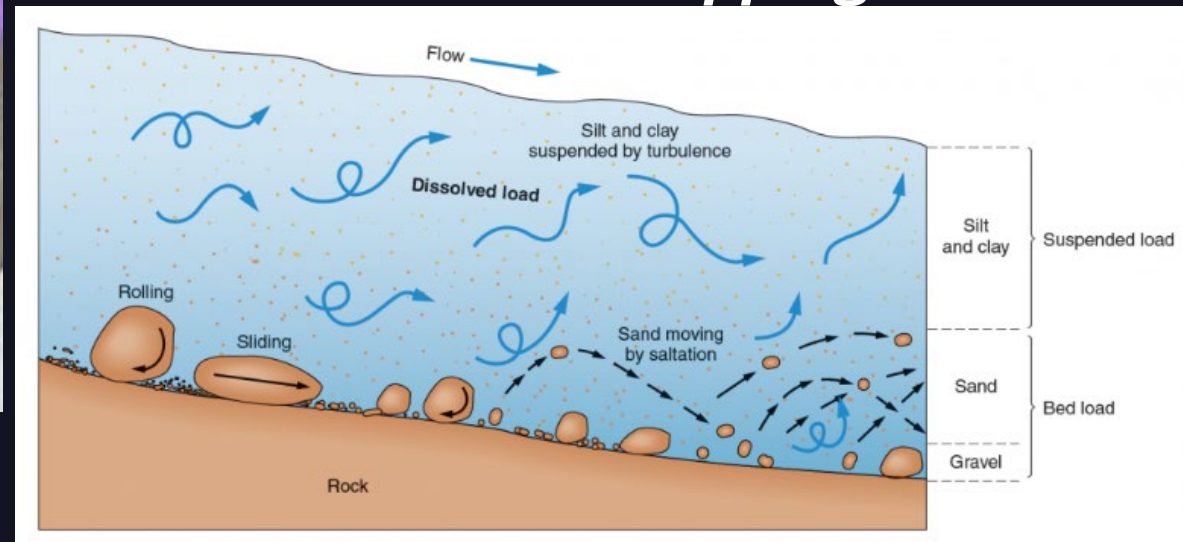


# Landslide Risk Identification



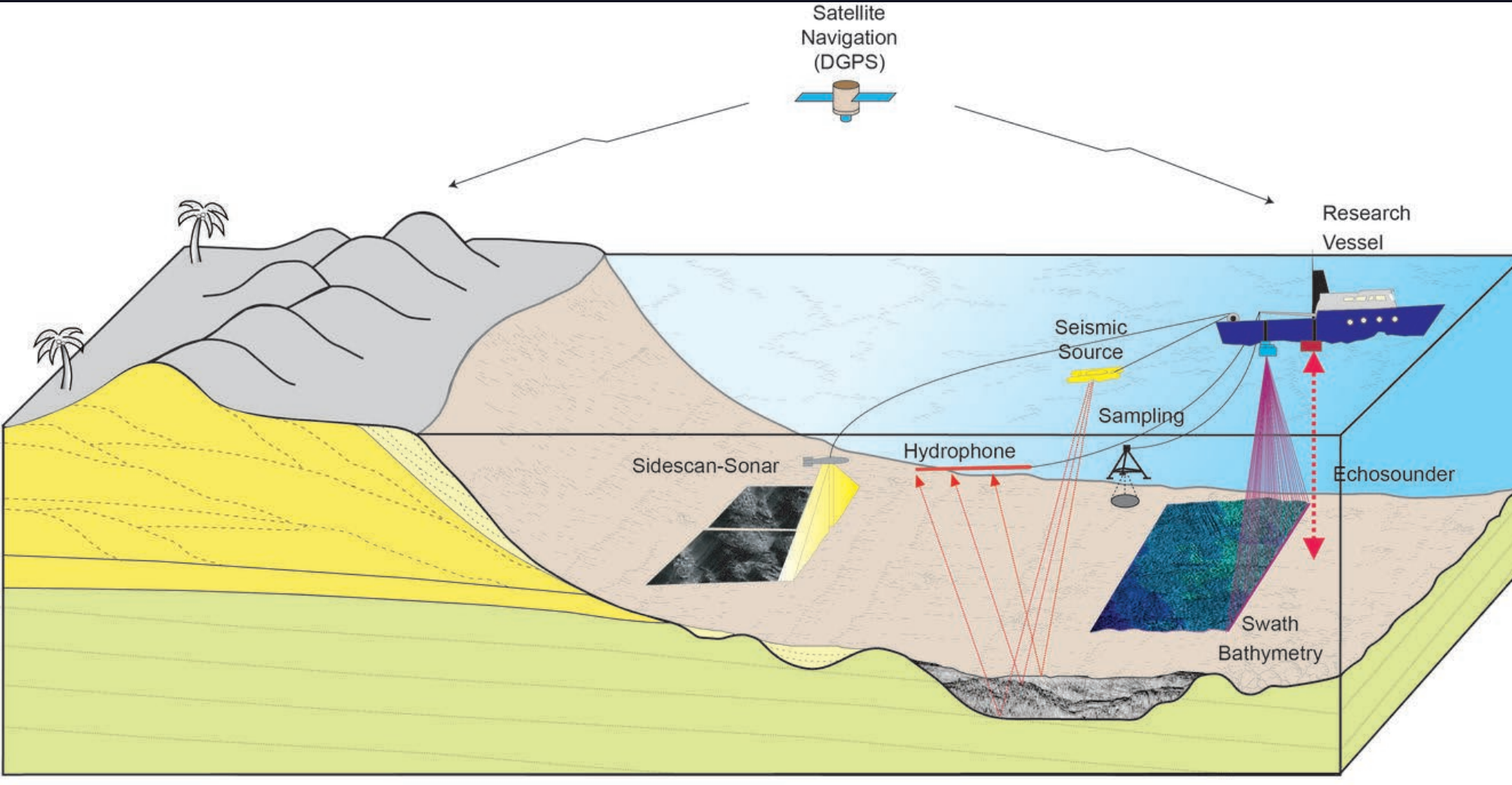
## *Slope Stability and Submarine Landslides*

## *Sediment Load Mapping*

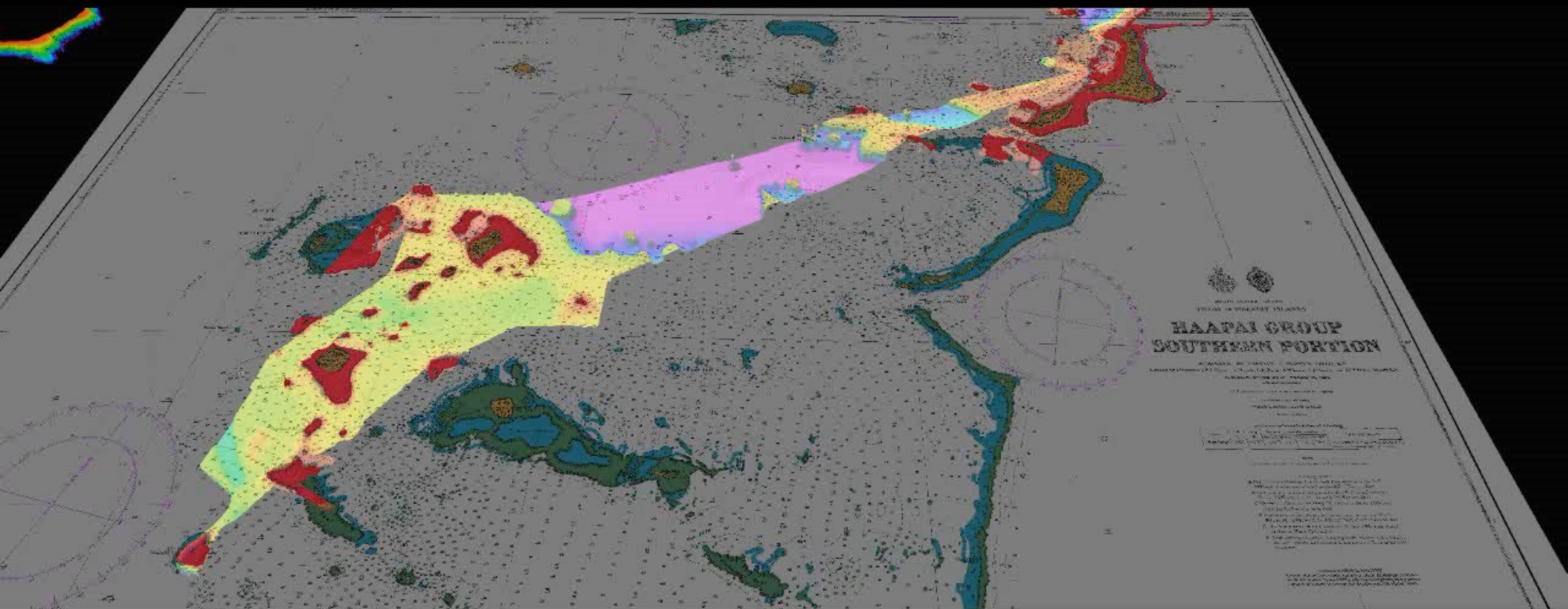


# Geophysical Tools

uncovering Earth's processes



- MBES Bathymetry
- MBES Backscatter
- Sidescan Imagery
- Synthetic Aperature Sonar
- Subbottom Profiling
- Magnetometers



HAAPAI GROUP  
SOUTHERN PORTION

# How can Revelare Hydrospatial help?

- 1) Seek long-term partnerships and funding from international organizations  
e.g., UNDP, Australian and US governments
- 2) Provide technical and scientific advice to help design and undertake informative surveys and monitoring
- 3) Capacity building through training and community outreach

# International Funding Programs

*to help mitigate the risk from natural disasters including climate change*

1. Global Facility for Disaster Reduction and Recovery (GFDRR)

Affiliated with: World Bank

2. Green Climate Fund (GCF)

Affiliated with: United Nations Framework Convention on Climate Change (UNFCCC)

3. Asian Development Bank (ADB)

Website: [adb.org](http://adb.org)

4. Pacific Catastrophe Risk Insurance Company (PCRIC)

Affiliated with: World Bank and the Pacific Islands Forum

5. United Nations Development Programme (UNDP)

Website: [undp.org](http://undp.org)

6. European Union (EU) – Pacific Regional Integration Support

Website: [europa.eu](http://europa.eu)

7. Australia Pacific Climate Partnership (APCP)

Affiliated with: Australian Government

Website: [dfat.gov.au](http://dfat.gov.au)

8. New Zealand Ministry of Foreign Affairs and Trade (MFAT) – Pacific Programme

Website: [mfat.govt.nz](http://mfat.govt.nz)

9. Japan International Cooperation Agency (JICA)

Website: [jica.go.jp](http://jica.go.jp)

10. Global Climate Change Alliance Plus (GCCA+)

Affiliated with: European Union

Website: [gcca.eu](http://gcca.eu)

11. United States Agency for International Development (USAID) – Climate and Disaster Resilience Programs

Website: [usaid.gov](http://usaid.gov)

12. Asian Disaster Preparedness Center (ADPC)

Website: [adpc.net](http://adpc.net)



# Thank you



Revelare Hydrospatial

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