

Today

- **ASU Center for Global
Discovery and Conservation
Science**
- **ASU School of Ocean Futures**



GDCS purpose

To craft and apply a fusion of approaches supporting solutions in the stewardship of communities and ecosystems in an age of rapid global change.



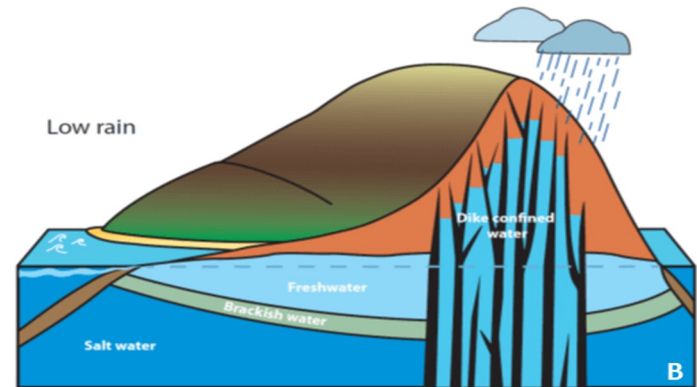
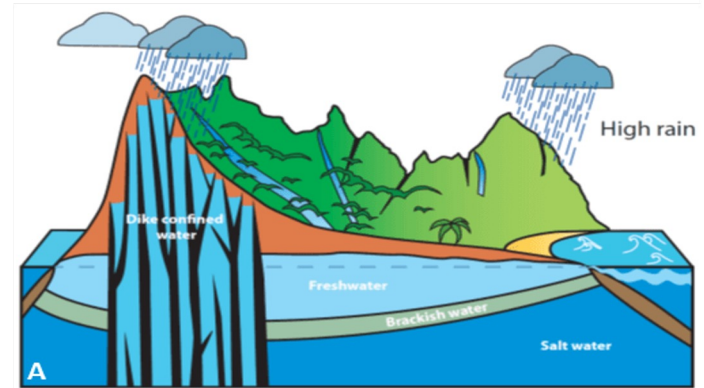
Our approach

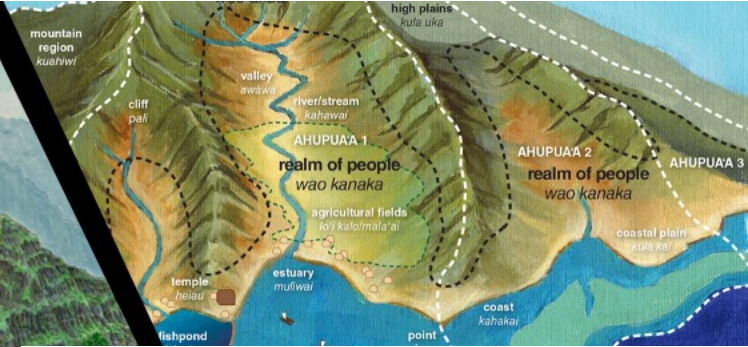
We integrate science, intergenerational knowledge, and global technology in community partnerships to drive tangible impact at scale.

Science

From ecology to geography, genetics to data science, the multi-disciplinary make-up of our faculty and their labs allows us to understand environmental challenges from diverse scientific perspectives.

This helps spark innovative approaches that generate new discoveries.



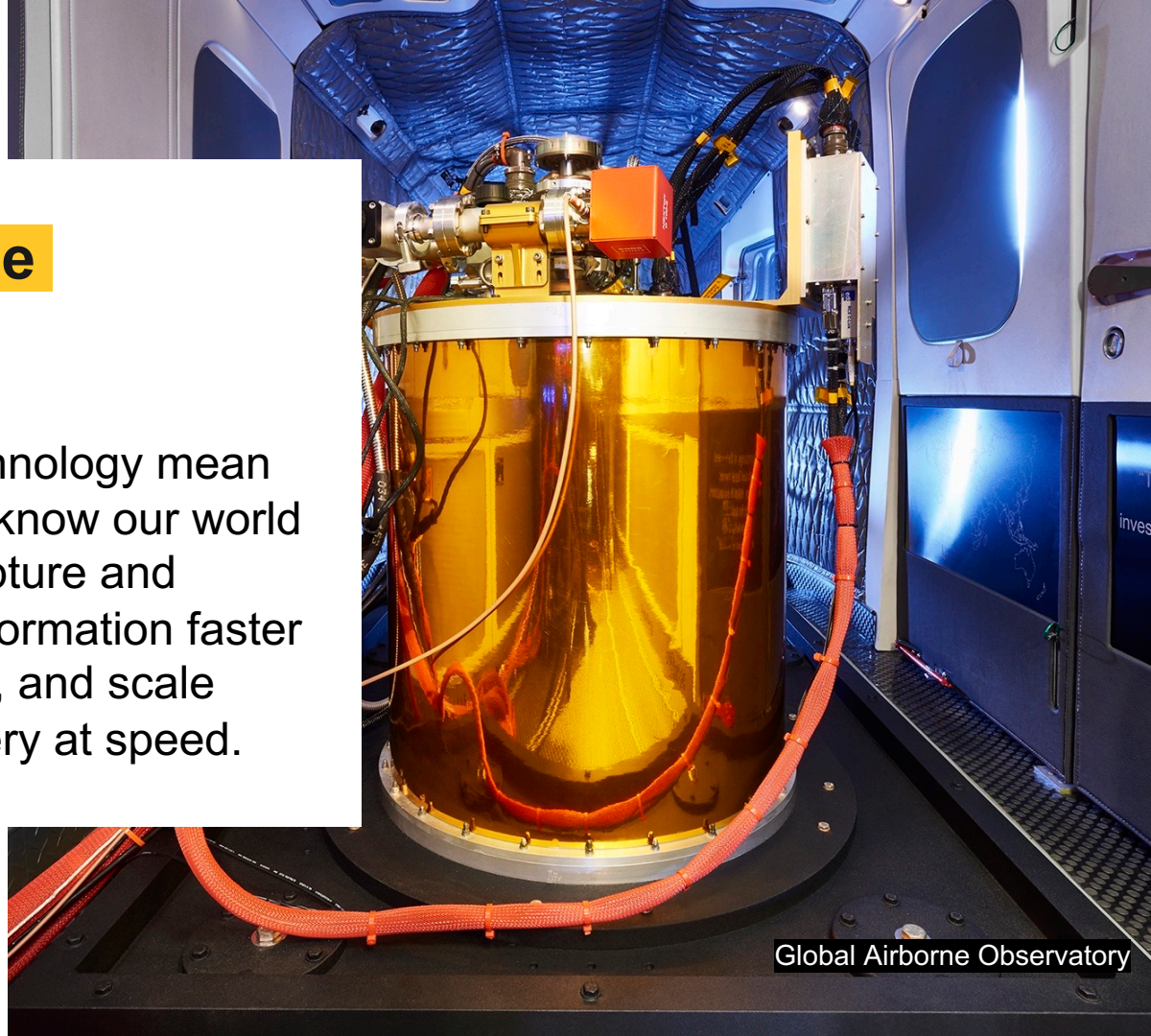


Intergenerational knowledge

Intergenerational (Indigenous) knowledge is a time-integrated understanding of how ecosystems work and the role of people in those processes.

Cutting-edge technology

Advances in technology mean we can see and know our world in new ways, capture and analyze more information faster than ever before, and scale scientific discovery at speed.



Global Airborne Observatory



Community partnership

The scientific knowledge we create is most useful if it is integrated and applied.

We engage key decision-makers and communities from the beginning of every project to make sure our work is useful and actionable.

GDCS in Hawai'i and Arizona

Center research associates

Center personnel



Greg Asner



Amanda Koeller



Paulina Martin



Andrea Scott



Chris Balzotti
Adjunct Professor
The Nature Conservancy



John Burns
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Adjunct Professor
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Jnaneshwar Das



Mary Donovan



Elisabeth Ilboudo Nebie



Katie Kamelamela



Elisa Ordway
Adjunct Professor
University of California-Los Angeles



Steve Schill
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The Nature Conservancy



Miles Silman
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Wake Forest University



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California Institute of Technology



Clifford Kapono



Hannah Kerner



Jiwei Li



Roberta Martin



Carly Wyman
Center Research Scientist
Swette Center for Sustainable
Food Systems



Julie Ann Wrigley Global Futures Laboratory™

College of Global Futures



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The School of Ocean Futures at Arizona State University

Become a part of ASU's newest school dedicated to the planet's largest biome.


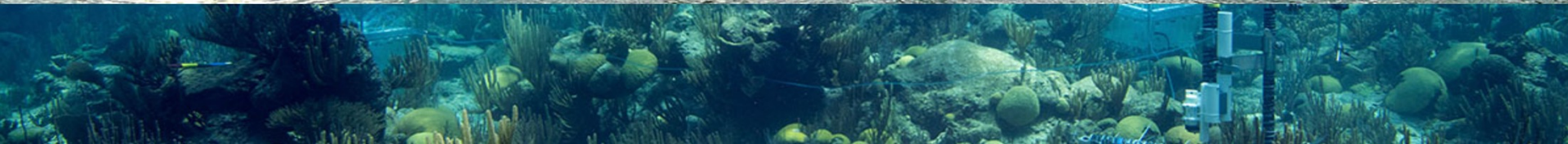

ASU School of Ocean Futures
Arizona State University



BIOS and ARIZONA STATE UNIVERSITY

More than a century of ocean research innovation

The Bermuda Institute of Ocean Sciences (BIOS), home to some of the longest-running sets of ocean observations available anywhere in the world, is now part of the most innovative institution in the U.S.—Arizona State University. Our researchers leverage a wide variety of vessels and facilities operating in its unique position at the edge of the Sargasso Sea in the North Atlantic to explore the ocean and address critical local and global environmental issues. We attract scientists seeking to collaborate at the leading edge of ocean research and education helping to ensure a thriving future for all.

[Research](#) [Education](#) [About Us](#) 

Why the Hawaiian Islands?



Ecology

Wettest ecosystem on Earth, dry deserts, cold mountains, and a global range of reef conditions

Outstanding laboratory for gene-to-global scaling studies for application development, testing

Society

Continual development, providing societally-impactful research contexts

Explore human-environmental feedbacks at a manageable scale

Technology

Combo of natural settings and modern infrastructure to advance technologies for Earth-scale research and management

- Coastal livelihoods
- Conservation and restoration
- Management
- Fulfilling stewardship
- Recreation and tourism
- Fishing
- Pollution and sediment input
- Land development
- Climate change
- Wave forcing
- Productivity
- Temperature

GDCS Hawai'i

Mauka-to-Makai

Model Systems

DRIVERS OF ECOSYSTEM STATUS AND TRENDS



Human well-being

Human well-being

GOODS, SERVICES, VALUES, AND MEANINGS

- Aesthetics/inspiration
- Spirituality
- Bequest and knowledge perpetuation
- Social relations
- Leisure and relaxation
- Identity
- Sense of place
- Heritage and culture
- Food and resource security
- Coastal protection
- Climate regulation
- Biogeochemical cycling

GDCS Island-as-Campus Model

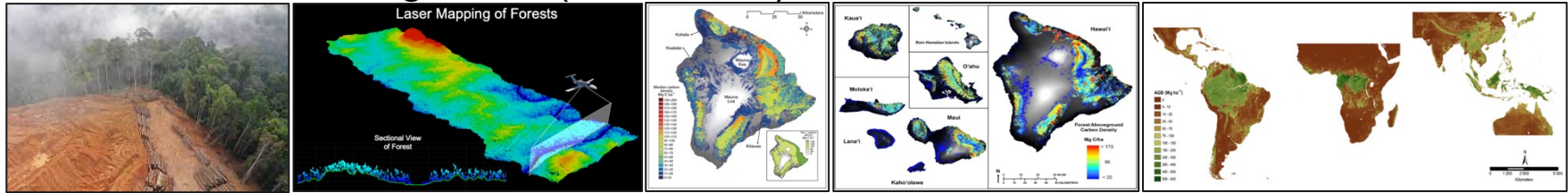


Our Tech in Hawai'i (1998-2023)

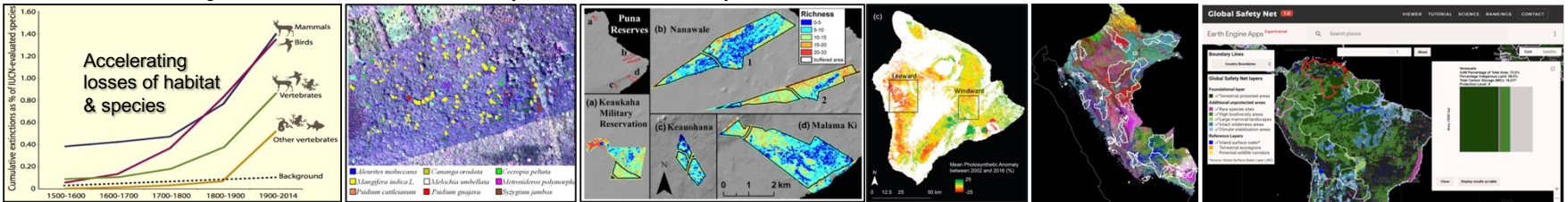


Hawai'i as a Model System for Global MRV

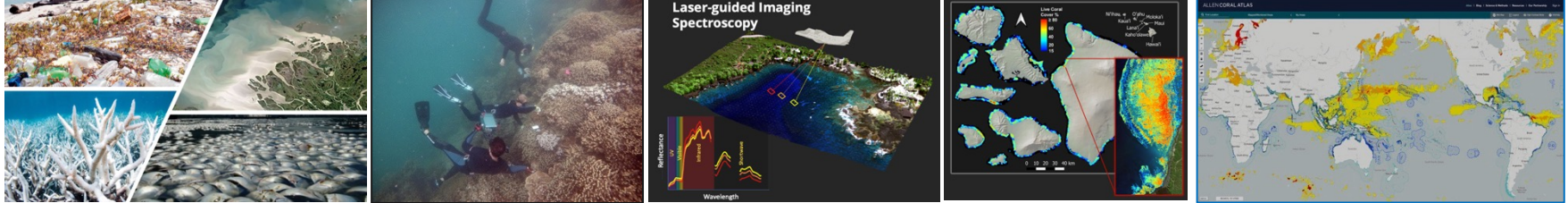
Forest Carbon Management (2007-2018)



Biodiversity Conservation (1998-2023)



Coral Reef Monitoring (2013-2023)



Find Location

Mapped/Monitored Areas

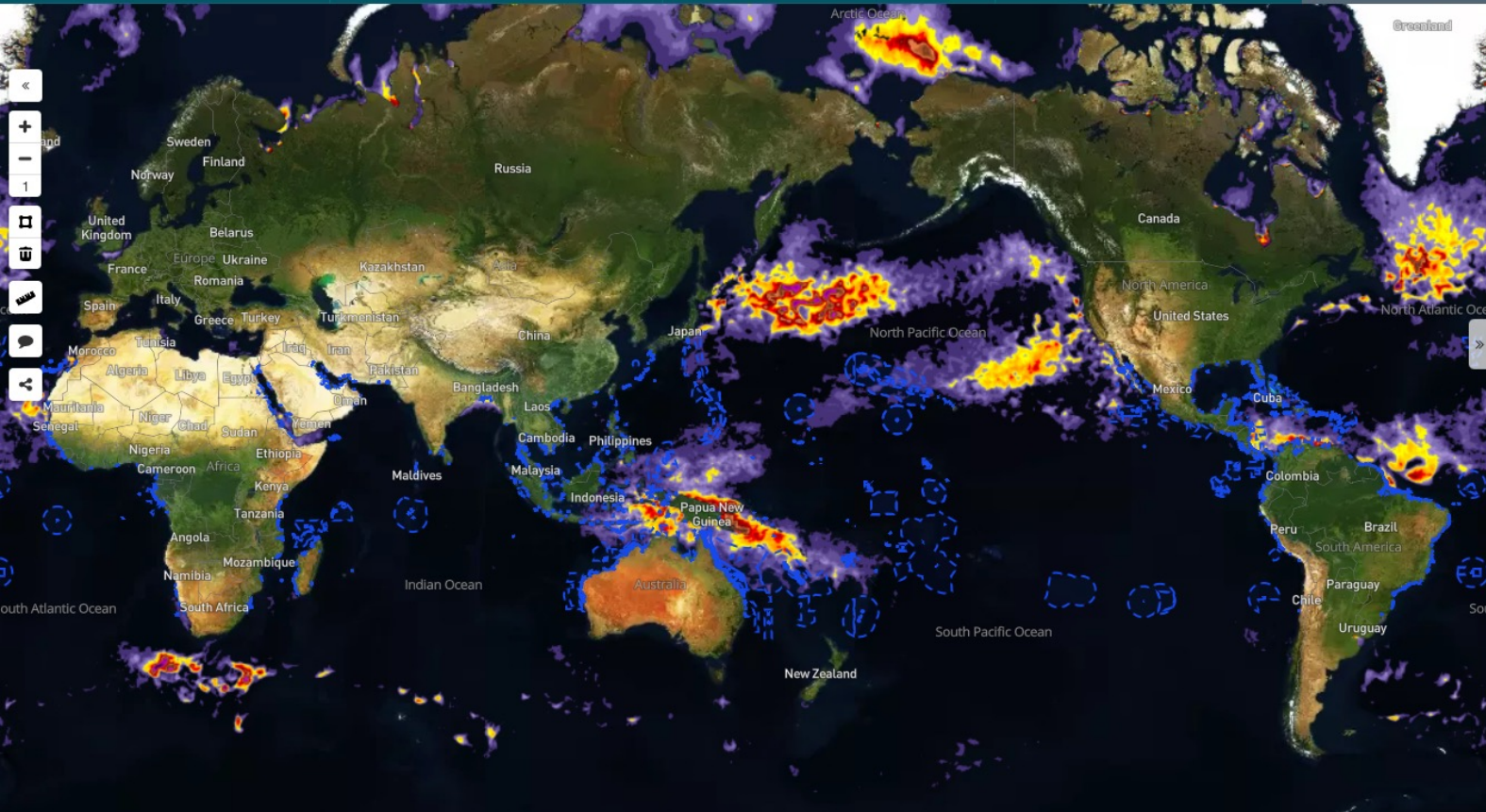
My Areas

Mini Map

Legend

High Contrast Mode

Info/Help



Reef Threats

- Coral Reef Bleaching (Beta)
- NOAA Coral Reef Watch
- Ocean Water Turbidity **New!**

Reef Habitat

- Benthic Map
- Geomorphic Map
- Reef Extent **New!**
- Reef Satellite Imagery

Reference Layers

- Labels
- Marine Protected Areas
- Maritime Boundaries
- Base Map

Our Reef Science Went Global in 2018

Mahalo!