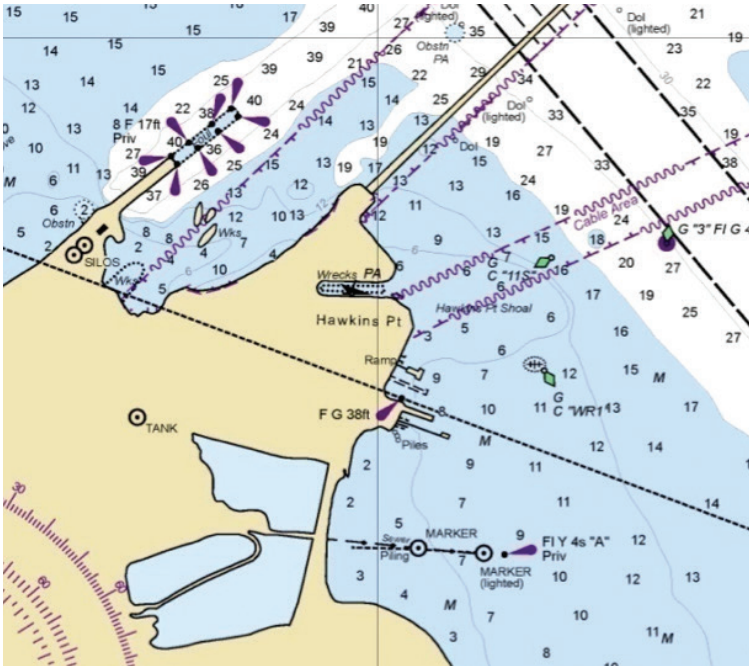
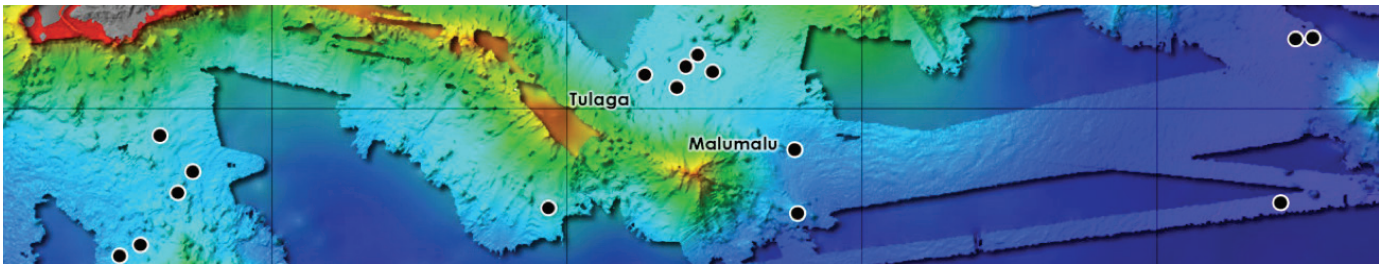
Ocean Solutions, Earth Solutions Coming in 2015

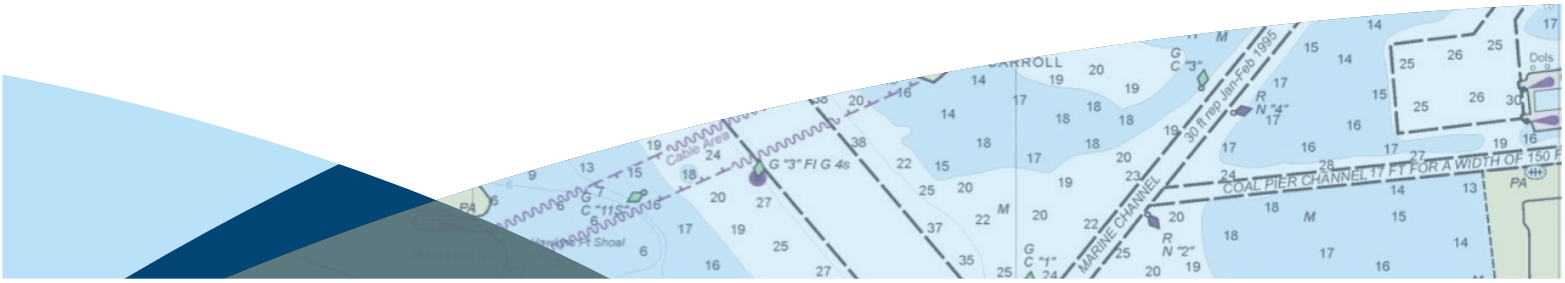
Edited by Dawn Wright, Esri Chief Scientist
Foreword by David Gallo, Woods Hole Oceanographic Institution

On a planet where water covers 71 percent of the surface, our economy, our energy, and our lives depend on the ocean. In recent months we've seen the critical role of the ocean in the latest warnings from the UN Intergovernmental Panel on Climate Change, the launch of the White House Climate Data Initiative, and the search for the missing Malaysia Airlines Flight MH 370. At this critical juncture in history we find the ocean in a state of crisis because of a host of human-made issues. And if the ocean is in crisis, the Earth is in crisis. Our society needs solutions underpinned by good, digestible science: for protecting the ocean while ensuring our own safety, for managing and mitigating conflict among multiple simultaneous uses of the ocean, for geodesigning it, and for discovering and exploring a part of the planet still less well known than the Moon, Mars, or Venus.

Ocean Solutions, Earth Solutions is about use-inspired science and realistic solutions for the ocean and thus the Earth. The book presents the best science from the inaugural Esri Ocean GIS Forum for an audience of government decision makers and ocean/coastal science researchers, state and local coastal zone managers, ocean/coastal GIS practitioners, and students in higher education. To encourage GIS best practice, the book features an extensive digital supplement including datasets with accompanying digital object identifiers (DOIs), geoprocessing workflows, GIS tools packaged as desktop extensions or web services, mobile apps, Python scripts, story maps, and more. All chapters went through standard academic peer review.





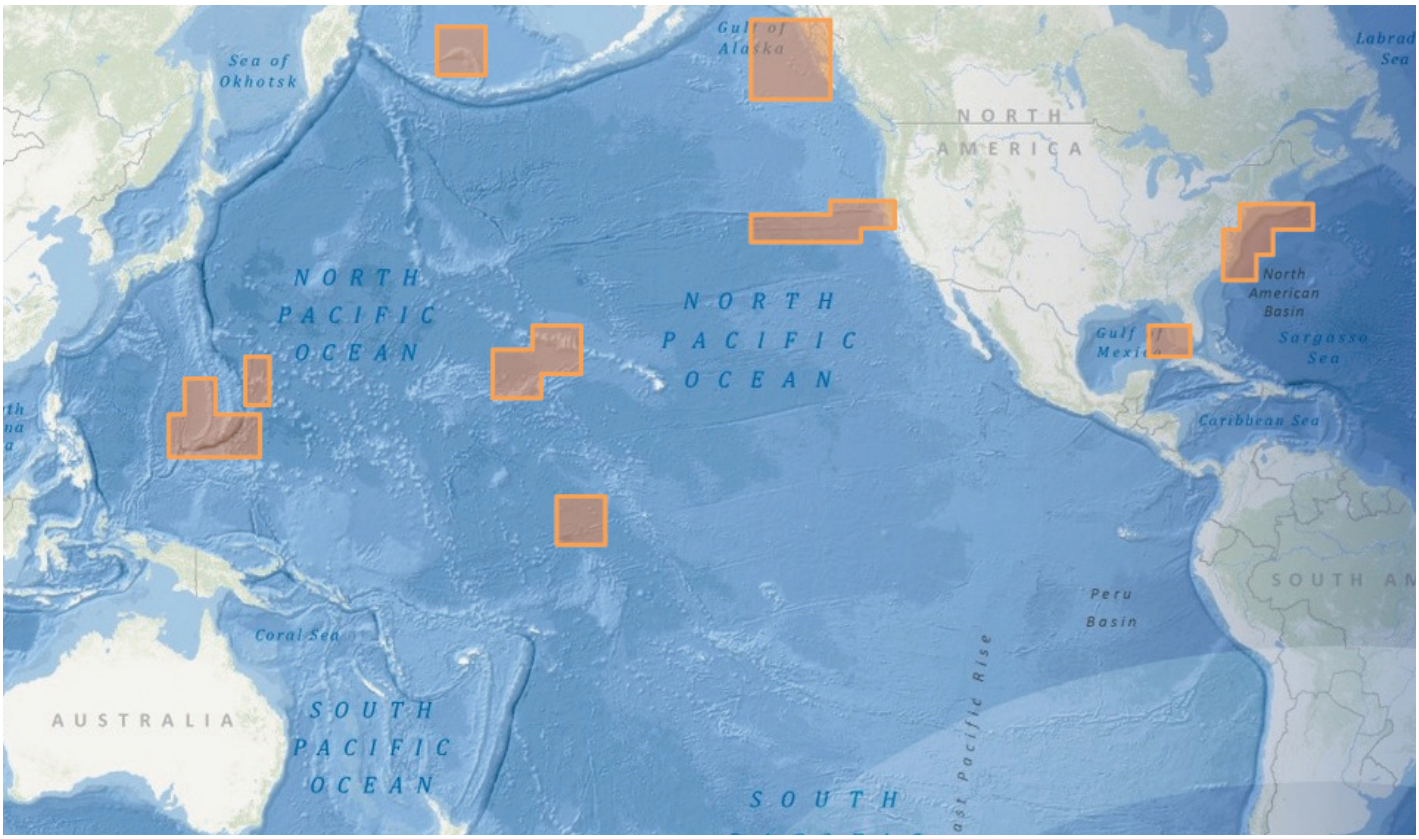


Chapter titles include:

- Cloudy with a chance of fish: ArcServer and cloud-based fisheries oceanography applications
- Good practices in the use of Marxan for systematic conservation and marine spatial planning
- Artificial reefs, beach restoration and sea turtles nesting in Martin County, Florida
- Tools for implementing the Coastal and Marine Ecological Classification Standard
- How does climate change affect our oceans?
- A pollutant exposure index for the Southern California Bight: Spatial integration of multiple pollutants and sources
- Whale mAPP: Citizen scientists contribute and map marine mammal sightings
- Pushing the limits of the Esri Geoportal to support the West Coast Data Network
- Land-sea characterization of the East End Marine Park, St. Croix
- Successfully developing a collaborative Essential Fish Habitat Proposal
- More than maps: Connecting aquarium guests to global stories
- Uncovering the oceans through seascape visualization
- Managing the visual landscape of Oregon's territorial sea
- Visualizing time-series ocean observing data

This book will serve as a cornerstone of science-based strategies and solutions for anyone involved in working for a sustainable future for the ocean and our planet.

GIS skill level of intended reader: Intermediate to advanced.



esri

Understanding our world.