

Shallow-Water Benthic Habitats of American Samoa

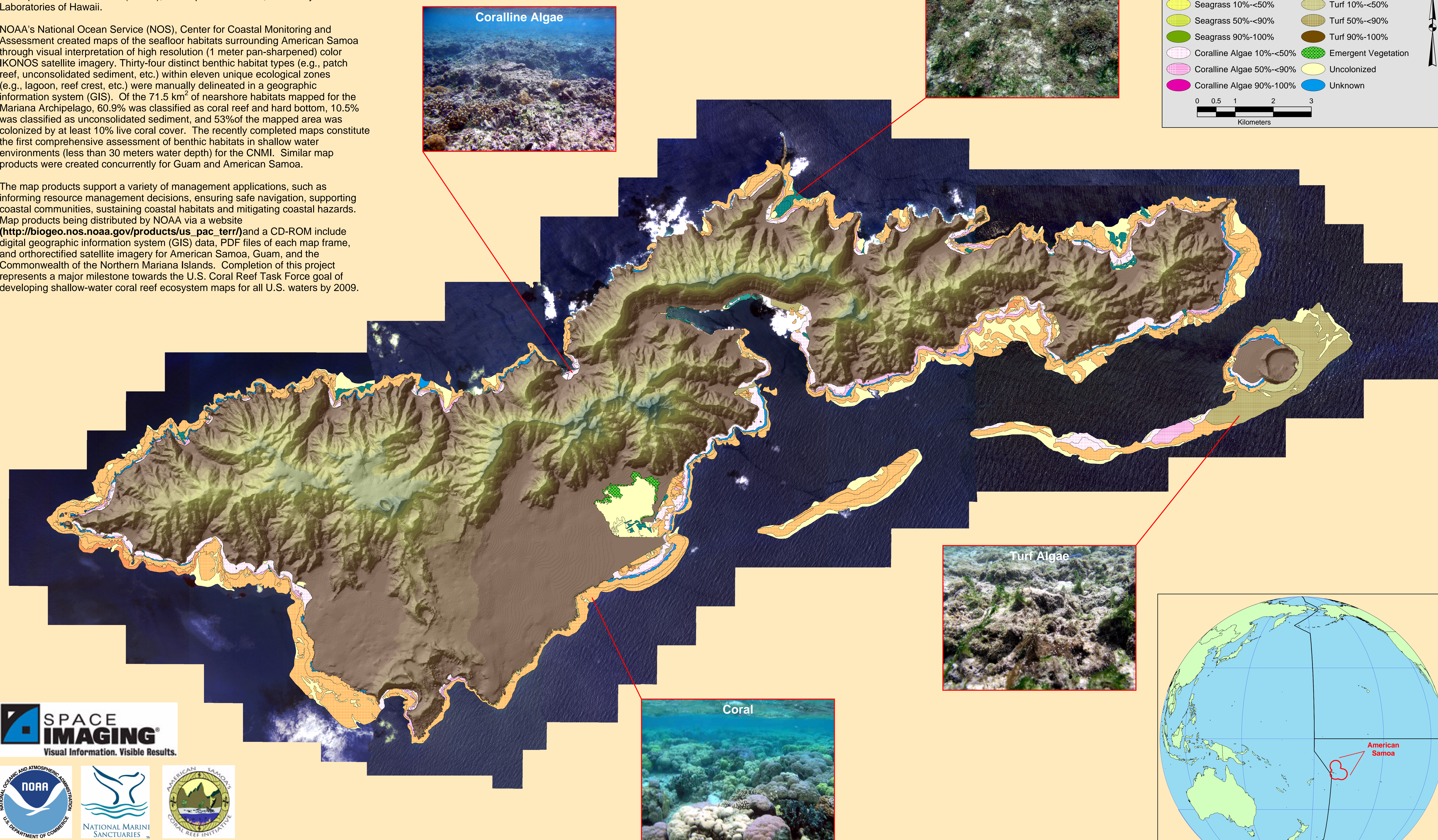
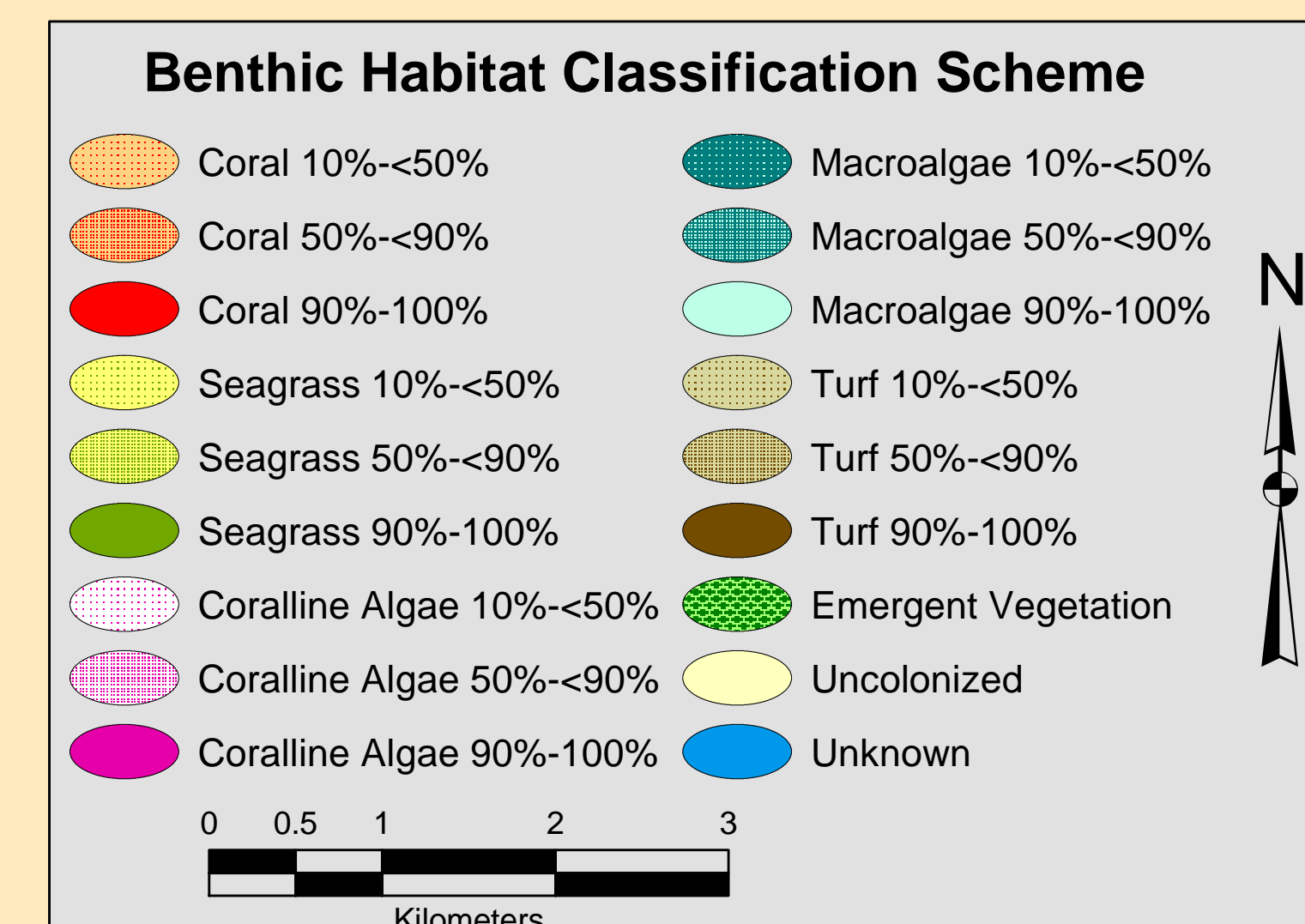
Products Derived for Tutuila from IKONOS Satellite Imagery

BENTHIC HABITAT MAPPING

This map of shallow-water seafloor habitats was developed by the American Samoa partnership mapping team. The team includes scientists, researchers and managers from the Fagatele Bay National Marine Sanctuary, American Samoa's Department of Marine and Wildlife Resources, and Coral Reef Advisory Group working in collaboration with scientists from the National Oceanic and Atmospheric Administration (NOAA), BAE Spatial Solutions, and Analytical Laboratories of Hawaii.

NOAA's National Ocean Service (NOS), Center for Coastal Monitoring and Assessment created maps of the seafloor habitats surrounding American Samoa through visual interpretation of high resolution (1 meter pan-sharpened) color IKONOS satellite imagery. Thirty-four distinct benthic habitat types (e.g., patch reef, unconsolidated sediment, etc.) within eleven unique ecological zones (e.g., lagoon, reef crest, etc.) were manually delineated in a geographic information system (GIS). Of the 71.5 km² of nearshore habitats mapped for the Mariana Archipelago, 60.9% was classified as coral reef and hard bottom, 10.5% was classified as unconsolidated sediment, and 53% of the mapped area was colonized by at least 10% live coral cover. The recently completed maps constitute the first comprehensive assessment of benthic habitats in shallow water environments (less than 30 meters water depth) for the CNMI. Similar map products were created concurrently for Guam and American Samoa.

The map products support a variety of management applications, such as informing resource management decisions, ensuring safe navigation, supporting coastal communities, sustaining coastal habitats and mitigating coastal hazards. Map products being distributed by NOAA via a website (http://biogeo.nos.noaa.gov/products/us_pac_terr/) and a CD-ROM include digital geographic information system (GIS) data, PDF files of each map frame, and orthorectified satellite imagery for American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands. Completion of this project represents a major milestone towards the U.S. Coral Reef Task Force goal of developing shallow-water coral reef ecosystem maps for all U.S. waters by 2009.



NOAA Center for Coastal Monitoring and Assessment
http://biogeo.nos.noaa.gov/products/us_pac_terr/