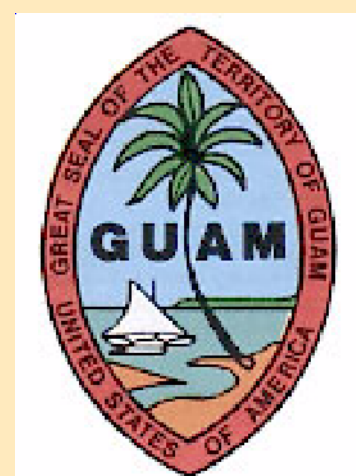
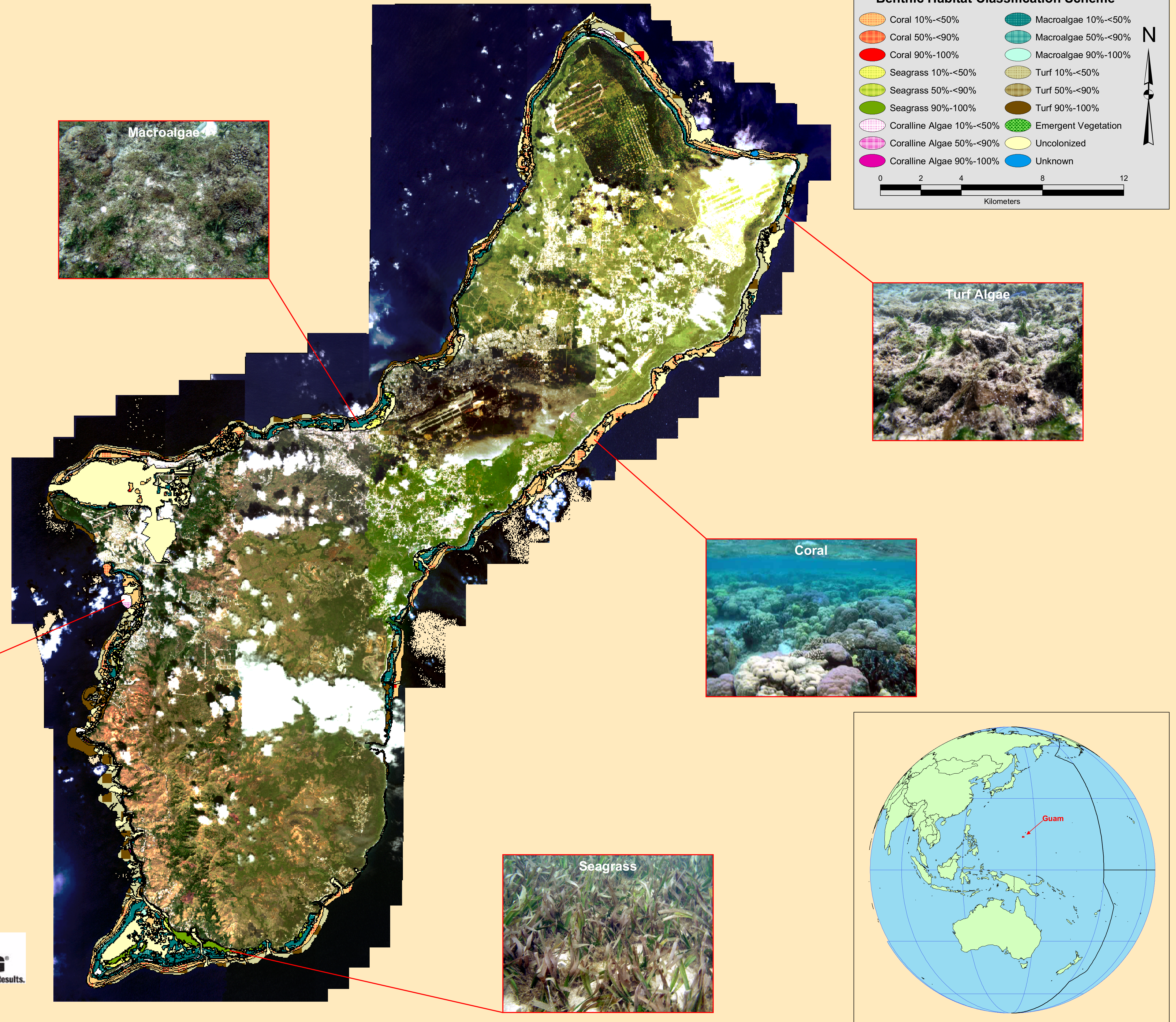


# Shallow-Water Benthic Habitats of Guam

## Products Derived for Guam from IKONOS Satellite Imagery

### BENTHIC HABITAT MAPPING

This map of shallow-water seafloor habitats was developed by the Guam partnership mapping team. The team includes scientists, researchers and managers from Guam's Bureau of Statistics and Planning, the Division of Aquatic and Wildlife Resources, and the University of Guam Marine Laboratory working in collaboration with scientists from the National Oceanic and Atmospheric Administration (NOAA) and Analytical Labs of Hawaii. NOAA's National Ocean Service (NOS), Center for Coastal Monitoring and Assessment created maps of the seafloor habitats surrounding Guam 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 104.5 km<sup>2</sup> of nearshore habitats mapped for the Mariana Archipelago, 68.5% was classified as coral reef and hard bottom and 31.5 % was classified as unconsolidated sediment; 32% percent 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 Guam. Similar map products were created concurrently for the Territories of American Samoa and the Commonwealth of the Northern Mariana Islands. 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/](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/prducts/us\\_pac\\_terr/](http://biogeo.nos.noaa.gov/prducts/us_pac_terr/)