

Remote Sensing Tools and Applications for Coastal Habitats

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NOAA uses a variety of tools to collect geospatially-linked data in support of its mission and mandates. Remote sensing technologies play an increasingly important role in NOAA's data collection efforts. In addition to the satellites and planes traditionally employed to collect data remotely, a variety of other platforms are important in the collection of data (both remotely and in situ) to support the conservation and management of living marine resources. These include buoys, acoustically quiet fishery survey vessels, autonomous underwater vehicles, and unmanned aircraft systems. Advanced technology optical and acoustic sensors are further enhancing data collection capabilities by providing less invasive and non-extractive methods to rapidly survey large areas with high spatial resolution. Much of NOAA's coastal geospatial data can be freely accessed through the Digital Coast website (<http://www.csc.noaa.gov/digitalcoast/>). In addition to efficient and effective data access, Digital Coast also helps users turn data into information by providing tools, training, and cases studies addressing a range of coastal management needs. The Coastal and Marine Ecological Classification Standard (CMECS) is another important tool facilitating data sharing and integration by providing a simple and standard classification terminology. Geospatial data is applied by NOAA scientists to investigate an assortment of management questions, including population status, habitat vulnerability, restoration planning, and climate change impacts. A key area of interest involves the use of available information to learn about the relationship between habitat quality/quantity with the health and abundance of living marine resource populations and fisheries production.