

SHALLOW WATER BATHYMETRY WITH ICESAT-2

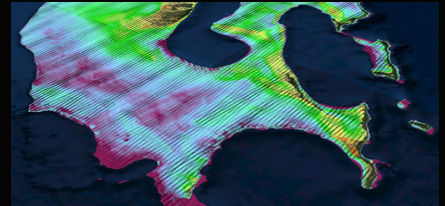
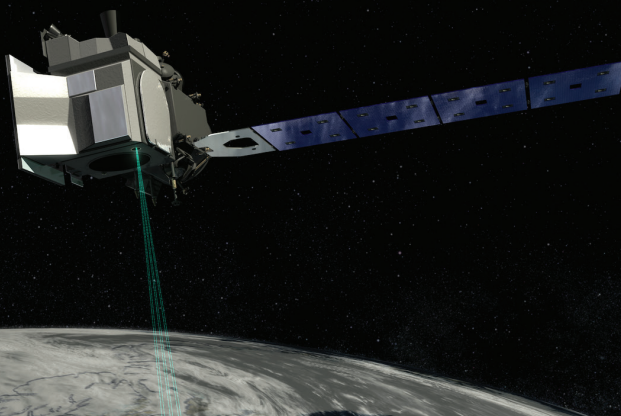
The Ice, Cloud, and land Elevation Satellite-2 (ICESat-2) measures the height of ice, vegetation, land, and water on Earth's surface.

The Advanced Topographic Laser Altimeter System (ATLAS) operates a green laser split into six beams that collect precise height measurements.

ICESat-2 profiles of shallow water bathymetry can aid in navigation, habitat monitoring, and tracking lake and reservoir levels.



ICESat-2



COMMERCIAL BATHYMETRY PRODUCTS

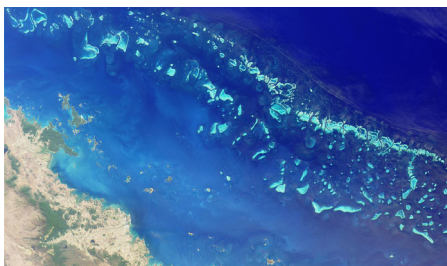
To classify seafloor cover, including coral and dredged areas, Ross Smith from TCarta uses ICESat-2 data and multiple algorithms to extract shallow water bathymetry. The TCarta product can be used to monitor changes in coastal and marine habitats.



MULTI-MISSION SHALLOW WATER BATHYMETRY IN THE SOUTH CHINA SEA

To monitor coastline change and improve electronic navigational charts of the South China Sea, Kuo-Hsin Tseng at National Central University, Taiwan, produces shallow water bathymetry products using ICESat-2 and Sentinel-2 data.

SOCIETAL BENEFITS AND IMPACT OF ICESAT-2: BATHYMETRY



Great Barrier Reef. Credit: NASA/GSFC/LaRC, JPL, MISR team

From shoreline mapping to habitat monitoring to urban development, shallow water bathymetry supports a variety of applications. Shallow water bathymetry is also used to monitor changes in coral reef restoration sites. The utility of ICESat-2 data extends beyond coastal areas, benefiting

researchers investigating inland lakes and water bodies. For instance, ICESat-2 data products are employed to map river beds and monitor for potential flood occurrences.