

# ASSESSING HAZARDS WITH ICESAT-2

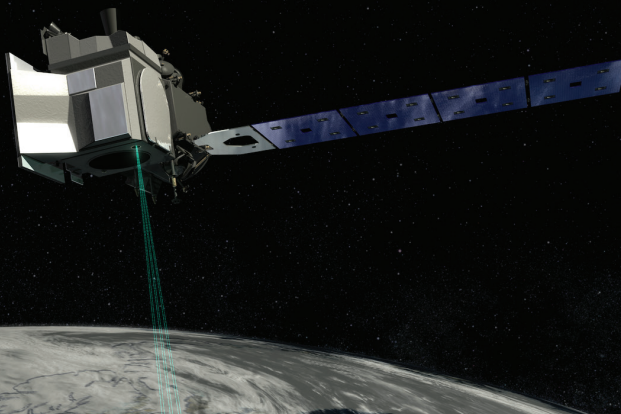
The Ice, Cloud, and land Elevation Satellite-2 (ICESat-2) measures the height of ice, vegetation, land, and water on Earth's surface.

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

Wildland fuel mapping, hurricane damage assessment, and coastal erosion mapping play crucial roles in aiding hazard planning and recovery efforts, and ICESat-2 can help.



ICESat-2



## WILDFIRE FUEL MAPPING

The rise in wildfire occurrences, along with their escalating severity, highlights the urgency of revising fire management strategies. Sergio Godinho at the University of Evora, Portugal, uses ICESat-2 to map vegetation and tree density in key areas that are most susceptible to fires.



## MONITORING HURRICANE DAMAGE

Hurricanes can create widespread damage to coastal forests that protect inland ecosystems, provide economic value and support tourism. Carlos Silva, at the University of Florida, uses ICESat-2 data to assess forest structure damage and recovery.

## SOCIETAL BENEFITS AND IMPACT: SEA LEVEL RISE AND EROSION



Mantoloking, New Jersey, October 31, 2012, after Hurricane Sandy made landfall

Sources of coastal erosion and inward movement of wetlands include hurricanes and sea level rise. By combining ground and satellite data, scientists can track the rate of sea level change and monitor the impact of hurricanes on the loss and displacement of coastal lands.

Michael MacFerrin, from the Cooperative Institute for Research in Environmental Sciences, uses ICESat-2 data to verify the accuracy of digital elevation models that map the height of terrain. These elevation models provide insights into the changes impacting sensitive coastal environments.

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