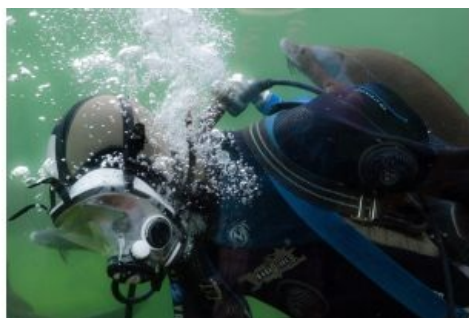


# Cubesats Allow High Spatiotemporal Estimates of Satellite-Derived Bathymetry



Cubesats allow high spatiotemporal estimates of satellite-derived bathymetry recent study by Dimitris Poursanidis, Dimos Traganos, Chrysoulakis Nektarios and Peter Reinartz on this subject shows.

High spatial and temporal resolution satellite remote sensing estimates are the silver bullet for monitoring of coastal marine areas globally. From 2000, when the first commercial satellite platforms appeared, offering high spatial resolution data, the mapping of coastal habitats and the extraction of bathymetric information have been possible at local scales.

## Satellite-derived Bathymetry

Since then, several platforms have offered such data, although not at the high temporal resolution, making the selection of suitable images challenging, especially in areas with high cloud coverage. PlanetScope CubeSats appear to cover this gap by providing their relevant imagery. The current study is the first that examines the suitability of them for the calculation of the Satellite-derived Bathymetry.

## Category Zone of Confidence

The availability of daily data allows the selection of the most qualitatively suitable images within the desired timeframe. The application of an empirical method of spaceborne bathymetry estimation provides promising results, with depth errors that fit the requirements of the International Hydrographic Organization (IHO) at the Category Zone of Confidence for the inclusion of these data in navigation maps. While this is a pilot study in a small area, more studies in areas with diverse water types are required for solid conclusions on the requirements and limitations of such approaches in coastal bathymetry estimations.

## About the Authors

- Dimitris Poursanidis and Chrysoulakis Nektarios: Foundation for Research and Technology—Hellas (FORTH), Institute of Applied and Computational Mathematics, N. Plastira 100, Vassilika Vouton, 70013 Heraklion, Greece
- Dimos Traganos: German Aerospace Center (DLR), Remote Sensing Technology Institute, Rutherfordstraße 2, 12489 Berlin, Germany
- Peter Reinartz: German Aerospace Center (DLR), Earth Observation Center (EOC), 82234 Weßling, Germany

Read the full report [here](https://www.hydro-international.com/content/article/cubesats-allow-high-spatiotemporal-estimates-of-satellite-derived-bathymetry). In the printed version of Hydro International (issue September/October) we'll publish an article on this subject.