

IGARSS '02 Abstract
Topic: Applications of remote sensing

Satellite altimetry applications: Operational oceanography from space

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The successful December 2001 launch of the NASA/CNES Jason-1 satellite, follow-on to the highly successful TOPEX/Poseidon mission, provides oceanographers and marine operators across the globe with the unique opportunity of a continuous stream of sea surface height data beginning in late 1992, and extending through the expected mission life in 2006. This unprecedented resource of valuable ocean data can be used to map sea surface height, geostrophic velocity, significant wave height, and wind speed over the global oceans. Altimeter data products are currently used by hundreds of researchers and operational users over the globe to monitor ocean circulation and improve our understanding of the role of the oceans in climate and weather. Altimeter data has also proved invaluable for a suite of practical applications including;

- Ocean forecasting systems,
- Ship routing,
- Precision marine operations such as cable-laying and oil production,
- Ocean acoustics for Navy operations,
- Fisheries management,
- Marine mammal habitat monitoring,
- Hurricane forecasting and tracking,
- Debris tracking

The data has been cited in over 1,000 research and popular articles since the launch of TOPEX/Poseidon in 1992, and almost 200 scientific users receive the global coverage altimeter data on a monthly basis. In addition to the scientific and operational uses of the data, the educational community has seized the unique concepts highlighted by these altimeter missions as a resource for teaching ocean science to students from grade school through college.