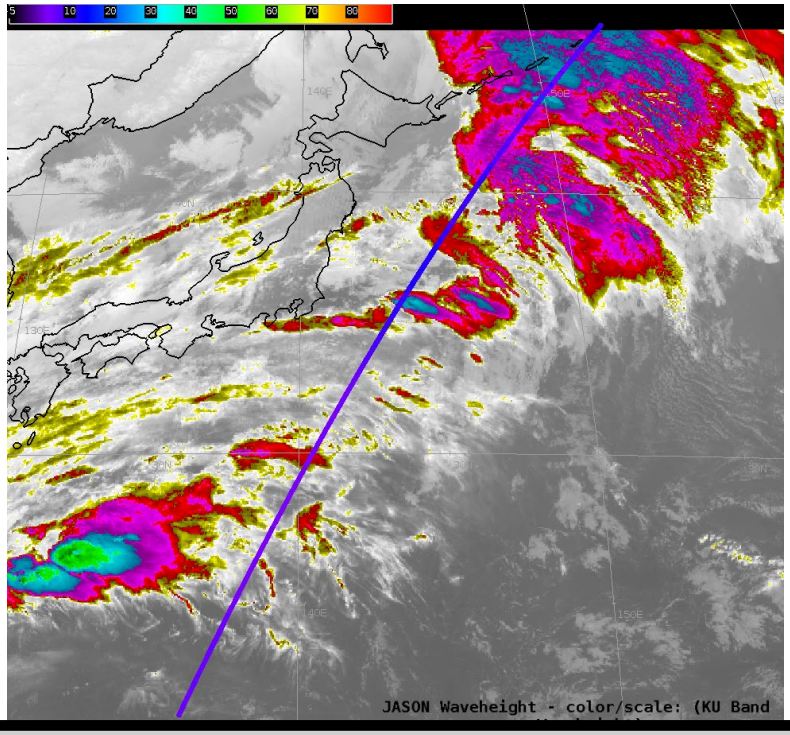
Jason Significant Wave Height

Quick Guide

Why are Jason Wave Heights important

Wave Height information is critical for shipping concerns over the ocean where observations are scarce. Jason Wave Heights are altimetric: the satellite detects its own height above the sea surface, to an accuracy of better than 3-1/2 cm. Jason satellites monitor the height of the ocean at high precision, to document ocean elevation changes over long periods of time. Wave actions are a by-product of this accuracy. Ocean altimetry satellites include JASON-3, Saral/AltiKA, Cryosat-2 and Sentinel-3b). Only JASON is in AWIPS. **Significant Wave Height** is defined as the mean of the highest third of all waves that occur in a time period.



JASON wave heights over the western Pacific, 1630 UTC 04 December 2018, along with AHI Band 13 (10.41 μm) Brightness Temperatures

Specifications

- ✓ **Coverage over oceans and Great Lakes**
- ✓ **Spatial resolution depends on sea state, but generally about 5 km (cross-track) and 11 km (along-track)**
- ✓ **You should ignore points over land or within 15-20 km of land**
- ✓ **Estimated accuracy to within 0.5 m or 10%, whichever is larger**
- ✓ **Does not require clear field of view**
- ✓ **Coverage Equatorward of 66°, Repeat Cycle of 9.9 days after 254 orbits**

Impact on Operations

Primary Application: JASON wave heights are an important ground truth in wave estimates in regions where ship and buoy information is scarce.

Jason acronym: Joint Altimetry Satellite Oceanography Network. Jason lead the argonauts seeking the golden fleece.

Characterization: Wave height is derived from the shape and intensity of the altimeter radar echo, a ~2-5 km footprint (depending on sea state), to within 10% or 0.5 meters, whichever is greater.

Online: Jason data at OSPO. Significant Wave Height from NOAA STAR.

Resources

NOAA OSPO

Jason-3 Product Handbook

COMET Training

Hyperlinks will not work in AWIPS, but they do in VLab

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