

Northeast Japan

Overview

The Northeast coast of Japan extends from the southeast corner of Honshu Island (36°N, 141°E) to the eastern edge of Hokkaido Island (43°N, 146°E) (Figure 1). The area contains a continental shelf reaching up to 100 km in width and is influenced by the Kuroshio Current.

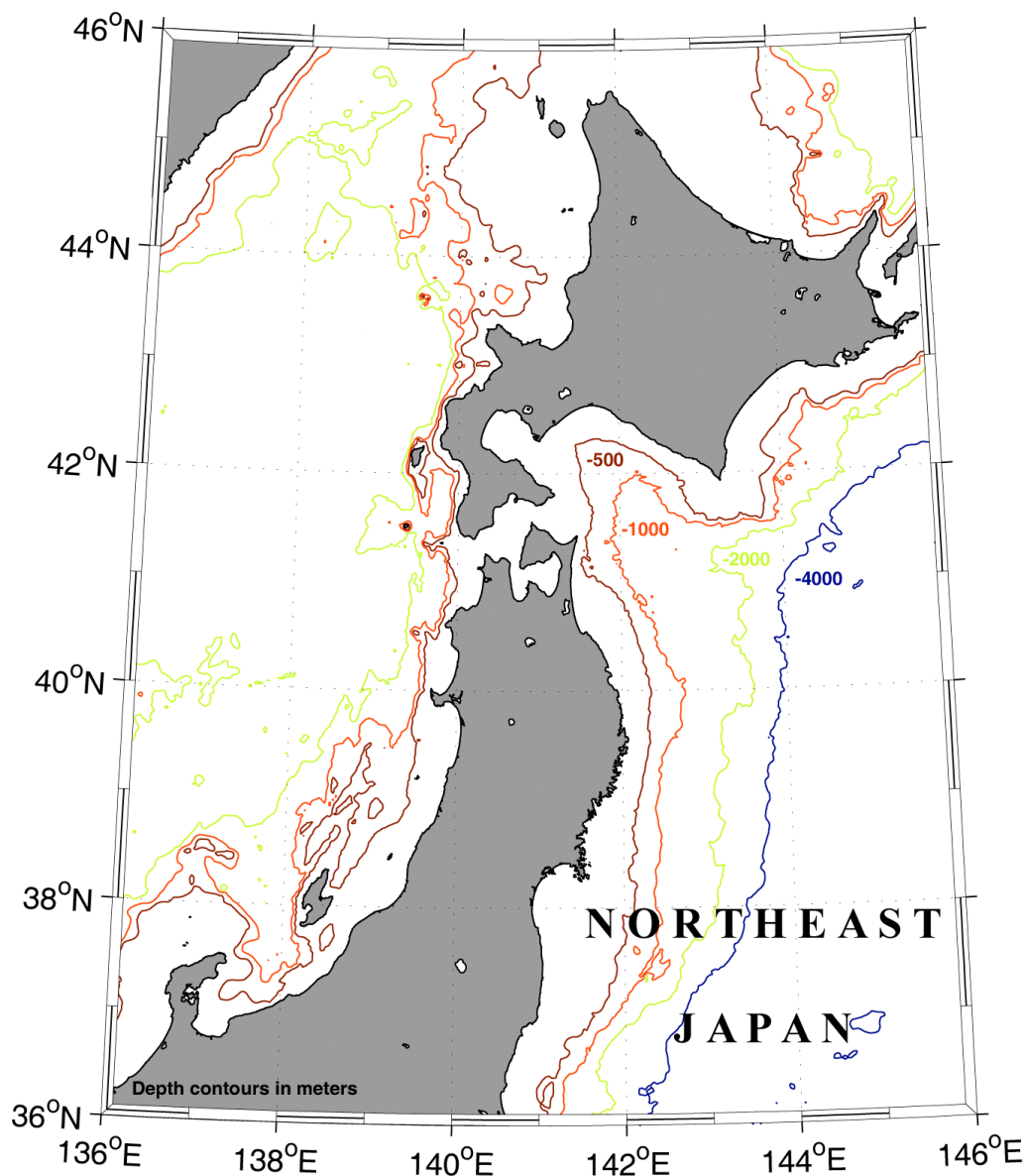


Figure 1. Bathymetry of Northeast Japan [Smith and Sandwell, 1997]

Observations

There has been no scientific research into internal waves along the coast of Northeast Japan. Satellite imagery shows shoreward propagating waves from a number of source locations on the shelf break along the entire length of the coast. The waves signatures are characteristic of continental shelf internal waves observed elsewhere (e.g. New York Bight, Iberian Peninsula)

Table 1 shows the months of the year during when internal waves have been observed.

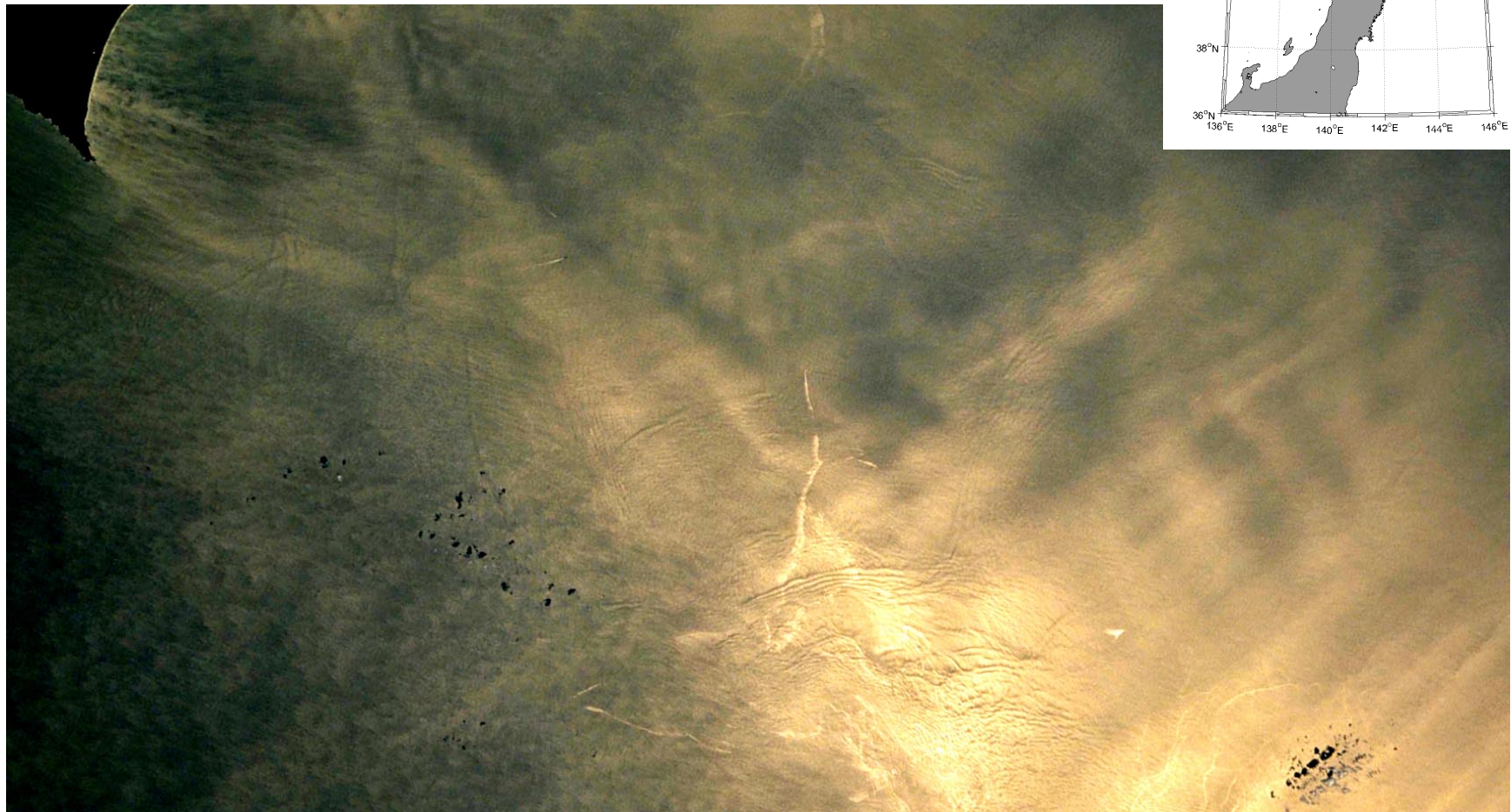
Table 1 - Months when internal waves have been observed along the coast of Northeast Japan
(Numbers indicate unique dates in that month when waves have been noted)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
			1	2	4	1	1	1			

References

Smith, W. H. F., and D. T. Sandwell, Global seafloor topography from satellite altimetry and ship depth soundings, Science, v. 277, p. 1957-1962, 26 Sept., 1997.
http://topex.ucsd.edu/marine_topo/mar_topo.html

Figure 2. Astronaut photograph (STS106-720-06) acquired on 20 September 2000 at 0025 UTC. The image shows internal wave signatures off the southeast coast of Hokkaido Island (Japan). Imaged area is approximately 100 km x 50 km. [Image Courtesy of Earth Sciences and Image Analysis Laboratory, NASA Johnson Space Center (<http://eol.jsc.nasa.gov>)]



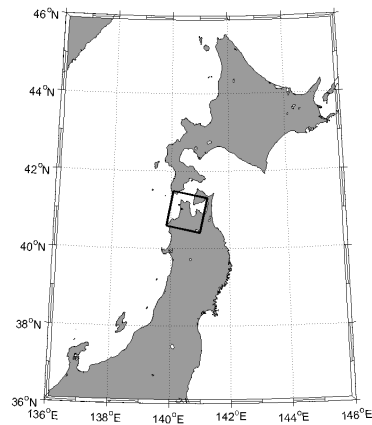
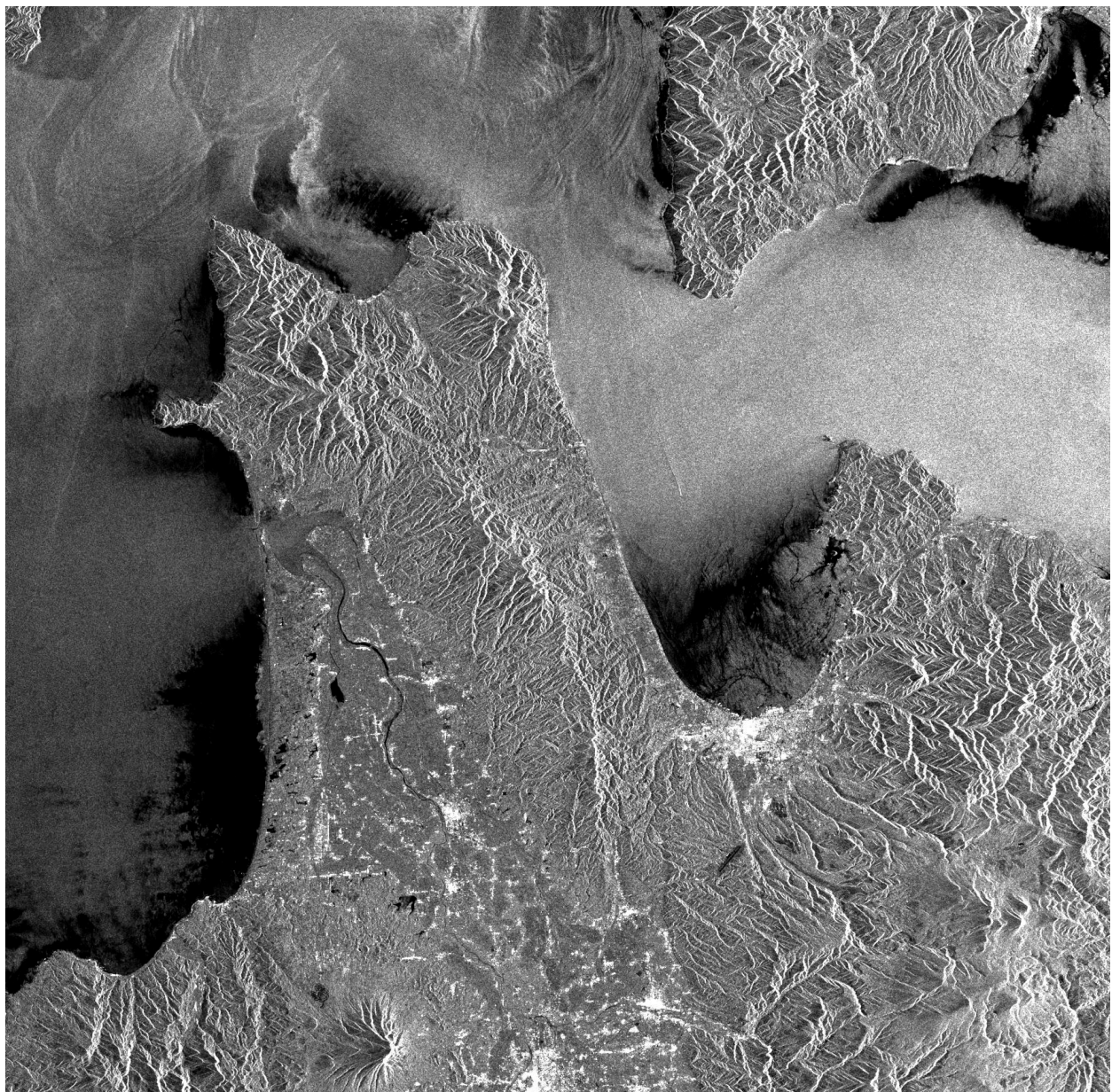


Figure 3. ERS-2 (C-Band VV) SAR image acquired on 25 August 2001 at 0123 UTC (orbit: 33180, frame: 2781). The image shows internal wave activity in the Tsugaru Straits that separates Hokkaido Island from Honshu Island (Japan). Imaged area is 100 km x 100 km ©ESA 2001. [http://earth.esa.int/ers/ers_action]



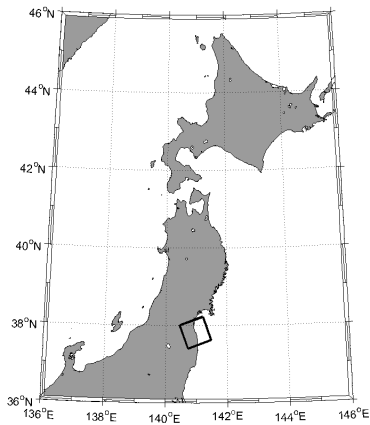
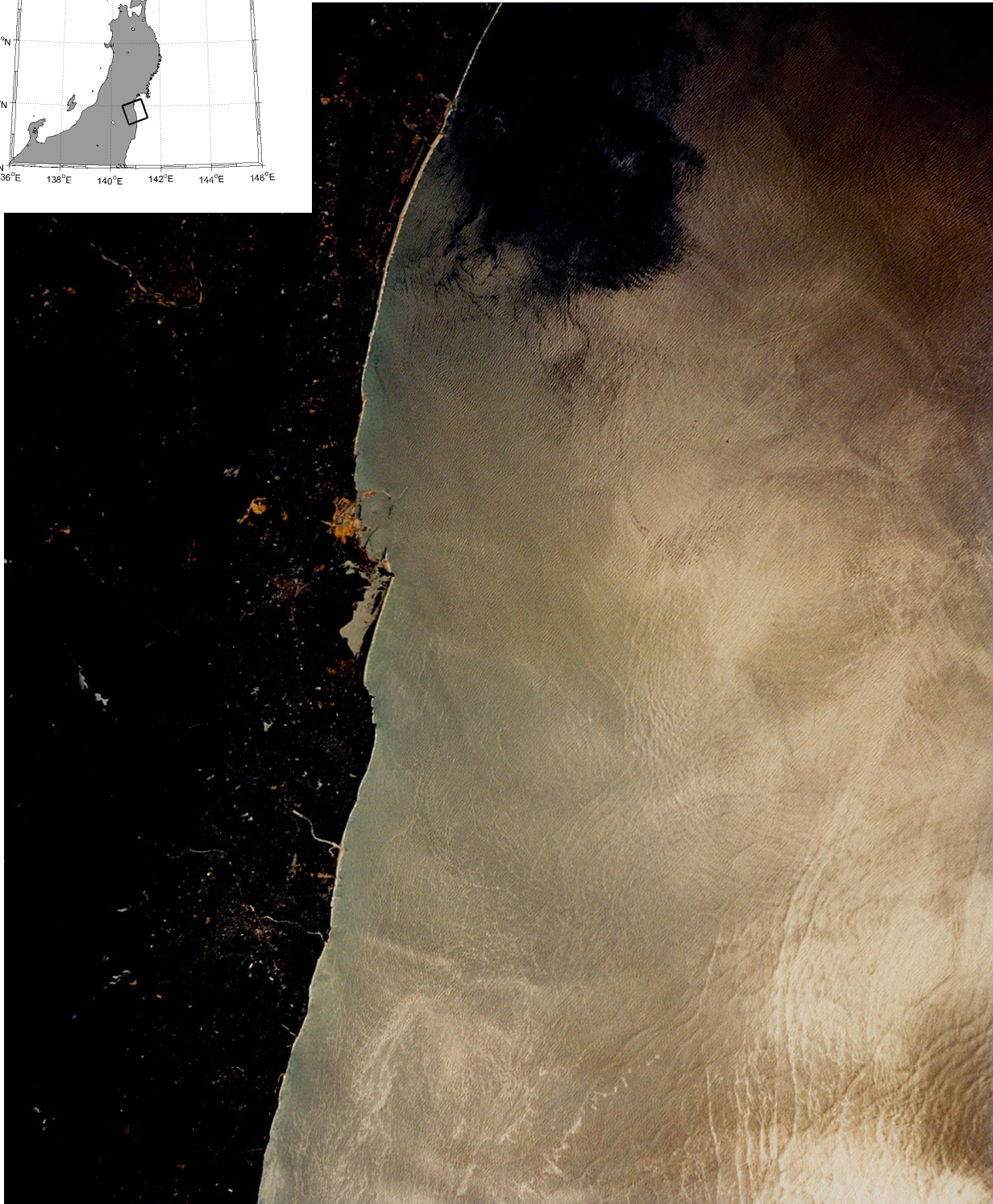


Figure 4. Astronaut photograph (STS040-52-72) acquired on 7 June 1991 at 0010 UTC. The image shows shoreward propagating internal waves off the east coast of Honshu Island, Japan. Imaged area is approximately 70 km x 55 km. [Image Courtesy of Earth Sciences and Image Analysis Laboratory, NASA Johnson Space Center (<http://eol.jsc.nasa.gov>)]



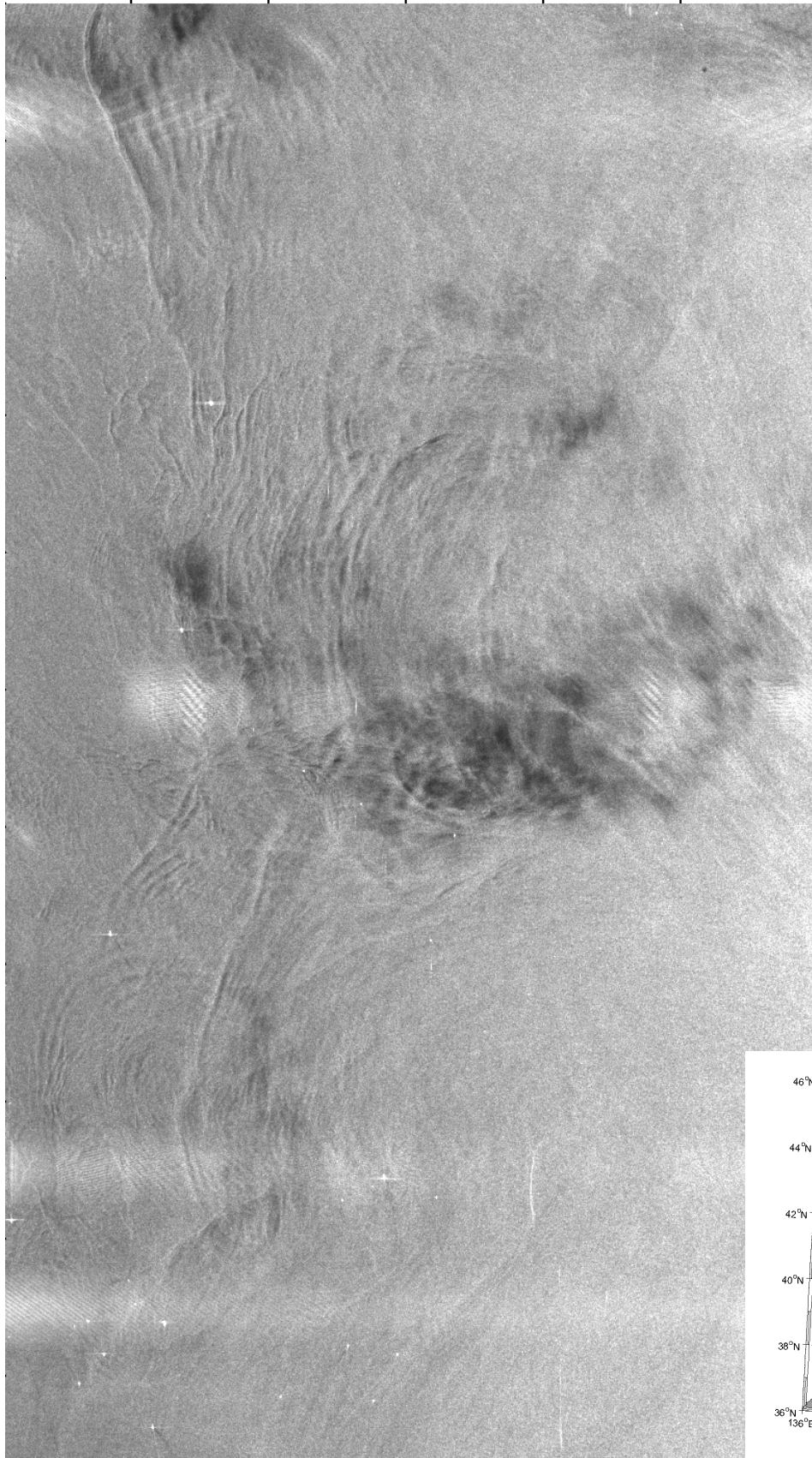


Figure 5. SIR-C (L-Band) SAR imagery of internal waves off the east coast of Honshu Island Japan acquired on 16 April 1994 at 1748 UTC (DT119.1 Segment 5). Imaged area is 60 km x 107 km.

