

Five Years of AMI-Wind Sea Ice Backscatter Grids on a CD-ROM

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Abstract

The first sea ice observations made with a satellite-borne scatterometer date back to SEASAT in 1978. They suggested the possibility of monitoring sea ice at polar cap scales conveniently over a long period with such instruments. ERS-1's scatterometer has regularly covered both polar oceans from August 1991 to May 1996, and the quality of its measurements, confirmed by an on-going calibration activity, make it well adapted to monitor sea ice extent and distinguish ice types. Using previous knowledge acquired in different studies, we chose to write on the CD-ROM three variables : the backscatter coefficient at 40° and 50° incidence angle, its derivative at 28°, and an ice mask formed using the normalized distance from the measured backscatter triplets to a wind-over-water backscatter model. The three variables are computed from the initial backscatter measurements which extend over an incidence angle range of 18° to 58°. Weekly maps on the NSIDC 25 km polar projections of these variables are recorded on the CD-ROM and can be extracted as numerical