

For Using Data

Data Policy	JAMSTEC
Principal Investigator	Data Management Office
Use Constraints	See Terms and Conditions about constrain of use.
Data Citation	See Terms and Conditions about data citation.

Quality level

Raw

Instrument

Doppler radar (MR14-04 Leg1 -)



Measurement System

- 1) Doppler radar

Manufacturer :	TOSHIBA CORPORATION
Type :	TW4419A
Frequency :	5370MHz (C-band)
Transmitter :	Solid-state transmitter
Pulse configuration :	Using pulse-compression
Polarimetry :	Horizontal and vertical
Peak power :	6kW(H) + 6kW(V)
Antenna diameter :	4m
Beam angle :	1.0 degree
Location (from sea surface) :	24m (center position of antenna)
- 2) Inertial navigation system

Manufacturer :	iXBlue SAS
Type :	PHINS
Location (from sea surface) :	21m

Parameter

Surveillance Scan

Scan Interval [min] :	30
Elevations [deg] :	0.5
Pulse width (short/long)[μ s] :	2 / 200
Scan speed [deg/sec] :	18
Pulse Repetition Frequency [Hz] :	400
Sweep integration (Pulse /Ray) :	16 samples
Ray spacing [deg] :	0.7
Bin spacing [m] :	150
Max. range [km] :	300

Volume Scan

Scan interval [min] :	6					
Elevations [deg] :	0.5	1.0, 1.8, 2.6, 3.4, 4.2, 5.1, 6.2, 7.6, 9.7, 12.2, 15.2	18.7, 23.0, 27.9, 33.5, 40.0			
Pulse width (short/long) [μ s] :	1 / 64	1 / 32	1 / 32			
Scan speed [deg/sec] :	18	24	36			
Pulse Repetition Frequency [Hz] :	dual PRF (ray alternative) *					
	667	833	938	1250	1333	2000
Sweep integration (Pulse /Ray) :	26 samples	33 samples	27 samples	34 samples	37 samples	55 samples

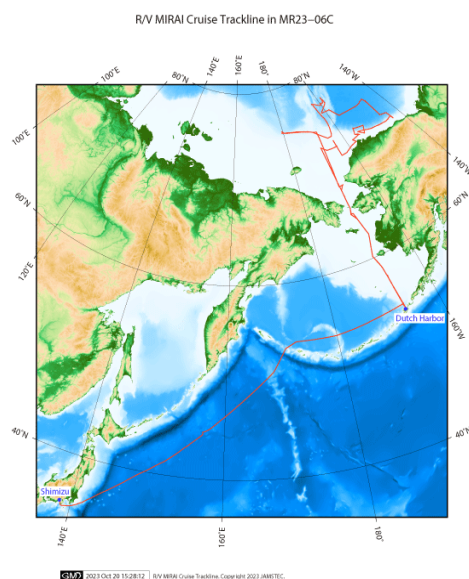
Ray spacing [deg] :	0.7	0.7	1.0
Bin spacing [m] :	150		
Max. range [km] :	150	100	60

* During this cruise, the data were measured with the dual-PRF mode. Therefore, unfolding of Doppler velocity was applied automatically.

Note

If you would like the raw data set, please contact DMO at "dmo@jamstec.go.jp".

Related Information



MR23-06C

Ship Name: MIRAI
Period: 2023/08/25 - 2023/10/04
Chief Scientist: Amane Fujiwara (JAMSTEC)
Proposal: Arctic Expedition for Environmental Studies
Observational study of the Arctic environmental changes: Pacific-Arctic interaction, biogeochemical transport, mixing and marine ecosystem

Research and development of under-ice observation technology

Quantification of the microplastic inventory in the waters of the western Arctic Ocean and microplastic influx from the Pacific Ocean

Changes in clouds and aerosols over the ice-free Arctic Ocean

Possibility of the expanding distribution in plankton and fishes associated with sea ice reduction in the Pacific sector of the Arctic Ocean

Observation of air-sea-wave-ice interaction over the Pacific Arctic region

Investigating the physical and ecophysiological basis of fall phytoplankton blooms in the Chukchi and Beaufort seas

Nitrogen Fixation in a Changing Arctic Ocean An Overlooked Source of Nitrogen

Exploring microplankton interactions and their functional roles in a changing Arctic

Determining the contribution of siphonophores to mesopelagic backscatter in the Arctic

Better understanding of climate-driven changes of biogeochemical dynamics in the western Arctic Ocean via R/V Mirai 2023 Cruise A perspective of stable carbon isotope

Temporal variations of the carbonate chemical components the Arctic Ocean within summertime

Observation of water vapor isotopic ratios

Observation of atmospheric greenhouse gases and related species in the North Pacific region