

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

DMO-Processed

Instrument

Radiosonde (MR15-01 -)

**Correction method**

Correction of ship body warming

Temperature and dew point temperature data near the surface (4.5 hPa from ship deck) were corrected by linear extrapolation using upper layer data, since these data were affected by ship body warming (cooling) at daytime (nighttime). Details for data processing and correction can be found in Yoneyama et al. (2002)*.

* https://www.godac.jamstec.go.jp/doc_catalog/view/metadata?key=shiken45_04&lang=en

Measurement System

Sounding system

Manufacture : VAISALA
Type : MW41 with DigiCORA Software
Location : Radiosonde container

Sensor

Manufacture : VAISALA
Type : RS41-SG/SGP * See "Type" of "Radiosonde observation information"

Launch altitude: 18 m from the sea surface

Note

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

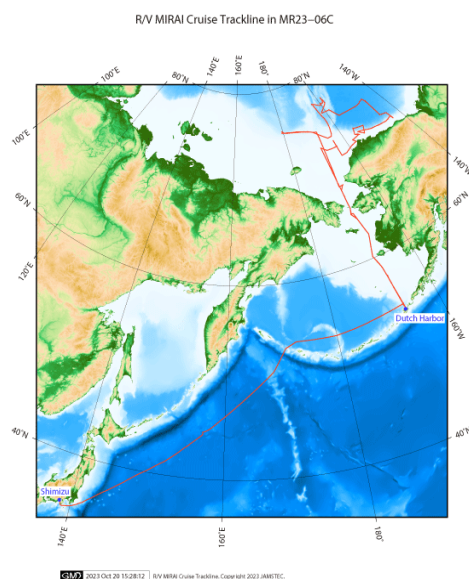
Radiosonde observation information

Information about each radiosonde data are listed in the following table. It contains corrected sounding data, launch time, position, sensor information and calibration results for atomospheric pressure, air temperature and relative humidity. Calibration is conducted for every sensor prior to launch. Therefore, even raw data take in this calibration result (however, RS41 sonde sensor has only one humidity sensor and is not necessary to calibrate temperature sensor). If the calibration result shows the positive value, it means that the calibrator showed the higher value than that of the sonde sensor. Filename of corrected data shows a sounding time (YYMMDDHH.***, where YY=year, MM=month, DD=day, and HH=hour) in UTC.

Data file	Launch time (UTC)		Launch station		Sensor information			Calibration result				Note
	Date	Time	Latitude	Longitude	Type	Serial no.	Age	Atomospheric pressure [hPa]	Air temperature [deg-C]	Relative humidity1 [%]	Relative humidity2 [%]	
23090800.dat	2023/9/7	23:41	65.06N	169.05W	RS41-SGP	R2320253	1556	1.49	N/A	0	N/A	
23090812.dat	2023/9/8	11:30	66.82N	168.66W	RS41-SGP	R2320268	1557	1.04	N/A	0.1	N/A	
23090900.dat	2023/9/8	23:30	68.34N	168.73W	RS41-SGP	R2320259	1557	1.25	N/A	0.2	N/A	
23090912.dat	2023/9/9	11:30	70.18N	168.71W	RS41-SGP	R2320239	1558	1.01	N/A	0.1	N/A	
23091000.dat	2023/9/9	23:32	71.50N	168.75W	RS41-SGP	R2320254	1558	1.16	N/A	0.1	N/A	
23091012.dat	2023/9/10	11:30	71.97N	166.16W	RS41-SGP	R2320267	1559	1.07	N/A	0.1	N/A	Snow
23091100.dat	2023/9/10	23:30	72.59N	163.65W	RS41-SGP	R2320237	1559	1.14	N/A	0.1	N/A	
23091112.dat	2023/9/11	11:30	70.83N	162.70W	RS41-SGP	R2320232	1560	0.84	N/A	0.1	N/A	Drizzle
23091200.dat	2023/9/11	23:30	70.85N	161.70W	RS41-SGP	R2320247	1560	0.89	N/A	0.2	N/A	Drizzle
23091300.dat	2023/9/12	23:30	71.78N	155.57W	RS41-SGP	R2320260	1561	1.05	N/A	0.1	N/A	
23091400.dat	2023/9/13	23:30	72.47N	155.38W	RS41-SGP	R2321339	1562	0.98	N/A	0.2	N/A	Rain
23091412.dat	2023/9/14	11:30	71.54N	153.57W	RS41-SGP	R2321340	1563	1.07	N/A	0.2	N/A	
23091500.dat	2023/9/14	23:30	71.69N	152.71W	RS41-SGP	R2320235	1563	1.08	N/A	0.8	N/A	
23091512.dat	2023/9/15	11:30	71.06N	147.89W	RS41-SGP	U5124336	276	0.60	N/A	0.4	N/A	
23091600.dat	2023/9/15	23:30	70.82N	145.42W	RS41-SGP	U5150532	273	0.59	N/A	0.2	N/A	
23091612.dat	2023/9/16	11:30	70.74N	143.07W	RS41-SGP	U5150533	274	0.56	N/A	0.2	N/A	
23091700.dat	2023/9/16	23:30	71.33N	143.23W	RS41-SGP	U5124401	277	0.74	N/A	0.3	N/A	
23091800.dat	2023/9/17	23:30	73.17N	145.17W	RS41-SGP	U5124400	278	0.74	N/A	0.3	N/A	
23091812.dat	2023/9/18	11:30	73.68N	145.19W	RS41-SGP	U5124399	279	0.61	N/A	0.3	N/A	
23091900.dat	2023/9/18	23:31	74.01N	147.47W	RS41-SGP	U5115249	280	0.73	N/A	0.3	N/A	
23091918.dat	2023/9/19	17:30	74.36N	154.50W	RS41-SGP	U5115256	281	0.16	N/A	0.3	N/A	
23092000.dat	2023/9/19	23:30	74.36N	154.50W	RS41-SGP	U5115251	281	0.49	N/A	0.3	N/A	
23092006.dat	2023/9/20	5:30	74.44N	156.42W	RS41-SGP	U5124013	281	0.42	N/A	0.3	N/A	
23092012.dat	2023/9/20	11:30	75.12N	157.66W	RS41-SGP	U5115247	282	0.46	N/A	0.3	N/A	
23092100.dat	2023/9/20	23:30	75.50N	158.38W	RS41-SGP	U5124393	281	0.69	N/A	0.3	N/A	Snow
23092112.dat	2023/9/21	11:25	76.07N	159.48W	RS41-SGP	U5124333	282	0.70	N/A	0.3	N/A	

Data file	Launch time (UTC)		Launch station		Sensor information			Calibration result				Note
	Date	Time	Latitude	Longitude	Type	Serial no.	Age	Atomospheric pressure [hPa]	Air temperature [deg-C]	Relative humidity1 [%]	Relative humidity2 [%]	
23092200.dat	2023/9/21	23:30	77.02N	158.37W	RS41-SGP	U5124371	282	0.69	N/A	-0.7	N/A	Snow
23092300.dat	2023/9/22	23:30	76.95N	163.31W	RS41-SGP	U5124372	283	0.66	N/A	0.4	N/A	
23092312.dat	2023/9/23	11:30	75.24N	162.32W	RS41-SGP	U5124396	284	0.60	N/A	0.3	N/A	
23092400.dat	2023/9/23	23:30	74.51N	162.02W	RS41-SGP	U5115248	285	0.46	N/A	0.3	N/A	
23092412.dat	2023/9/24	11:30	73.28N	162.95W	RS41-SGP	U5115257	286	0.48	N/A	0.3	N/A	
23092500.dat	2023/9/24	23:30	73.09N	164.85W	RS41-SGP	U5124370	285	0.52	N/A	0.3	N/A	
23092512.dat	2023/9/25	11:30	74.58N	170.32W	RS41-SGP	U5124392	286	0.67	N/A	0.3	N/A	
23092600.dat	2023/9/25	23:30	74.94N	174.50W	RS41-SGP	U5124331	286	0.54	N/A	0.3	N/A	
23092612.dat	2023/9/26	11:30	75.29N	179.79W	RS41-SGP	U5124014	287	0.44	N/A	0.3	N/A	
23092700.dat	2023/9/26	23:30	75.42N	179.71E	RS41-SGP	U5115245	288	0.40	N/A	0.3	N/A	
23092706.dat	2023/9/27	5:30	75.23N	178.63W	RS41-SGP	U5124369	288	0.57	N/A	-0.4	N/A	
23092712.dat	2023/9/27	11:30	75.02N	174.68W	RS41-SGP	U5115260	289	0.61	N/A	0.3	N/A	
23092800.dat	2023/9/27	23:30	74.73N	171.90W	RS41-SGP	U5115253	289	0.47	N/A	0.3	N/A	
23092812.dat	2023/9/28	11:30	73.56N	167.59W	RS41-SGP	U5115265	290	0.63	N/A	0.3	N/A	
23092900.dat	2023/9/28	23:30	72.02N	168.02W	RS41-SGP	U5130724	288	0.90	N/A	0.3	N/A	

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

Format Description for Radiosonde

Radiosonde Corrected

No.	Column	Content	Format	Unit	Remarks
1	3 - 8	Atmospheric pressure	f6.1	hPa	
2	10 - 15	Air temperature	f6.1	deg-C	"9999.0" is missing value.
3	17 - 22	Dew point temperature	f6.1	deg-C	"9999.0" is missing value.
4	24 - 27	Relative humidity	i4	%	"9999" is missing value.
5	29 - 34	Wind speed (zonal)	f6.1	m/s	"9999.0" is missing value.
6	36 - 41	Wind speed (meridional)	f6.1	m/s	"9999.0" is missing value.
7	44 - 48	Height (from sea level)	i5	m	"9999.0" is missing value.
8	49 - 50	Terminator	a2		[CR][LF]