

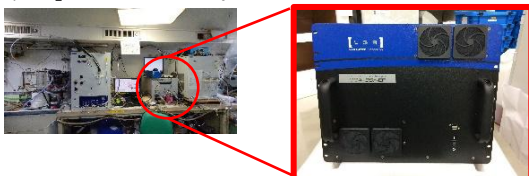
For Using Data

| | |
|------------------------|--|
| Data Policy | JAMSTEC |
| Principal Investigator | Akihiko Murata (JAMSTEC) |
| Use Constraints | See Terms and Conditions about constrain of use. |
| Data Citation | See Terms and Conditions about data citation. |

Quality level

PI-Processed

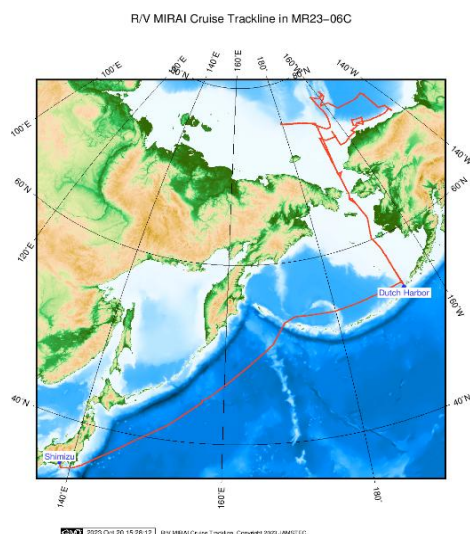
Instrument

pCO₂ measurement system (MR20-05C -)

Measurement System

| | |
|-----------------------------|--|
| Depth of sea water intake : | 4.5m |
| Instrument : | pCO ₂ measuring system |
| Method : | Off-Axis Integrated-Cavity output Spectroscopy (OA-ICOS) |
| Manufacturer : | ABB Los Gatos Research |
| Type : | 911-0011-0000-0000 |

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 pCO₂ FORMAT_J

Air-xCO₂

The file is in fixed comma separated text file (csv) format.

The "missing value" is defined as -999.

| No. | Content | Unit | Remarks |
|-----|-----------------------------|----------|------------------------------|
| 1 | Date (UTC) | | Year, Month, Day |
| 2 | Time (UTC) | | Hour, Minute, Second |
| 3 | Latitude | degree | Positive in north |
| 4 | Longitude | degree | Degree in eastward (0 - 360) |
| 5 | Sea surface temperature | degree-C | |
| 6 | Sea surface salinity | PSU | |
| 7 | Air pressure | hPa | |
| 8 | Wind direction | degree | |
| 9 | Wind speed | m/s | |
| 10 | xCO ₂ in dry air | ppmv | |

Sea-xCO₂

The file is in fixed comma separated text file (csv) format.

The "missing value" is defined as -999.

| No. | Content | Unit | Remarks |
|-----|---------------------------------------|----------|------------------------------|
| 1 | Date (UTC) | | Year, Month, Day |
| 2 | Time (UTC) | | Hour, Minute, Second |
| 3 | Latitude | degree | Positive in north |
| 4 | Longitude | degree | Degree in eastward (0 - 360) |
| 5 | Sea surface temperature | degree-C | |
| 6 | Sea surface salinity | PSU | |
| 7 | Equilibrator temperature | degree-C | |
| 8 | Equilibrator pressure | hPa | |
| 9 | Air pressure | hPa | |
| 10 | xCO ₂ in equilibrator | ppmv | |
| 11 | pCO ₂ in equilibrator | μ atm | |
| 12 | pCO ₂ at SST | μ atm | |
| 13 | xCO ₂ in sea surface water | ppmv | |