**Data information of the 10th Chinese Arctic Research Expedition (2019) in the U.S. EEZ**



**The 10th Chinese Arctic Research Expedition**

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**1. Dominating figures**

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**2. Cruise Stations and observation**

According to the Letter of Acknowledgement (LOA 2019-11) issued by the United States Department of Commerce-National Oceanic and Atmospheric Administration, and owing to an accidental emergency and bad weather, we have conducted 40 stations from BL01 to BR00 from 24 August 2019 to 8 September 2019.

Table 1 Stations and observation occupied during 10th Arctic Cruise

| No. | Station | Longitude (°E) | Latitude (°N) | Water depth (m) | Observation or investigation occupied |
| --- | --- | --- | --- | --- | --- |
| 1 | BL01 | 171.9 | 54.59 | 3867 | CTD+LADCP+SVP+Rossete Sampler, Phytoplankton net, Zooplankton net, Micro-plastics Trawl |
| 2 | BL02 | 172.78 | 55.27 | 3866 | CTD+LADCP+SVP+Rossete Sampler |
| 3 | BL07 | -179.5 | 60.04 | 2293 | CTD+LADCP+SVP+Rossete Sampler, Phytoplankton net, Zooplankton net |
| 4 | BL08 | -179 | 60.4 | 1435 | CTD+LADCP+SVP+Rossete Sampler, Sediments (gravity core), Micro-plastics Trawl |
| 5 | BL09 | -178.2 | 60.8 | 273 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Phytoplankton net, Zooplankton net, Benthic Trawl |
| 6 | BL10 | -177.23 | 61.29 | 129 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Micro-plastics Trawl |
| 7 | BL11 | -176.17 | 61.93 | 113 | CTD+LADCP+SVP+Rossete Sampler, Sediments (box core) |
| 8 | BL12 | -175 | 62.6 | 80 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Phytoplankton net, Zooplankton net, Benthic Trawl |
| 9 | BL13 | -173.43 | 63.29 | 65 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core) |
| 10 | BL14 | -172.4 | 63.77 | 55 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Phytoplankton net, Zooplankton net, Benthic Trawls |
| 11 | BS01 | -171.39 | 64.33 | 39 | CTD+LADCP+SVP+Rossete Sampler, Micro-plastics Trawl |
| 12 | BS02 | -170.81 | 64.33 | 45 | CTD+LADCP+SVP+Rossete Sampler, Phytoplankton net, Zooplankton net |
| 13 | BS03 | -170.12 | 64.33 | 43 | CTD+LADCP+SVP+Rossete Sampler |
| 14 | BS04 | -169.4 | 64.33 | 38 | CTD+LADCP+SVP+Rossete Sampler |
| 15 | BS05 | -168.7 | 64.33 | 40 | CTD+LADCP+SVP+Rossete Sampler, Phytoplankton net, Zooplankton net, Benthic Trawl |
| 16 | BS06 | -168.09 | 64.33 | 35 | CTD+LADCP+SVP+Rossete Sampler |
| 17 | BS07 | -167.46 | 64.33 | 30 | CTD+LADCP+SVP+Rossete Sampler, Micro-plastics Trawl |
| 18 | BS08 | -166.96 | 64.33 | 29 | CTD+LADCP+SVP+Rossete Sampler, Phytoplankton net, Zooplankton net, Benthic Trawl |
| 19 | R01 | -168.75 | 66.2 | 52 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Micro-plastics Trawl |
| 20 | R02 | -168.75 | 66.9 | 46 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Phytoplankton net, Zooplankton net, Benthic Trawl |
| 21 | R03 | -168.75 | 67.5 | 51 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core) |
| 22 | R04 | -168.75 | 68.2 | 62 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Benthic Trawls |
| 23 | R05 | -168.75 | 68.8 | 53 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Micro-plastics Trawl |
| 24 | R06 | -168.75 | 69.54 | 52 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Phytoplankton net, Zooplankton net, Benthic Trawl |
| 25 | R07 | -168.75 | 70.34 | 38 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Phytoplankton net, Zooplankton net, Benthic Trawl |
| 26 | R08 | -168.75 | 71.18 | 48 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), |
| 27 | R09 | -168.75 | 71.99 | 50 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Micro-plastics Trawl |
| 28 | R10 | -168.75 | 72.9 | 84 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Phytoplankton net, Zooplankton net, Benthic Trawl |
| 29 | BR00 | -174.09 | 56.95 | 145 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core) |
| 30 | BR01 | -173.7 | 57.4 | 124 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core) |
| 31 | BR02 | -173.22 | 57.9 | 93 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Phytoplankton net, Zooplankton net, Benthic Trawl |
| 32 | BR03 | -172.74 | 58.4 | 115 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Micro-plastics Trawl |
| 33 | BR04 | -172.26 | 58.9 | 59 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core) |
| 34 | BR05 | -171.31 | 59.9 | 62 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Phytoplankton net, Zooplankton net, Benthic Trawl |
| 35 | BR06 | -170.35 | 60.9 | 40 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core) |
| 36 | BR07 | -169.69 | 61.66 | 36 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Micro-plastics Trawl |
| 37 | BR08 | -168.91 | 62.4 | 37 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core) |
| 38 | BR09 | -168.44 | 62.9 | 42 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Phytoplankton net, Zooplankton net, Benthic Trawl |
| 39 | BR10 | -167.96 | 63.4 | 25 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core) |
| 40 | BR11 | -167.48 | 63.9 | 34 | CTD+LADCP+SVP+Rossete Sampler, Surface sediments (box core), Phytoplankton net, Zooplankton net, Benthic Trawl |

**3. Data list**

1) CTD data, totally 40 stations CTD profile data (tailed by hex) are in Filefolder “CTD”

2) LADCP data, totally 40 stations LADCP profile data (tailed by 000) are in are in Filefolder “LADCP”

3) SVP data, totally 40 stations SVP profile data (tailed by vpd) are in Filefolder “SVP”

4) Marine Chemistry data are in Filefolder “Marine chemistry”. And 4 kinds of data, including nutrients, dissolved oxygen, Carbon dioxide and Microplastics, are in corresponding “xlsx” file.

5) Marine Biology data are in Filefolder “Marine Biology”. And 4 kinds of data, including Planktonic ciliate, Chlorophyll a data, Fish and benthos, are in corresponding “xlsx” file.

6) Geological data, only one file “Geological data (sediment grain size) .xlsx”, is in Filefolder “Marine Geology”.

**4. Auxiliary information**

1) CTD and LADCP and SVP are deployed together with Rossete Sampler, SVP data of R08 is invalid due to the error set of SVP sampling.

2）The CTD data files were post processed with standard Sea Bird data processing software.

3）The LADCP data were post processed with LDEO software package. BL09 and BS07 data are failed to deal.

4) Marine Chemistry station data include nutrients, dissolved oxygen. While Microplastics data collected by surface trawling net. Carbon dioxide data are underway data.

5) Marine Biology station data include Planktonic ciliate, Chlorophyll a data, Fish data. While benthos data collected by trawling net.

6) Geological data are station data.

7) Due to the time of investigation and operation, the station information of each element may not be completely consistent.

8) The station information of underway observation data recorded according to in situ coordinate.