CRUISE SUMMARY REPORT

FOR COLLATIMG CENTRE USE

Centre:
Ref.No.:

Is data exchange restricted ☐ Yes ☐ In part ☒ No

SHIP enter the full name and international radio call sign of the ship from which the data were collected, and indicate the type of ship, for example, research ship; ship of opportunity, naval survey vessel; etc.

Name: R/V Johan Hjort **Call Sign: LDGJ**

Type of ship: Research vessel

CRUISE NO. / NAME **2022207**

enter the unique number, name or acronym assigned to the cruise (or cruise leg, if appropriate).

CRUISE PERIOD start (set sail) 24/05/2022 day/ month/ year to 21/06/2022 day/ month/ year end (return to port)

PORT OF DEPARTURE: Bergen, Norway

PORT OF RETURN: Bergen, Norway

RESPONSIBLE LABORATORY enter name and address of the laboratory responsible for coordinating the scientific planning of the cruise

Name: Institute of Marine Research

Address: P.O. Box 1870 Nordnes, 5817 Bergen

Country: Norway

CHIEF SCIENTIST(S) enter name and laboratory of the person(s) in charge of the scientific work (chief of mission) during the cruise.
Henrik Søiland - Institute of Marine Research

OBJECTIVES AND BRIEF NARRATIVE OF CRUISE enter sufficient information about the purpose and nature of the cruise so as to provide the context in which the report data were collected.

The cruise objectives were to occupy the monitoring sections Fugløya-Bjørnøya in the Barents Sea, extended Bjørnøya vest and extended Gimsøy section in the northern Norwegian Sea and the Svinøy section in the southern Norwegian Sea and deploy Argo floats. The earlier weather ship station M was occupied . A synoptic survey was conducted of the Lofoten Basin Eddy (LBE) with a section extening into the Norwegian Basin. On the sections, at station M and in the LBE, CTD observations measueremenst were made from surface to bottom. Water samples were drawn for nutrients analysis, carbon system analysis and trace gas analysis. Chlorophyll was sampled for the top 100 m. WP2 plankton nets for the top 200 m was conducted along the sections. Qualitative plankton nets were sampled on selected stations. ADCP, Thermosalinograph and echo sounder data were collected underway
2 Argo floats, one deep and one bio geochemical (BGC) were deployed in the Norwegian Basin. 3 Argo floats, one deep, one BCG and one standard with oxygen, were deployed in the Lofoten Basin. 3 Argo floats, one deep, one BCG and one standard, were deployed in the central Grenland Sea. 2 Argo floats, one BIO and one standard were deployed in the Iceland Sea. One Argo float was deplyed close to the continental slope at N 74 30. 1 (BIO) Argo float was deployed in the Barents Sea.
To monitor the radioactivity close to the sunken nuclear submarine Komsomolet, water samples and sediments were collected close to the wreck at about 1900 m depth.

PROJECT (IF APPLICABLE) if the cruise is designated as part of a larger scale cooperative project (or expedition), then enter the name of the project, and of organisation responsible for co-ordinating the project.

Project name:

Coordinating body:

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PRINCIPAL INVESTIGATORS: Enter the name and address of the Principal Investigators responsible for the data collected on the cruise and who may be contacted for further information about the data. (The letter assigned below against each Principal Investigator is used on pages 2 and 3, under the column heading 'PI', to identify the data sets for which he/she is responsible)

A. Henrik Søiland - Institute of Marine Research

B. Are Olsen – University of Bergen

C. Emil Jeanson – University of Bergen

D.

MOORINGS, BOTTOM MOUNTED GEAR AND DRIFTING SYSTEMS

This section should be used for reporting moorings, bottom mounted gear and drifting systems (both surface and deep) deployed and/or recovered during the cruise. Separate entries should be made for each location (only deployment positions need be given for drifting systems). This section may also be used to report data collected at fixed locations which are returned to routinely in order to construct 'long time series'.

PI	APPROXIMATE POSITION						DATA TYPE	DESCRIPTION
	LATITUDE			LONGITUDE				Identify, as appropriate, the nature of the instrumentation the parameters (to be) measured, the number of instruments and their depths, whether deployed and/or recovered, dates of deployments and/or recovery, and any identifiers given to the site.
See top of page.	deg	min	N/S	deg	min	E/W	enter code(s) from list on last page.	
A	72	15	N	019	37	E	D06	1 Argo profiling drifter deployed. BIO
A	74	30	N	015	16	E	D06	1 Argo profiling drifter deployed. Standard - CTD
A	74	30	N	000	58	E	D06	1 Argo profiling drifter deployed. BGC
A	74	30	N	003	01	W	D06	1 Argo profiling drifter deployed. DEEP w/O2
A	74	30	N	005	00	W	D06	1 Argo profiling drifter deployed. BGC
A	74	30	N	007	02	W	D06	1 Argo profiling drifter deployed. BGC
A	69	54	N	006	00	E	D06	1 Argo profiling drifter deployed. BGC
A	69	54	N	003	30	E	D06	1 Argo profiling drifter deployed. DEEP w/O2
A	69	48	N	000	50	E	D06	1 Argo profiling drifter deployed. Standard – CTD w/O2
A	69	48	N	010	00	E	D06	1 Argo profiling drifter deployed. BIO
A	69	05	N	010	00	E	D06	1 Argo profiling drifter deployed. Standard - CTD
A	66	07	N	002	16	W	D06	1 Argo profiling drifter deployed. DEEP w/O2
A	65	35	N	002	16	W	D06	1 Argo profiling drifter deployed. BGC
A	65	37	N	005	56	W	D06	1 Argo profiling drifter recovered. BGC
A	62	50	N	004	21	E	D01	1 Current meter mooring. Recovered and redeployed
A	62	49	N	004	15	E	D01	1 Current meter mooring. Recovered and redeployed
A	71	30	N	019	48	E	D01	1 Current meter frame. Recovered and redeployed.
A	72	00	N	019	40	E	D01	1 Current meter mooring. Recovered and redeployed
A	72	30	N	019	34	E	D01	1 Current meter mooring. Recovered and redeployed
A	73	00	N	019	28	E	D01	1 Current meter mooring. Recovered and redeployed
A	73	30	N	019	20	E	D01	1 Current meter frame. Recovered and redeployed.
A	62	58	N	004	00	E	D90	Glider w/CTD, recovered.
A	69	41	N	010	15	E	D90	Glider w/CTD, deployed.
A	68	44	N	013	10	E	D90	Glider w/CTD, recovered.
A	64	40	N	002	20	E	D90	Glider w/CTD, deployed.

SUMMARY OF MEASUREMENTS AND SAMPLES TAKEN

Except for the data already described on page 2 under 'Moorings, Bottom Mounted Gear and Drifting Systems', this section should include a summary of all data collected on the cruise, whether they be measurements (e.g. temperature, salinity values) or samples (e.g. cores, net hauls).

Separate entries should be made for each distinct and coherent set of measurements or samples. Different modes of data collection (e.g. vertical profiles as opposed to underway measurements) should be clearly distinguished, as should measurements/sampling techniques that imply distinctly different accuracy's or spatial/temporal resolutions. Thus, for example, separate entries would be created for i) BT drops, ii) water bottle stations, iii) CTD casts, iv) towed CTD, v) towed undulating CTD profiler, vi) surface water intake measurements, etc.

Each data set entry should start on a new line – it's description may extend over several lines if necessary.

NO, UNITS : for each data set, enter the estimated amount of data collected expressed in terms of the number of 'stations'; miles' of track; 'days' of recording; 'cores' taken; net 'hauls'; balloon 'ascents'; or whatever unit is most appropriate to the data. The amount should be entered under 'NO' and the counting unit should be identified in plain text under 'UNITS'.

PI see page 2	NO see above	UNITS see above	DATA TYPE Enter code(s) from list on cover page	DESCRIPTION Identify, as appropriate, the nature of the data and of the instrumentation/sampling gear and list the parameters measured. Include any supplementary information that may be appropriate, e. g. vertical or horizontal profiles, depth horizons, continuous recording or discrete samples, etc. For samples taken for later analysis on shore, an indication should be given of the type of analysis planned, i.e. the purpose for which the samples were taken.
A	155	Stations	H10, H21, H17	SeaBird 911 CTD, with oxygen and PAR sensor. 1 water sample per station for calibration of salinity.
A	153	Stations	H22, H24, H25, H26	Nutrient samples in standard depths on the CTD stations, 1628 water samples.
A	12	Stations	B08	Phytoplankton net hauls, samples.
A	71	Stations	B09	71 WP2 zooplankton net hauls and 9 Multinet net hauls. Total 830 biomass samples.
A	153	Stations	B02	Pigments in standard depths at CTD stations, 785 samples.
B	54	Stations	H27 H74	Carbon chemistry (DIC and alkalinity), 556 water samples.
A	8	Stations	H27 H28	Carbon chemistry (Alkalinity and pH), 132 water samples.
C	46	Stations	H33	SF& and FC-12, 408 water samples
A	5	Stations	H90	POC/HCN, 75 water samples.
A	17	Stations	H21	Oxygen, 191 water samples
A	1	Station	H31	Radioactivity monitoring
A	3180	Nautical miles	D71	75kHz Teledyne RDI vessel mounted ADCP
A	3180	Nautical miles	H71 B02	Thermosalinograph with fluorescence
A	3180	Nautical miles	B28	Simrad EK80 echosounder. 18, 38, 120, 220 and 300 kHz.
				Please continue on separate sheet if necessary

TRACK CHART: You are strongly encouraged to submit, with the completed report, an annotated track chart illustrating the route followed and the points where measurements were taken.	**Insert a tick(✓) in this box if a track chart is supplied**	☐

GENERAL OCEAN AREA(S): Enter the names of the oceans and/or seas in which data were collected during the cruise – please use commonly recognised names (see, for example, International Hydrographic Bureau Special Publication No. 23, 'Limits of Oceans and Seas').

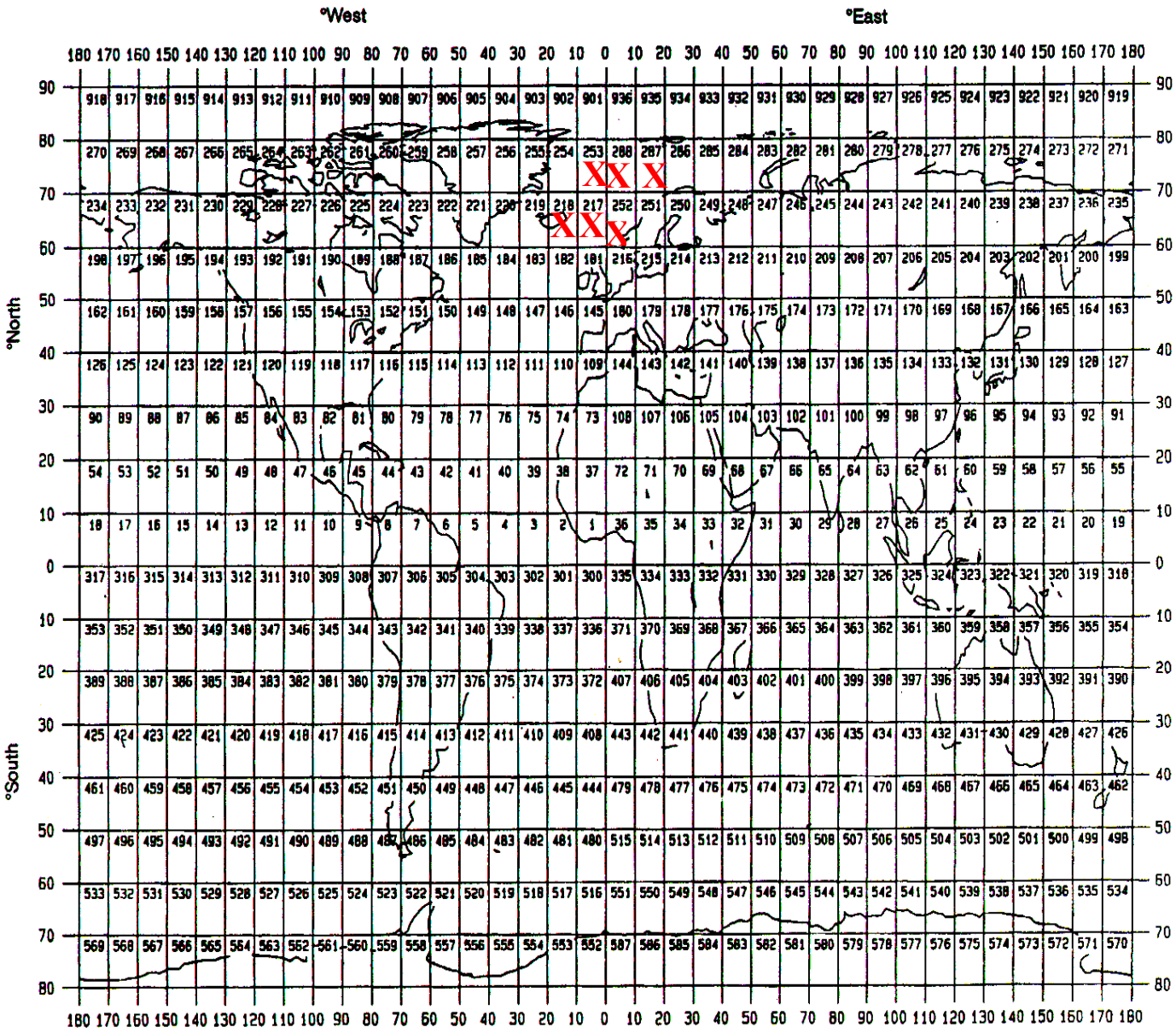
Barents Sea, Greenland Sea and Norwegian Sea

SPECIFIC AREAS: If the cruise activities were concentrated in a specific area(s) of an ocean or sea, then enter a description of the area(s). Such descriptions may include references to local geographic areas, to sea floor features, or to geographic coordinates.

Norwegian Sea and Barents Sea

x

GEOGRAPHIC COVERAGE - INSERT 'X' IN EACH SQUARE IN WHICH DATA WERE COLLECTED



PARAMETER CODES

METEOROLOGY

M01	Upper air observations
M02	Incident radiation
M05	Occasional standard measurements
M06	Routine standard measurements
M71	Atmospheric chemistry
M90	Other meteorological measurements

PHYSICAL OCEANOGRAPHY

H71	Surface measurements underway (T,S)
H13	Bathythermograph
H09	Water bottle stations
H10	CTD stations
H11	Subsurface measurements underway (T,S)
H72	Thermistor chain
H16	Transparency (eg transmissometer)
H17	Optics (eg underwater light levels)
H73	Geochemical tracers (eg freons)
D01	Current meters
D71	Current profiler (eg ADCP)
D03	Currents measured from ship drift
D04	GEK
D05	Surface drifters/drifting buoys
D06	Neutrally buoyant floats
D09	Sea level (incl. Bottom pressure & inverted echosounder)
D72	Instrumented wave measurements
D90	Other physical oceanographic measurements

CHEMICAL OCEANOGRAPHY

H21	Oxygen
H74	Carbon dioxide
H33	Other dissolved gases
H22	Phosphate
H23	Total - P
H24	Nitrate
H25	Nitrite
H75	Total - N
H76	Ammonia
H26	Silicate
H27	Alkalinity
H28	PH
H30	Trace elements
H31	Radioactivity
H32	Isotopes
H90	Other chemical oceanographic measurements

MARINE CONTAMINANTS/POLLUTION

P01	Suspended matter
P02	Trace metals
P03	Petroleum residues
P04	Chlorinated hydrocarbons
P05	Other dissolved substances
P12	Bottom deposits
P13	Contaminants in organisms
P90	Other contaminant measurements

MARINE BIOLOGY/FISHERIES

B01	Primary productivity
B02	Phytoplankton pigments (eg chlorophyll, fluorescence)
B71	Particulate organic matter (inc POC, PON)
B06	Dissolved organic matter (inc DOC)
B72	Biochemical measurements (eg lipids, amino acids)
B73	Sediment traps
B08	Phytoplankton
B09	Zooplankton
B03	Seston
B10	Neuston
B11	Nekton
B13	Eggs & larvae
B07	Pelagic bacteria/micro-organisms
B16	Benthic bacteria/micro-organisms
B17	Phytobenthos
B18	Zoobenthos
B25	Birds
B26	Mammals & reptiles
B14	Pelagic fish
B19	Demersal fish
B20	Molluscs
B21	Crustaceans
B28	Acoustic reflection on marine organisms
B37	Taggings
B64	Gear research
B65	Exploratory fishing
B90	Other biological/fisheries measurements

MARINE GEOLOGY/GEOPHYSICS

G01	Dredge
G02	Grab
G03	Core - rock
G04	Core - soft bottom
G08	Bottom photography
G71	In-situ seafloor measurement/sampling
G72	Geophysical measurements made at depth
G73	Single-beam echosounding
G74	Multi-beam echosounding
G24	Long/short range side scan sonar
G75	Single channel seismic reflection
G76	Multichannel seismic reflection
G26	Seismic refraction
G27	Gravity measurements
G28	Magnetic measurements
G90	Other geological/geophysical measurements