

NOTIFICATION OF PROPOSED RESEARCH CRUISE

Part A: GENERAL

1. Name of research ship: **RV Pelagia** **Cruise number: 64PE473**

2. Cruise dates: 21 June 2020 to 17 July 2020

3a. Operating authority: NIOZ Royal Netherlands Institute for Sea Research
Telephone: (+31) (0)222-369300
Telefax: (+31) (0)222-319674

3b. Operating agent: NIOZ Royal Netherlands Institute for Sea Research
Telephone: (+31) (0)222-369300
Telefax: (+31) (0)222-319674

4. Owner: NIOZ Royal Netherlands Institute for Sea Research

5. Particulars of ship:

name: Pelagia
nationality: Dutch
overall length: 66.00 meters
maximum draught: 4.00 meters
nett tonnage: 1553 NRT
propulsion: 2 diesel electric Elliot White Gill
Bow Truster
call sign: PGRQ
IMO nr: 9001461

6. Crew: name of master: J.C. Ellen / E. A. Puijman
number of crew: 12

7. Chief scientist: name: Marieke Femke de Jong
addresses: PO Box 59, 1790 AB Den Burg (Texel)
telephone: (+31) (0)222 369 411
e-mail address: femke.de.jong@nioz.nl

**8. Geographical area in which the ship will operate:
(with reference in latitude and longitude)**

Northern Atlantic Ocean and the east Greenland shelf south of Iceland. East Greenland shelf between Denmark Strait at 67°N and 34°W to Cape Farewell at 60°N and 43°W. The line across the Atlantic basin from Cape Farwell at 60°N and 43°W to the Scottish shelf at 57°N and 8°W.

9. Brief description of purpose of cruise:

Hydrographic survey of the Overturning of the Subpolar North Atlantic Project (OSNAP) line and servicing of OSNAP moorings along this line. OSNAP monitors the northward volume, heat and freshwater transport across the North Atlantic. Also, surface drifters will be deployed on the East Greenland shelf to investigate the exchange of fresh (melt) water with the open ocean and the effects on the ocean circulation.

10. Names and dates of intended ports of call:

Reykjavik, Iceland, 19-20 June 2020 to Reykjavik, Iceland, 18-19 July 2020.

11. Any special logistic requirements at ports of call:

Moving containers on and off the vessel.

Part B: DETAIL

1. Name of research ship: RV Pelagia

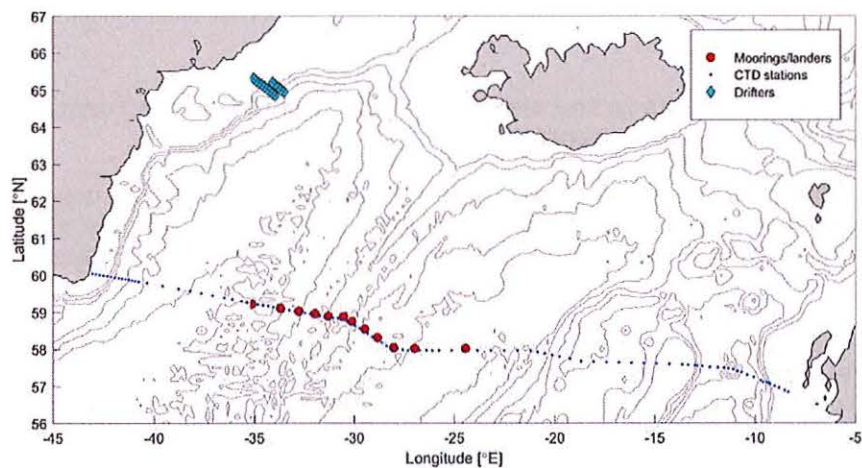
2. Cruise dates: 21 June 2020 to 17 July 2020

3. Purpose of research and general operational methods:

Hydrographic survey of the Overturning of the Subpolar North Atlantic Project (OSNAP) line and servicing of OSNAP moorings along this line. OSNAP monitors the northward volume, heat and freshwater transport across the North Atlantic. Also, surface drifters will be deployed on the East Greenland shelf to investigate the exchange of fresh (melt) water with the open ocean and the effects on the ocean circulation.

The work consists of mooring recoveries and deployments in the area between 59.3°N, 35°W and 57.9°N, 27°W. A hydrographic line, measurements with the CTD (over-the-side shipboard sensor system), water samples for chemical analysis and sensor calibration, underway measurements of the water and meteorology with the vessel mounted sensors. Surface drifters, freely floating buoys transmitting their location through iridium, will be deployed on the east Greenland shelf.

4. Attach chart showing (on an appropriate scale) the geographical area of the intended work, positions of intended stations/hydrographic sections:



5a. Type of samples required: water column samples

5b. Methods by which samples will be obtained (including dredge/core/drill techniques): CTD niskin bottles

6. Details of moored equipment: Moorings are outfitted with current meters and sensors for temperature, salinity and pressure. An emergency iridium beacon is fitted in the top float to locate the mooring.

7. Explosives:

None

8. Detail and reference of:

a. Any relevant previous/future cruises:

Pelagia cruise 64PE399 and 64PE400 in summer of 2015. Cruises in 2014, 2016 and 2018 with UK (Discovery), German (Maria S Merian) and US vessels (neil Armstrong).

b. Any previous published research data relating to the proposed cruise:

(Attach separate sheet if necessary)

Lozier, M.S., Li, F., Bacon, S., Bahr, F., Bower, A.S., Cunningham, S.A., de Jong, M.F., de Steur, L., deYoung, B., Fischer, J., Gary, S.F., Greenan, B.J.W., Holliday, N.P., Houk, A., Houpert, L., Inall, M.E., Johns, W.E., Johnson, H.L., Johnson, C., Karstensen, J., Koman, G., Le Bras, I.A., Lin, X., Mackay, N., Marshall, D.P., Mercier, H., Oltmanns, M., Pickart, R.S., Ramsey, A.L., Rayner, D., Straneo, F., Thierry, V., Torres, D.J., Williams, R.G., Wilson, C., Yang, J., Yashayaev, I., and J. Zhao (2019). A sea change in our view of overturning in the subpolar North Atlantic. Science, 01 Feb 2019: 363, 6426, 516-521.

9. Names and addresses of scientists of the coastal state in whose waters the proposed cruise takes place with whom previous contact has been made:

UK: prof Stuart Cunningham, Scottish Association for Marine Science, Oban, UK
Denmark: dr Colin Stedmon, Danish Technical University (DTU) Aqua, Denmark
Iceland: prof Steingimur Jonsson, University of Akureyri, Iceland

10. State:

a. Whether visits to the ship in port by scientist of the coastal state concerned will be acceptable: yes

b. Whether it will be acceptable to carry on board an observer from the coastal state for any part of the cruise and dates and ports of embarkation/-disembarkation: not possible due to limited space

c. When research data from intended cruise is likely to be made available to the coastal state and if so, by what means:

A cruise report (pdf) will be made available within 6 months. All final calibrated data is submitted to open access data centers for oceanographic data within two years of the cruise.

SCIENTIFIC EQUIPMENT

11. Complete the following table - include a separate copy for each coastal state (indicate "Yes" or "No" if applicable)

COASTAL STATE: United Kingdom

Marine scientific equipment used	water depth (m)	fisheries research	distance of research to coast in nautical miles			
CTD, water samples	200-3500	no	< 3 no	3-12 yes	12-50 yes	50-200 yes
Underway measurements water temperature, salinity, velocity and meteorology	5	no	no	yes	yes	yes

List of intended sampling stations during Pelagia cruise

Drifters/Hydrographic stations

Positions below are intended drifter release locations/hydrographic stations and may have to be adjusted depending on sea ice conditions. Alternative locations will coincide with the hydrographic line further south.

Latitude N	Longitude W
64° 51.43'	33° 56.13'
64° 54.85'	34° 04.19'
64° 58.24'	34° 12.27'
65° 01.52'	34° 19.91'
65° 05.04'	34° 28.57'
65° 08.42'	34° 36.75'
65° 11.77'	34° 44.98'
65° 15.16'	34° 53.37'
65° 18.51'	35° 01.73'
64° 56.97'	33° 29.96'
65° 00.29'	33° 38.19'
65° 03.81'	33° 46.27'
65° 08.34'	33° 57.03'
65° 11.87'	34° 05.06'

OSNAP Hydrographic stations

Final positions may differ slightly. Depending on weather and time stations may have to be cancelled.

Latitude N	Longitude W
60° 02.51'	43° 02.65'
60° 01.46'	42° 51.74'
60° 00.41'	42° 40.83'
59° 59.36'	42° 29.92'
59° 58.31'	42° 19.01'
59° 57.25'	42° 08.10'

59° 56.14'	41° 56.63'
59° 55.01'	41° 45.18'
59° 54.10'	41° 35.36'
59° 53.18'	41° 25.52'
59° 52.21'	41° 15.71'
59° 51.25'	41° 05.94'
59° 50.30'	40° 56.17'
59° 49.35'	40° 46.35'
59° 46.88'	40° 20.95'
59° 42.32'	39° 33.95'
59° 37.76'	38° 46.94'
59° 34.13'	38° 13.02'
59° 30.51'	37° 39.08'
59° 26.76'	37° 04.42'
59° 23.00'	36° 29.78'
59° 20.51'	36° 06.20'
59° 17.65'	35° 38.59'
59° 15.98'	35° 22.36'
59° 14.59'	35° 06.80'
59° 12.73'	34° 50.08'
59° 11.00'	34° 33.95'
59° 09.38'	34° 17.77'
59° 07.73'	34° 01.14'
59° 06.01'	33° 45.22'
59° 04.51'	33° 29.77'
59° 02.89'	33° 14.32'
59° 01.33'	32° 58.72'
58° 59.69'	32° 42.22'
58° 58.27'	32° 27.93'
58° 56.65'	32° 12.43'
58° 55.07'	31° 57.13'
58° 53.68'	31° 43.37'
58° 52.35'	31° 29.66'
58° 50.88'	31° 15.89'
58° 50.50'	31° 02.22'
58° 50.18'	30° 48.32'
58° 50.02'	30° 34.91'
58° 45.78'	30° 21.99'
58° 42.01'	30° 10.31'
58° 37.57'	29° 56.90'
58° 33.38'	29° 44.13'
58° 29.45'	29° 32.02'
58° 24.70'	29° 18.79'
58° 20.10'	29° 05.46'
58° 15.70'	28° 53.01'
58° 10.43'	28° 37.03'
58° 05.03'	28° 20.52'
57° 59.69'	28° 04.41'
57° 59.22'	27° 50.35'
57° 58.59'	27° 34.00'
57° 58.01'	27° 17.88'
57° 57.63'	27° 00.62'
57° 57.56'	26° 42.52'
57° 57.90'	26° 22.79'
57° 57.56'	26° 04.43'
57° 57.60'	25° 44.89'
57° 57.65'	25° 07.04'

57° 57.56'	24° 29.28'
57° 57.60'	23° 49.78'
57° 57.64'	23° 10.37'
57° 57.59'	22° 30.98'
57° 57.62'	21° 51.48'
57° 57.28'	21° 12.08'
57° 54.90'	20° 51.27'
57° 52.80'	20° 29.76'
57° 50.17'	20° 08.58'
57° 47.52'	19° 44.92'
57° 43.83'	19° 13.77'
57° 39.98'	18° 41.95'
57° 39.40'	18° 03.92'
57° 38.82'	17° 25.80'
57° 38.17'	16° 47.82'
57° 37.51'	16° 10.08'
57° 36.91'	15° 31.89'
57° 36.23'	14° 54.00'
57° 35.60'	14° 15.93'
57° 34.97'	13° 37.87'
57° 34.00'	13° 19.92'
57° 33.00'	12° 59.94'
57° 32.51'	12° 51.97'
57° 32.03'	12° 37.80'
57° 30.44'	12° 15.17'
57° 29.53'	11° 50.95'
57° 28.97'	11° 31.90'
57° 28.06'	11° 18.88'
57° 26.98'	11° 04.89'
57° 23.97'	10° 51.86'
57° 21.98'	10° 39.96'
57° 17.95'	10° 22.80'
57° 14.01'	10° 02.89'
57° 09.00'	09° 41.97'
57° 06.08'	09° 34.74'
57° 06.13'	09° 34.67'
57° 06.02'	09° 25.00'
57° 04.49'	09° 19.01'
57° 02.99'	09° 13.00'
57° 00.02'	08° 59.95'
56° 56.99'	08° 46.97'
56° 52.90'	08° 29.75'
56° 50.08'	08° 19.75'

Mooring positions (recovery/deployment)

Latitude N	Longitude W
59° 13.02'	35° 07.15'
59° 06.26'	33° 41.20'
59° 01.29'	32° 43.56'
58° 57.40'	31° 57.08'
58° 53.38'	31° 17.90'
58° 52.33'	30° 31.76'
58° 44.81'	30° 07.04'
58° 32.01'	29° 27.58'
58° 18.32'	28° 49.06'
58° 02.21'	28° 01.13'

58° 00.60'	26° 58.12'
58° 00.35'	25° 40.56'
58° 00.78'	24° 25.32'
57° 59.49'	21° 08.49'

Lander positions (recovery only)

58° 32.81'	30° 10.97'
58° 58.25'	32° 05.38'

References

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