

ARKTIS IM WANDEL

Changing Arctic Ocean

Photo by Jen Freer

The Arctic is the fastest changing environment on the planet. It is also intrinsically tied to global processes, be they climatic, environmental or socio-economic. The impacts of climate change on the vast and multiple interacting Arctic systems are inherently complex, but can be broadly summarised as **an increase in temperature and the loss of sea-ice cover.**

To address this uncertainty, the UK and Germany have jointly funded a 5-year (2017-2022), £20 million scientific research programme, the Changing Arctic Ocean.

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2 KEY RESEARCH CHALLENGES

- 1. A quantified understanding**
To develop a quantified understanding of the structure and functioning of Arctic ecosystems
- 2. Sensitivity to change and future projections**
To understand the sensitivity of Arctic ecosystem structure, functioning and services to multiple stressors, and the development of projections of the impacts of change

4 LARGE PROJECTS

2017 - 2021



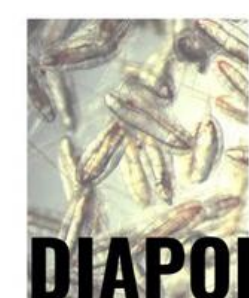
Arctic PRIZE
How does seasonal sea ice control Arctic productivity?
Prof Finlo Cottler
Scottish Association for Marine Science



ARISE
Can we detect changes in Arctic ecosystems?
Prof Claire Mahaffey
University of Liverpool



CHAOS
How do changes in the surface ocean affect seafloor processes?
Dr Christian Maerz
University of Leeds



DIAPOD
How does Arctic change affect Calanus, a key Arctic species?
Prof David Pond
University of Stirling

12 SMALLER PROJECTS

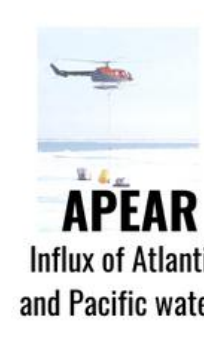
2018-2021



Coldfish
Key Arctic fish response



MiMeMo
Fishery yields



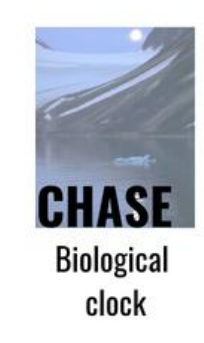
APEAR
Influx of Atlantic and Pacific waters



Eco-Light
Under-ice light field



Diatom-ARCTIC
Sea-ice algae



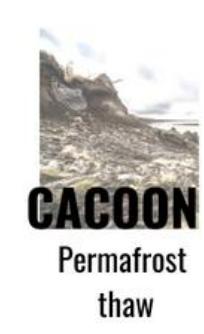
CHASE
Biological clock



PEANUTS
Ocean circulation and nutrients



Micro-ARC
Pelagic microbial ecosystem



CACOON
Permafrost thaw



LOMVA
Ecosystem competition



EISPAC
Contaminant cycling

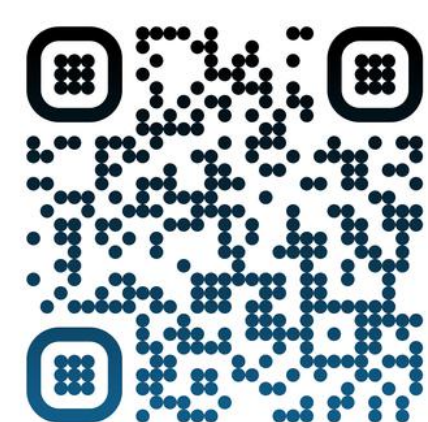


PETRA
Climate-active gases

Find out more about the **Changing Arctic Ocean** on the website

www.changing-arctic-ocean.ac.uk

The website's home page The calendar of public events Free educational resources designed and written by the scientists in the programme



frontiers FOR YOUNG MINDS
"Changing Arctic Ocean" collection

With warming in parts of the Arctic now at 2.3 °C or higher above "pre-industrial", we are witnessing **monumental alteration** to the Arctic Ocean. Considerable international and multi-disciplinary efforts are underway **to understand and to quantify the impacts of climate change on the Arctic.**

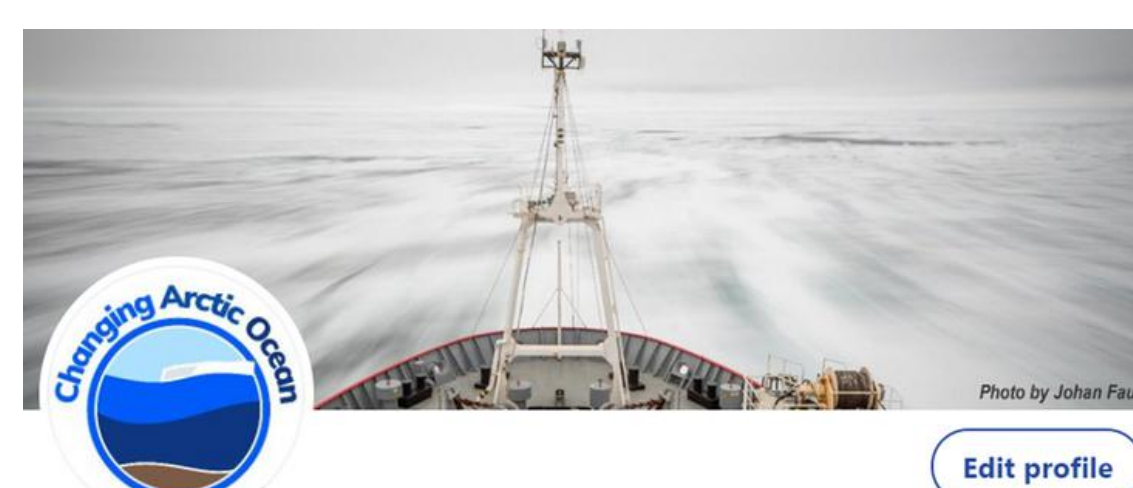
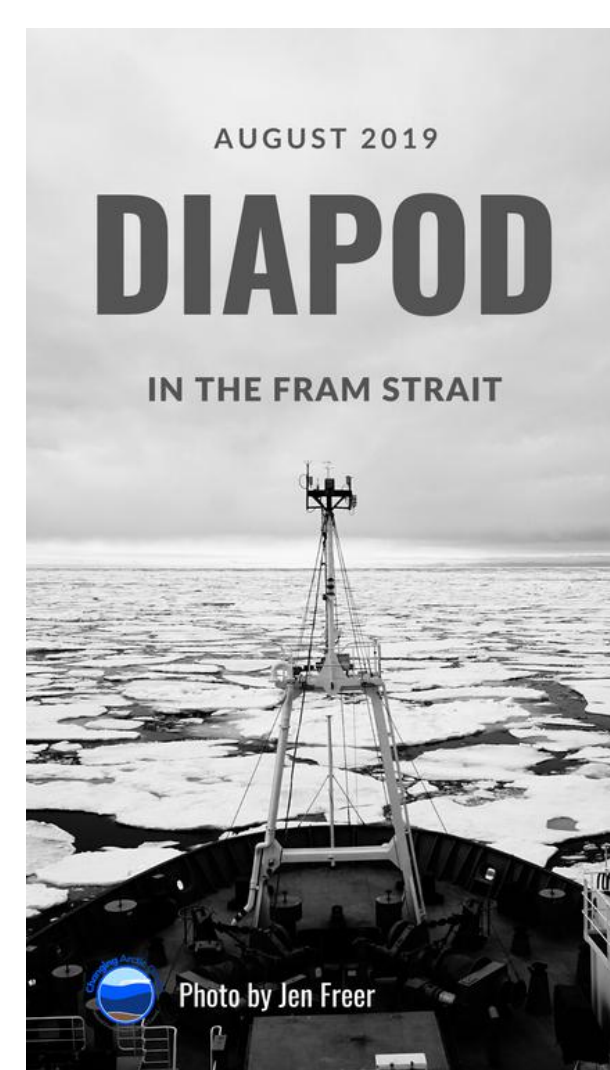
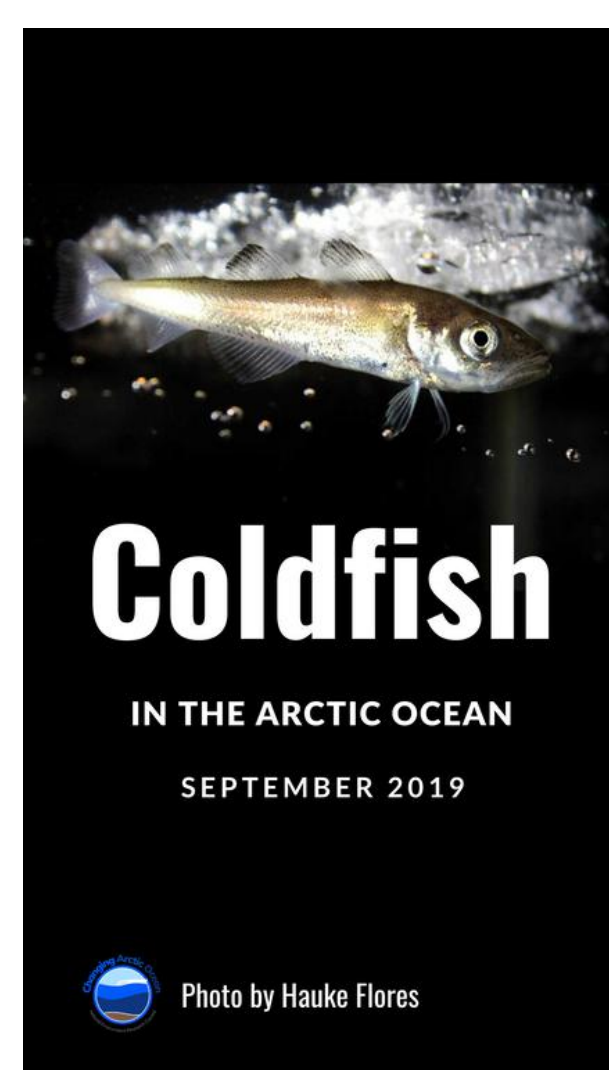
This rapid change in the Arctic is expected to become **more pronounced** and to have **serious global consequences.**

View Instagram "Highlights" about the **Changing Arctic Ocean**

@nerc_cao

Keep up-to-date with the latest events in the **Changing Arctic Ocean** on Twitter

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ChangingArcticOcean
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5 year (2017-2022) Arctic Ocean research programme to address uncertainties generated by climate change. @NERCscience @BMBF_Bund @UKRI_News #UKinArctic
United Kingdom changing-arctic-ocean.ac.uk Joined October 2017
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- Conference presentations
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- #MeetAScientist
- Public outreach events
- Media reporting and appearances



Contact:
Dr Kirsty Crocket
Science Coordinator
School of GeoSciences
University of Edinburgh
Edinburgh EH9 3FE, UK
Email: k.crocket@ed.ac.uk