

# ARKTIS IM WANDEL

# Changing Arctic Ocean

Implications for marine biology and biogeochemistry

Photo by Jen Freer

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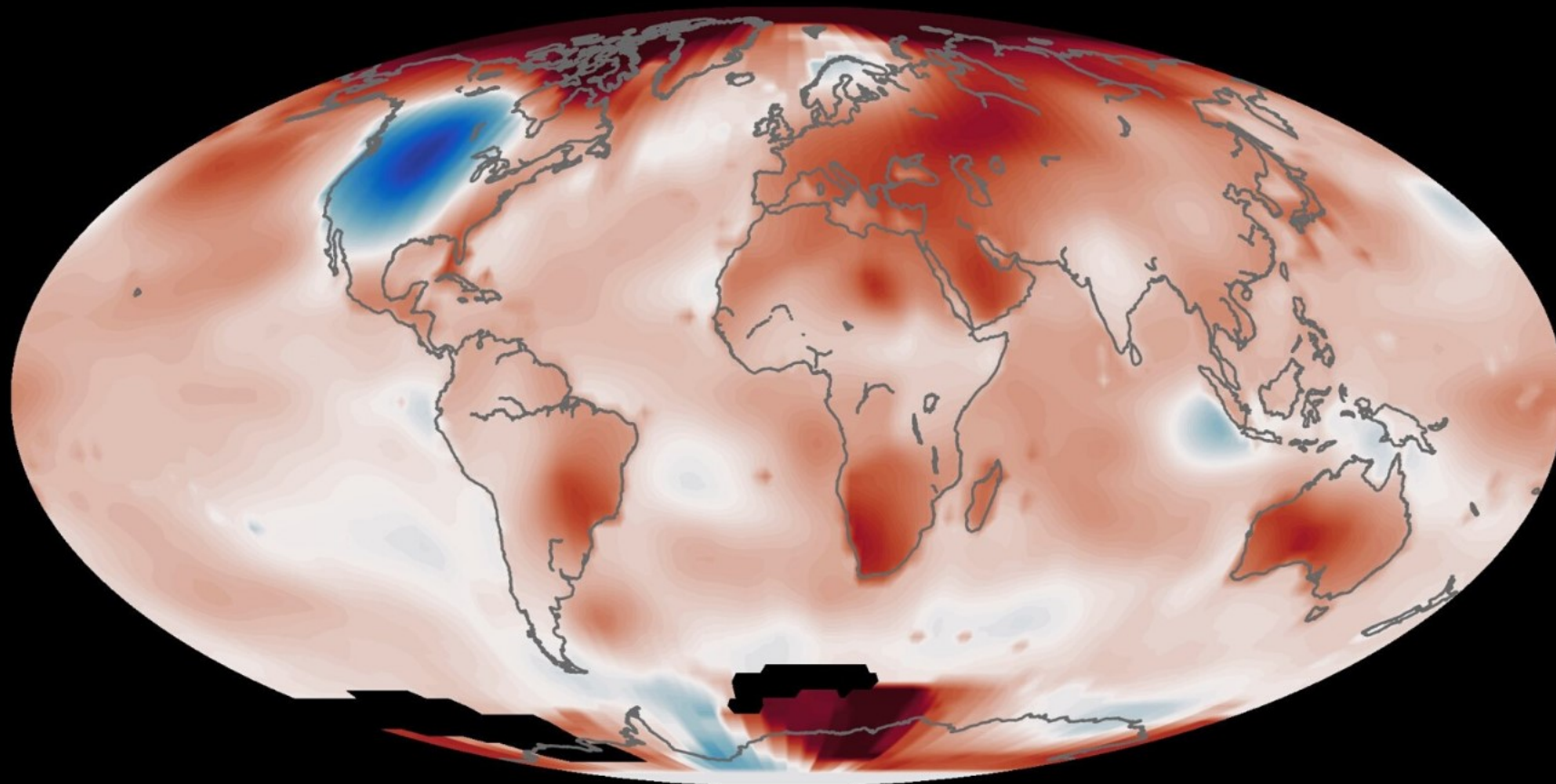


THE UNIVERSITY  
of EDINBURGH

Dr Kirsty Crocket  
Science Coordinator  
[k.crocket@ed.ac.uk](mailto:k.crocket@ed.ac.uk)

# Average air temperature anomaly in Oct 2019

relative to 1951-1980 baseline



**TEMPERATURE ANOMALIES**



GRAPHIC: Zachary Labe (@ZLabe)  
SOURCE: <https://data.giss.nasa.gov/gistemp/>  
DATA: NASA/GISS GISTEMPv4 Baseline: 1951-1980

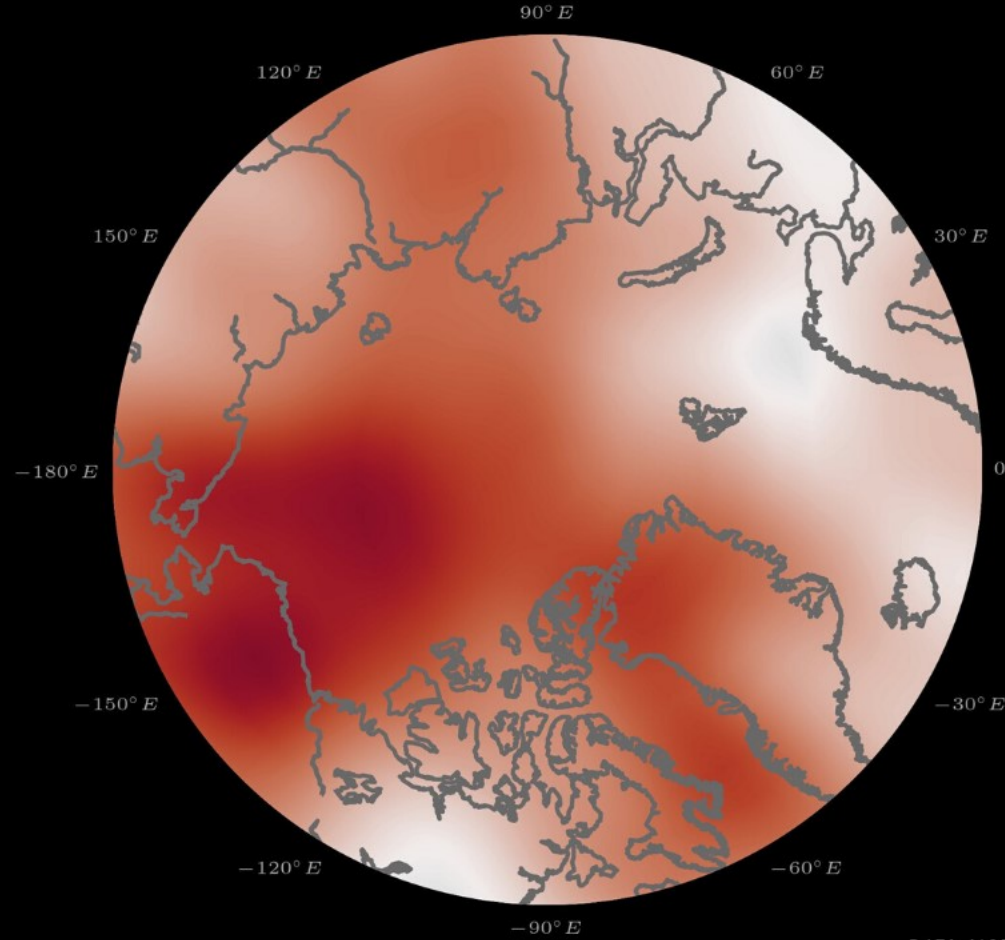
Figure from Zack Labe ~ @ZLabe ~ <https://sites.uci.edu/zlabe/>

Data: NASA/GISS GISTEMPv4



# Air temperature anomaly (925 mb): 1st Jan to 30th Nov 2019

relative to 1981-2010 baseline



DATA: NCEP/NCAR Reanalysis (BASE: 1981-2010)  
SOURCE: <http://www.esrl.noaa.gov/psd/>  
GRAPHIC: Zachary Labe (@ZLabe)  
DATE: 1/1/2019 - 11/30/2019

Figure from Zack Labe ~ @ZLabe ~ <https://sites.uci.edu/zlabe/>

Data: NCEP/NCAR Reanalysis <http://www.esrl.noaa.gov/psd/>



# **GLOBAL WARMING RETREAT OF SEA ICE NEW PHYSICAL STATE**

**Changing Arctic Ocean: Implications for marine biology and biogeochemistry**

Photo by Jen Freer



# Why is it important to know about change in the Arctic Ocean?



Photo by Callum Whyte



# Why is it important to know about change in the Arctic Ocean?

Photo by Callum Whyte

135 - 2' 100 - 11'  
41.2M 37.3M  
← TO STEM TO STEM →



# Why is it important to know about change in the Arctic Ocean?



Photo by Callum Whyte



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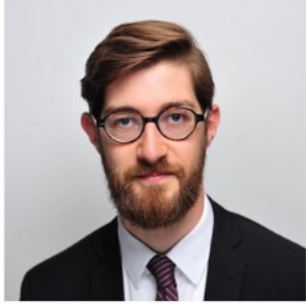


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# Meet the speakers



**Mr Tim Eder, German Federal  
Ministry of Education and  
Research**

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**Dr Carol Turley OBE,  
Plymouth Marine  
Laboratory, UK**



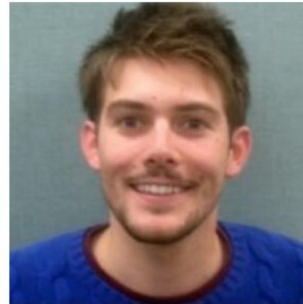
**Dr Geoffrey Abbott,  
Newcastle University, UK**



**Mr Bo Storränk, Ministry of  
the Environment, Finland**



Ympäristöministeriö  
Miljöministeriet  
Ministry of the Environment



**Dr Jack Landy,  
University of Bristol, UK**



**Dr Yevgeny Aksenov,  
National Oceanography  
Centre, UK**



**Prof Hans-Otto Pörtner,  
Alfred Wegener Institute,  
Germany**







# Mr Tim Eder

Federal Ministry of Education and Research, Germany

## Science for evidence-based decision-making: The German Arctic Research Strategy



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# Mr Bo Storränk

Nordic Working Group for Climate and Air,  
Ministry of the Environment, Finland

**Nordic co-operation on oceans and climate**



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Miljöministeriet  
Ministry of the Environment





# Dr Carol Turley OBE

Plymouth Marine Laboratory, UK

## Cycling of key climate reactive trace gases in a changing Arctic Ocean



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**PML**

Plymouth Marine  
Laboratory



# Dr Jack Landy

University of Bristol, UK

**Arctic sea ice past and future:  
A modern era of extraordinary change**



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# Dr Yevgeny Aksenov

National Oceanography Centre, UK

**The New Arctic:  
The impact of change in Arctic Ocean sea ice  
on marine ecosystems and maritime industries**



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# Dr Geoff Abbott

Newcastle University, UK

## The Changing Arctic Ocean: Exploring the impacts on sea floor biogeochemistry



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Newcastle  
University





# Professor Hans-Otto Pörtner

Alfred Wegener Institute, Helmholtz  
Centre for Polar and Marine Research, Germany

**Drivers of change in the Arctic Ocean:  
Responses of marine invertebrates and fish**



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# ARKTIS IM WANDEL Changing Arctic Ocean

# Q&A/Panel Discussion

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