Dr Céline Heuzé's CV

PERSONAL INFORMATION

Date of birth: 01 March 1988
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Dr Céline Heuzé is Assistant Professor in climatology at the University of Gothenburg, Sweden, with 6 years of experience in polar research. She obtained her PhD in physical oceanography in 2015 from the University of East Anglia, UK, in collaboration with the UK Met Office. Her research focusses on the transport of heat by global deep waters and their interaction with the rest of the climate system at high latitudes, using global climate modelling, in-situ hydrographic data, and remote sensing. She participated in four Antarctic and Arctic field campaigns, two as PI of the physical oceanography group. She is a member of the Northern Oceans Regional Panel (NORP) sponsored by CLIVAR/CliC, and an associate editor for the Journal of Physical Oceanography. Dr. Heuzé has had 1 BSc, 4 MSc and 2 PhD students under her supervision. In 2018 she obtained funding to notably employ her first PhD student as main supervisor and her first postdoc.

CURRENT POSITIONS

2018 –   Assistant Professor (biträtande Universitetslektor) in climatology, Department of Earth Sciences, University of Gothenburg, Sweden.

2018 –   Associate Editor, Journal of Physical Oceanography.

ACADEMIC DEGREES

2015   PhD "Antarctic Bottom Water in CMIP5 models: characteristics, formation, evolution"
School of Environmental Sciences, University of East Anglia (UEA), United Kingdom and UK Met Office Hadley Centre, United Kingdom.
Supervisors: Profs Karen Heywood and David Stevens, and Dr. Jeff Ridley

2011   Master/Engineering degree "Analysis of Southern Ocean mixed layer interannual variability"
Hydrodynamics and Ocean Engineering, Ecole Centrale de Nantes, France and Physical Oceanography, LOCEAN Université Pierre et Marie Curie, France.

PREVIOUS POSITIONS AND FELLOWSHIPS

2015 – 2018   VINNMER Marie Curie Cofund, Incoming research fellow, Dep. of Marine Sciences, University of Gothenburg, Sweden and Dep. of Earth Sciences, University of Oxford, UK.

2015 – 2017   Consultant in ocean remote sensing; Department of Space, Earth and Environment, Chalmers University of Technology, Sweden.

2017   Executive secretary of Sweden's national committee of the international Association of Polar Early Career Scientists (APECS).

2015 – 2015   Post-doctoral researcher; LOCEAN, Université Pierre et Marie Curie, France.

2011 – 2015   NERC-CASE industrial PhD fellowship, School of Environmental Sciences, University of East Anglia, United Kingdom, and UK Met Office Hadley Centre, United Kingdom.

2011 – 2011   Research assistant; LOCEAN, Université Pierre et Marie Curie, France.

2010 – 2010   Research assistant; Centre Eau, Terre et Environnement, INRS, Canada.

FUNDED RESEARCH GRANTS

2019 – 2022   **Vetenskapsrådet** 'Why is the deep Arctic Ocean Warming?', PI, 3.6 MSEK

2019 – 2021   **Rymdstyrelsen** 'Warm oceanic Inflows for Near-real time Detection Of Weddell polynya from Space', PI, 4.5 MSEK

2019 – 2020   **Swedish Polar Research Secretariat**, PI, 1 MSEK for joining the MOSAiC expedition

2015 – 2018   **VINNOVA**, VINNMER Marie Curie Cofund Incoming research fellowship 'Is Greenland meltwater going to stop the Atlantic overturning circulation?', PI, 2.3 MSEK

2018   **UGOT climate fund**, CI (PI Sebastiaan Swart), 0.6 MSEK for developing sensors

2017   **UGOT climate fund**, CI (PI Anna Wåhlin), 0.8 MSEK for developing sensors,

2016 – 2017   **Stiftelse Olle Engkvist Byggmästare** 'Initiating PANDORAS: the Pan-Arctic Network of Deep Ocean Remote and Autonomous Sensors', PI, 0.3 MSEK

SUPERVISION OF GRADUATE STUDENTS
2018 –   **PhD student** M. Mohrmann, Department of Marine Sciences, University of Gothenburg; assistant supervisor.
2016 –   **PhD student** W. Aldenhoff, Chalmers University of Technology; assistant supervisor.
2015 –   **In total 4 master's and 1 bachelor's students**

TEACHING ACTIVITIES
2018 –   **Course responsible**, lecturer and course material creator – "Climate Modelling" (Second cycle), Department of Earth Sciences, Uni. Gothenburg, Sweden
2018 –   Lecturer and course material creator – "Introduction to Geosciences" and "Earth System Science" (First cycle, in Swedish), Department of Earth Sciences, Uni. Gothenburg, Sweden
2018 –   Lecturer – "Arctic in a changing climate" (PhD course), Department of Earth Sciences, Uni. Gothenburg, Sweden
2017   Lecturer and course material creator – "Marine models and databases" (First cycle, in Swedish), Department of Marine Sciences, Uni. Gothenburg, Sweden.
2016   Lecturer and course material creator – "Ocean mixing" (Second cycle, in English), Department of Marine Sciences, Uni. Gothenburg, Sweden.
2015 – 2015 Teaching assistant – "Environmental chemistry" (First cycle), UEA, United Kingdom.
2013 – 2015 Teaching assistant – "Atmosphere and Oceans" (First cycle), UEA, United Kingdom.
2012 – 2014 Teaching assistant – "Maths for scientists" (First cycle), UEA, United Kingdom.
2011 – 2012 Teaching assistant – "Forces of Nature" (First cycle), UEA, United Kingdom.

FIELDWORK EXPERIENCE
2017   Physical Oceanography PI, *R/V Polarstern*, Alfred Wegener Institute, Arctic.
2015   *I/B Oden*, Swedish Polar Research Secretariat, Nares Strait north-west Greenland.
2013   *R/V Lance*, Norwegian Polar Institute, Fram Strait.
2012   Physical Oceanography PI, *RRS James Clark Ross*, British Antarctic Survey, Weddell Sea.
2011   *Thétys II*, CNRS, Western Mediterranean Sea.

MEMBERSHIPS OF SCIENTIFIC SOCIETIES
2018 –   Swedish PI of the physical oceanography programme, Synoptic Arctic Survey.
2018 – 2018 National committee representative for APECS Sweden within APECS international.
2017 – 2020 Member of the Ocean Group and for the one-year long scientific MOSAiC expedition in the Central Arctic Ocean with the German research icebreaker *R/V Polarstern*
2017 –   Co-lead, CliC (Climate and Cryosphere) and CLIVAR (Climate and Ocean: Variability, Predictability and Change) *Northern Oceans Regional Panel*. I am in charge of coordinating the task "Understanding of the role of the Arctic Ocean in Arctic amplification".
2016 –   Regular author, Cryosphere Division, European Geophysical Union blog.

ORGANISATION OF SCIENTIFIC MEETINGS
2018   Convenor of session "North Atlantic – Nordic seas – Arctic Ocean heat exchanges: Processes and Impacts", Ocean Sciences meeting (15 000 participants), 25 presentations accepted.
2017   Organiser and lecturer, EGU short course "Communicating climate change", 50 students.
2016 –   Main organiser of the annual Gothenburg Polar Conference, 30 participants, Sweden.
2016   Main organiser of 30th international Forum for Research into Ice-Shelf Processes, 90 participants, Sweden.

DISTINCTIONS, HONOURS AND AWARDS
For outreach: Best blog of the European Geophysical Union (2016)
Travel awards from the Wallenberg foundation (2016), the Forum for Arctic Modelling and Observation Systems (FAMOS, 2015), the Gordon Research Conference (2013 and 2015), the Challenger Society for Marine Sciences (2014) and the American Geophysical Union (2014).

BIBLIOMETRIC DATA (per 29 November 2018)
Publications 16, citations 181, H-index 6, i10-index 4 (Google Scholar)
Also published >30 popular science articles, presented >50 invited lectures and presentations at international scientific meetings, and interviewed regularly for newspaper article and TV programmes.

FULL LIST OF PUBLICATIONS

Monographs

C. Heuzé (2015) Antarctic Bottom Water in CMIP5 models: characteristics, formation, evolution, *PhD thesis, University of East Anglia.*

C. Heuzé (2011) Analyse de la variabilité interannuelle de la couche de mélange de l'Océan Austral / Analysis of Southern Ocean mixed layer interannual variability, *Master thesis, LOCEAN Université Pierre et Marie Curie and Ecole Centrale de Nantes.*

Peer reviewed articles

[15] L. Waldrop Bergman and **C. Heuzé** (2018), Influence of initial stratification, wind and sea ice on the modelled oceanic circulation in Nares Strait, northwest Greenland, *Ocean Science Discussion*

[14] S. Swart, E.C. Campbell, **C. Heuzé**, et al. (2018), Return of the Maud Rise polynya: climate litmus or sea ice anomaly? [in State of the Climate in 2017 chapter 6], *Bull. Amer. Meteor. Soc.* **99** S188-S189.

[13] **C. Heuzé** and W. Aldenhoff (2018), Near-Real Time Detection of the Re-Opening of the Weddell Polynya, Antarctica, from Spaceborne Infrared Imagery, *Geoscience and Remote Sensing Symposium (IGARSS), 2018 IEEE International*.

[12] W. Aldenhoff, **C. Heuzé** and L.E.B. Eriksson (2018), Comparison of ice/water classification in Fram Strait from C- and L-band SAR imagery, *Annals of Glaciology* 1-18.

[11] **C. Heuzé**, G.K. Carvajal and L.E.B. Eriksson (2017), Optimisation of sea surface current retrieval using a maximum cross correlation technique on modelled sea surface temperature, *Journal of Atmospheric and Oceanic Technology* **34** 2245–2255.

[10] **C. Heuzé** (2017)**,** North Atlantic deep water formation and AMOC in CMIP5 models**,** *Ocean Science* **13** 609-622.

[9] **C. Heuzé**, G.K. Carvajal, L.E.B. Eriksson and M. Soja-Woźniak (2017), Sea Surface Currents Estimated from Spaceborne Infrared Images Validated against Reanalysis Data and Drifters in the Mediterranean Sea, *Remote Sensing* **9** 422

[8] **C. Heuzé**, A. Wåhlin, H.L. Johnson and A. Münchow (2017), Pathways of meltwater export from Petermann Glacier, Greenland, *Journal of Physical Oceanography* **47**, 405-418.

[7] M. Reeve, **C. Heuzé**, et al. (2016), Improving together: better science writing through peer learning, *Hydrology and Earth System Sciences* **20**, 2965-2973.

[6] G.K. Carvajal, M. Wozniak, **C. Heuzé**, et al. (2016): Assessment of satellite and ground-based estimates of surface currents, *Geoscience and Remote Sensing Symposium (IGARSS), 2016 IEEE International*, 4675-4678.

[5] **C. Heuzé**, F. Vivier, J. Le Sommer, J.-M. Molines and T. Penduff (2015), Can we map the interannual variability of the whole upper Southern Ocean with the current database of hydrographic data?, *Journal of Geophysical Research Oceans* **120**, 7960-7978.

[4] **C. Heuzé**, K.J. Heywood, D.P. Stevens and J.K Ridley (2015), Changes in global ocean bottom properties and volume transports in CMIP5 models under climate change scenarios, *Journal of Climate* **28**, 2917–2944.

[3] **C. Heuzé**, J. Ridley, D. Calvert, D. Stevens and K. Heywood (2015), Increasing vertical mixing to reduce Southern Ocean deep convection in NEMO3.4, *Geoscientific Model Development* **8**, 3119-3130.

[2] K.J. Heywood, S. Schmitdko**, C. Heuzé**, et al. (2014), Ocean processes at the Antarctic continental slope, *Philosophical Transactions of the Royal Society A* **372**, 20130047.

[1] **C. Heuzé**, K.J. Heywood, D.P. Stevens and J.K Ridley (2013), Southern Ocean Bottom Water Characteristics in CMIP5 models, *Geophysical Research Letters* **40**, 1409-1414.

Other

Popular scientific articles/presentations: 35 (15 for the EGU, 6 for SciSnack, 14 for Polarfever)

Updated CV, list of publications and conference presentations, are available at
http://cheuze.com