

Dr Céline Heuzé's CV (as of 9 June 2019)

PERSONAL INFORMATION

Date of birth: 01 March 1988

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Dr Céline Heuzé is Associate Senior Lecturer in climatology at the University of Gothenburg, Sweden, with 8 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 satellite 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, PI for the [MOSAiC](#) and [Synoptic Arctic Survey](#) international expeditions, and an associate editor for the Journal of Physical Oceanography. Dr. Heuzé has had 4 BSc and 4 MSc under her supervision and 2 PhD students as co-supervisor. In 2018 she obtained funding to notably employ her first PhD student as main supervisor and her first postdoc.

CURRENT POSITION

2018 – Associate senior lecturer (biträdande Universitetslektor) in climatology, Department of Earth Sciences, University of Gothenburg, Sweden.

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 – 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 – total 13.1 MSEK (ca 1 M€)

- 2019 – 2022 **Vetenskapsrådet** 'Why is the deep Arctic Ocean Warming? (WAOW)', PI, 3.6 MSEK
- 2019 – 2021 **Rymdstyrelsen** 'Warm oceanic Inflows for Near-real time Detection Of Weddell polynya from Space (WINDOWS)', 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 Wählin), 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 4 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.
2011 – 2015 – Teaching assistant – “Forces of Nature”, “Maths for scientists”, “Atmosphere and Oceans”, “Environmental chemistry” (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 – Associate Editor, Journal of Physical Oceanography.
2018 – 2018 – National committee representative for APECS Sweden within [APECS](#) international.
2017 – Co-lead 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 9 June 2019)

Publications 20, citations 220, H-index 6, i10-index 5 (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. See the full, most up-to-date lists on <http://cheuze.com>

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

[19] W. Aldenhoff, L.E.B. Eriksson, and **C. Heuzé** (2019) Comparison of Sentinel-1 SAR And Sentinel-3 Altimetry Data For Ice Type Discrimination, *Geoscience and Remote Sensing Symposium (IGARSS), 2019 IEEE International*, accepted

[18] **C. Heuzé** and M. Årthun (2019) The Atlantic inflow across the Greenland-Scotland ridge in CMIP5 models, *Elementa Science of the Anthropocene*, accepted

[17] **C. Heuzé**, G. Garric, and T. Lavergne (2019) The Weddell Polynya [in Copernicus Marine Environment Monitoring Service Ocean State Report issue 3], *Journal of Operation Oceanography*, accepted

[16] B.T. Hassett, T.V. Vonnahme, X. Wang, G.B. Jones, and **C. Heuzé** (2019) Review of pelagic marine fungi - global analysis of cultured and high-throughput sequencing diversity, *Botanica Marina*, accepted

[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**, K. Johnson, J.L. Lieser, R. Massom, M. Mazloff, M. Meredith, P. Reid, J.-B. Sallée and S. Stammerjohn (2018), Return of the Maud Rise polynya: climate litmus or sea ice anomaly? [in State of the Climate in 2017 chapter 6], *Bulletin of the American Meteorological Society* **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**, W.T. Ball, R.H. White, G. Messori, K. van der Wiel, I. Medhaug, A.H. Eckes, A. O'Callaghan, M.J. Newland, S.R. Williams, M. Kasoar, H.E. Wittmeier and V. Kumer (2016), Improving together: better science writing through peer learning, *Hydrology and Earth System Sciences* **20**, 2965-2973.

[6] G.K. Carvajal, M. Woźniak, **C. Heuzé**, L.E.B Eriksson, J. Kronsell and B. Rydberg (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. Part of my PhD work.

- [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. Part of my PhD work.
- [2] K.J. Heywood, S. Schmitdko, C. Heuzé, J. Kaiser, T.D. Jickells, B.Y. Queste, D.P. Stevens, M. Wadley, A.F. Thompson, S. Fielding and D. Guihen (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. Part of my PhD work.

Other

Popular scientific articles/presentations: 37 (17 for the [EGU](#), 6 for [SciSnack](#), 14 for [Polarfever](#))

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