

Curriculum vitae NFR

Personal information

First name, Surname:	Guillaume Boutin		
Date of birth:	23/01/1990	Sex:	M
Nationality:	French		
Researcher unique identifier(s) (ORCID, ResearcherID, etc.):	ORCID: 0000-0002-1689-9351 ResearcherID: A-8773-2019		

Education

Year	Faculty/department - University/institution - Country
2018	Ph.D. in Physical Oceanography , University of Western Brittany, at Laboratoire d'Océanographie Physique et Spatiale, Brest, France Thesis: <i>Waves and sea ice interactions in polar areas</i> Advisors: Fabrice Ardhuin, Fanny Girard-Ardhuin
2015	M.Sci. in Physical Oceanography (with honours), University Of Western Brittany, Brest, France Thesis: <i>Impact of the regional circulation on the Persian Gulf Water formation and evolution in the Gulf of Oman and in the Arabian Sea.</i> Advisor: Xavier Carton, Pierre L'Hégaret
2014	M.Sci. in Hydrodynamics and marine engineering , Ecole Centrale de Nantes (Nantes, France) Thesis: <i>Assessment of the estimated added resistance due to waves on a ship hull by a numerical model with results from tank tests</i> Advisor: Reint P. Dallinga (MARIN, The Netherlands)

Positions - current and previous

(Academic sector/research institutes/industrial sector/public sector/other)

Year	Job title – Employer - Country
2019- Present	PostDoc at Nansen Environmental and Remote Sensing Center (NERSC), Bergen, Norway <i>Investigating ice-ocean interactions with a focus on the impact of sea ice dynamics using the sea ice model neXtSIM.</i> Collaborators: Einar Ólason, Pierre Rampal

2018-2019	<p>Research Associate at Laboratoire d'Océanographie Physique et Spatiale, LOPS, Brest, France</p> <p>Topic: <i>Coupling of a wave model (WW3) with neXtSIM, the ice model developed at NERSC (Bergen, Norway)</i></p> <p>Collaborators: Camille Lique (LOPS), Fabrice Ardhuin (LOPS), Tim Williams (NERSC)</p>
2017-2018	<p>Teaching Assistant at University of Western Brittany, Brest, France</p> <p>Topic: <i>Introduction to statistical tools for physics measurements. (30h)</i></p>

Other relevant professional experiences

Year	Description - Role
2017	<p>Participation to the NARVAL scientific cruise, Oceanographic and Hydrographic Service of the French Navy (SHOM)</p> <p><i>15 days on board of R/V le Pourquoi Pas ? deploying drifters and moorings in the Greenland Sea.</i></p> <p>Chief scientists: Cyril Lathuilliere, Camille Daubord (SHOM)</p>

Track record

9 publications in international peer-reviewed journals, including 6 publications as 1st or 2nd author in Q1 scientific journals for physical oceanography:

Boutin, G., Ardhuin, F., Dumont, D., Sévigny, C., Girard-Ardhuin, F., & Accensi, M. (2018). Floe Size Effect on Wave-Ice Interactions: Possible Effects, Implementation in Wave Model, and Evaluation. *Journal of Geophysical Research: Oceans*, 123(7), 4779–4805. <https://doi.org/10.1029/2017JC013622>

Ardhuin, F., Boutin, G., Stopa, J., Girard-Ardhuin, F., Melsheimer, C., Thomson, J., Kohout, A., Doble, M., & Wadhams, P. (2018). Wave Attenuation Through an Arctic Marginal Ice Zone on 12 October 2015: 2. Numerical Modeling of Waves and Associated Ice Breakup. *Journal of Geophysical Research: Oceans*, 123(8), 5652–5668. <https://doi.org/10.1002/2018JC013784>

Boutin, G., Lique, C., Ardhuin, F., Rousset, C., Talandier, C., Accensi, M., & Girard-Ardhuin, F. (2020). Towards a coupled model to investigate wave–sea ice interactions in the Arctic marginal ice zone. *The Cryosphere*, 14(2), 709–735. <https://doi.org/10.5194/tc-14-709-2020>

Boutin, G., Williams, T., Rampal, P., Olason, E., & Lique, C. (2021). Wave–sea-ice interactions in a brittle rheological framework. *The Cryosphere*, 15(1), 431–457. <https://doi.org/10.5194/tc-15-431-2021>

Boutin, G., Williams, T., Horvat, C., & Brodeau, L. (2022). Modelling the Arctic wave-affected marginal ice zone: A comparison with ICESat-2 observations. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 380(2235), 20210262. <https://doi.org/10.1098/rsta.2021.0262>

Ólason, E., Boutin, G., Korosov, A., Rampal, P., Williams, T., Kimmritz, M., Dansereau, V., & Samaké, A. (2022). A New Brittle Rheology and Numerical Framework for Large-Scale Sea-Ice Models. *Journal of Advances in Modeling Earth Systems*, 14(8), e2021MS002685. <https://doi.org/10.1029/2021MS002685>

2 as contributing co-author:

L'Hégaret, P., Carton, X., Louazel, S., & Boutin, G. (2016). Mesoscale eddies and submesoscale structures of Persian Gulf Water off the Omani coast in spring 2011. *Ocean Science*, 12(3), 687–701.

<https://doi.org/10.5194/os-12-687-2016>

Thomson Jim, Ackley Stephen, Girard-Ardhuin Fanny, Ardhuin Fabrice, Babanin Alex, Boutin Guillaume, Brozena John, Cheng Sukun, Collins Clarence, Doble Martin, Fairall Chris, Guest Peter, Gebhardt Claus, Gemmrich Johannes, Graber Hans C., Holt Benjamin, Lehner Susanne, Lund Björn, Meylan Michael H., ... Wadhams Peter. (2018). Overview of the Arctic Sea State and Boundary Layer Physics Program. *Journal of Geophysical Research: Oceans*. <https://doi.org/10.1002/2018JC013766>

And 1 peer-reviewed proceedings of an international conference:

Boutin, G., Williams, T., Rampal, P., Olason, E., & Lique, C. (2020, March 23). Impact of wave-induced sea ice fragmentation on sea ice dynamics in the MIZ. *Proceedings of the 25th IAHR International Symposium on Ice*. 25th IAHR International Symposium on Ice, Trondheim.

Preprints:

In review in *the Cryosphere*:

Boutin, G., Ólason, E. Ö., Rampal, P., Regan, H., Lique, C., Talandier, C., Brodeau, L., & Ricker, R. (2022). Arctic sea ice mass balance in a new coupled ice-ocean model using a brittle rheology framework. *The Cryosphere Discussions*, 1–31. <https://doi.org/10.5194/tc-2022-142>

Regan, H. C., Rampal, P., Ólason, E., Boutin, G., & Korosov, A. (2022). Modelling the evolution of Arctic multiyear sea ice over 2000–2018. *The Cryosphere Discussions*, 1–28. <https://doi.org/10.5194/tc-2022-211>

Awards and Fellowships

- 2018: 1st prize for oral presentation of the doctoral school days
Awarded by the doctoral school of marine sciences for the presentation of my thesis to a general audience in a 10min talk. Associated with a 10,000 nok travel grant.
- 2017: FAMOS grant
Full funding (~20,000nok) to attend the 6th annual school meeting of the Forum for Arctic Modeling & Observational Synthesis (FAMOS)
- 2015: French Directorate General of Armaments PhD fellowship
~600,000 nok, covering 50% of PhD costs in France for 3 years

Outreach:

- 2022: Scientific outreach at *Forskningdagener*, introducing 12–14-year-old school pupils to Arctic climate, 4h, Bergen, Norway
- 2017: Scientific outreach training, 3 days of training + 2 primary school 1h-interventions + 2 oral interventions in cafés presenting my PhD topic, Brest, France
- 2016: Scientific outreach at *Brest 2016*, 5 days presenting physical oceanography experiments during the international sailing festival (>700,000 visitors) in Brest, France