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Research interests

Greenland-Scotland Ridge exchanges

North Atlantic thermohaline circulation

Coastal waters, exchange between on-shelf and off-shelf waters and physical-biological coupling.

Employment

Head of department

Havstovan - Faroe Marine Research Institute
Pure Faroe Islands
Faroe Islands
1 Dec 2012 → present

Havstovan - Faroe Marine Research Institute

Pure Faroe Islands
Faroe Islands
16 Apr 1997 → 30 Nov 2012

Professional Information

2024-2025 Member of Academic Board for the Danish National Center for Climate Research

2021-2022 Member of Scientific Panel for the Danish National Center for Climate Research

2015-2017 Co-Chair of the ICES Working Group on Oceanic Hydrography

2014 - Member of OceanSITES Steering Team

2004 - Member of the ICES Working Group on Oceanic Hydrography

Qualifications

PhD, Circulation and exchange of water masses on the Faroe Shelf and the impact on the Shelf ecosystem, Geophysical Institute, University of Bergen

2004 → 2008

Award Date: 11 Feb 2009

Projects

ObsSea4Clim: Ocean observations and indicators for climate and assessments

Olsen, S. M. (PI), Larsen, K. M. H. (PI) & Hátun, H. (PI)

1/02/24 → 31/03/28

Faroe-AMOC: The Atlantic Meridional Overturning Circulation in the waters surrounding the Faroes

Larsen, K. M. H. (PI), Johansen, G. E. (CoI), Olsen, S. M. (PI), Gierisch, A. M. U. (CoPI), Hansen, B. (CoPI) & Hátun, H. (CoPI)

1/09/23 → 31/01/27

Research outputs – Peer Reviewed

Mayer, M, Tsubouchi, T, Winkelbauer, S, Larsen, KMH, Berx, B, Macrander, A, Iovino, D, Jónsson, S & Renshaw, R 2023, 'Recent variations in oceanic transports across the Greenland–Scotland Ridge', *State of the Planet*, vol. 1-osr7, no. 14, pp. 1-13. <https://doi.org/10.5194/sp-1-osr7-14-2023>

Hansen, B, Larsen, KMH, Hátún, H, Olsen, SM, Gierisch, AMU, Østerhus, S & Ólafsdóttir, SR 2023, 'The Iceland–Faroe warm-water flow towards the Arctic estimated from satellite altimetry and in situ observations', *Ocean Science*, vol. 19, no. 4, pp. 1225-1252. <https://doi.org/10.5194/os-19-1225-2023>

Matras, U, Salter, I, Larsen, KMH, Gaard, E & Steingrund, P 2022, 'Relationship between plankton dynamics and growth of the long-lived clam *Arctica islandica* on the Faroe shelf', *Frontiers in Marine Science*, vol. 9, 822343, pp. 1-19. <https://doi.org/10.3389/fmars.2022.822343>

Skagseth, Ø, Broms, C, Gundersen, K, Hátún, H, Kristiansen, I, Larsen, KMH, Mork, KA, Petursdóttir, H & Søliland, H 2022, 'Arctic and Atlantic Waters in the Norwegian Basin, Between Year Variability and Potential Ecosystem Implications', *Frontiers in Marine Science*, vol. 9, pp. 1-14. <https://doi.org/10.3389/fmars.2022.831739>

Hátún, H, Larsen, KMH, Eliassen, SK & Mathis, M 2021, Major Nutrient Fronts in the Northeastern Atlantic: From the Subpolar Gyre to Adjacent Shelves. in I Belkin (ed.), *Chemical Oceanography of Frontal Zones*. The Handbook of Environmental Chemistry, Springer Berlin Heidelberg, Berlin, Germany, pp. 1-45.

Hátún, H, Chafik, L & Larsen, KMH 2021, 'The Norwegian Sea Gyre: A Regulator of Iceland-Scotland Ridge Exchanges', *Frontiers in Marine Science*, vol. 8, 694614, pp. 1-15. <https://doi.org/10.3389/fmars.2021.694614>

Cisewski, B, Hátún, H, Kristiansen, I, Hansen, B, Larsen, KMH, Eliassen, SK & Jacobsen, JA 2021, 'Vertical Migration of Pelagic and Mesopelagic Scatterers From ADCP Backscatter Data in the Southern Norwegian Sea', *Frontiers in Marine Science*, vol. 7, 542386, pp. 1-15. <https://doi.org/10.3389/fmars.2020.542386>

Tsubouchi, T, Våge, K, Hansen, B, Larsen, KMH, Østerhus, S, Johnson, C, Jónsson, S & Valdimarsson, H 2021, 'Increased ocean heat transport into the Nordic Seas and Arctic Ocean over the period 1993–2016', *Nature Climate Change*, vol. 11, no. 1, pp. 21-26. <https://doi.org/10.1038/s41558-020-00941-3>

Chafik, L, Hátún, H, Kjellsson, J, Larsen, KMH, Rossby, T & Berx, B 2020, 'Discovery of an unrecognized pathway carrying overflow waters toward the Faroe Bank Channel', *Nature Communications*, vol. 11, no. 1, 3721 (2020), pp. 1-10. <https://doi.org/10.1038/s41467-020-17426-8>

Holliday, NP, Bersch, M, Berx, B, Chafik, L, Cunningham, S, Florindo-López, C, Hátún, H, Johns, W, Josey, SA, Larsen, KMH, Mulet, S, Oltmanns, M, Reverdin, G, Rossby, T, Thierry, V, Valdimarsson, H & Yashayaev, I 2020, 'Ocean circulation causes the largest freshening event for 120 years in eastern subpolar North Atlantic', *Nature Communications*, vol. 11, no. 1, 585, pp. 1-15. <https://doi.org/10.1038/s41467-020-14474-y>

Semper, S, Pickart, RSP, Larsen, KMH, Hátún, H & Hansen, B 2020, 'The Iceland-Faroe Slope Jet: a conduit for dense water toward the Faroe Bank Channel overflow', *Nature Communications*, vol. 11, no. 5390, pp. 1-10.

McCarthy, GD, Brown, PJ, Flagg, CN, Goni, G, Houpert, L, Hughes, CW, Hummels, R, Inall, M, Jochumsen, K, Larsen, KMH, Lherminier, P, Meinen, CS, Moat, BI, Rayner, D, Rhein, M, Roessler, A, Schmid, C & Smeed, DA 2019, 'Sustainable Observations of the AMOC: Methodology and Technology', *Reviews of Geophysics*, vol. 58, no. 1, e2019RG000654, pp. 1-34. <https://doi.org/10.1029/2019RG000654>

Jacobsen, S, Gaard, E, Hátún, H, Steingrund, P, Larsen, KMH, Reinert, J, Ólafsdóttir, SR, Poulsen, M & Vang, HBM 2019, 'Environmentally Driven Ecological Fluctuations on the Faroe Shelf Revealed by Fish Juvenile Surveys', *Frontiers in Marine Science*, vol. 6, 559, pp. 1-12. <https://www.frontiersin.org/articles/10.3389/fmars.2019.00559/full>

Østerhus, S, Woodgate, R, Valdimarsson, H, Turrell, W, de Steur, L, Quadfasel, D, Olsen, SM, Moritz, M, Lee, CM, Larsen, KMH, Jónsson, S, Johnson, C, Jochumsen, K, Hansen, B, Curry, B & Berx, B 2019, 'Arctic Mediterranean exchanges: a consistent volume budget and trends in transports from two decades of observations', *Ocean Science*, vol. 15, no. 2, pp. 379-399. <https://doi.org/10.5194/os-15-379-2019>

Eliassen, SK, Hátun, H, Larsen, KMH, Vang, HBM & Rasmussen, TAS 2019, 'The Faroe shelf spring bloom onset explained by a 'Critical Volume Hypothesis'', *Journal of Marine Systems*, vol. 194, pp. 91-101. <https://doi.org/10.1016/j.jmarsys.2019.02.005>

Hansen, B, Húsgarð Larsen, KM, Malskær Olsen, S, Quadfasel, D, Jochumsen, K & Østerhus, S 2018, 'Overflow of cold water across the Iceland-Faroe Ridge through the Western Valley', *Ocean Science*, vol. 14, pp. 871-885. <https://doi.org/10.5194/os-14-871-2018>

Jacobsen, S, Gaard, E, Larsen, KMH, Eliassen, SK & Hátun, H 2018, 'Temporal and spatial variability of zooplankton on the Faroe shelf in spring 1997-2016', *Journal of Marine Systems*, vol. 177, pp. 28-38. <https://doi.org/10.1016/j.jmarsys.2017.08.004>

Eliassen, SK, Hátun, H, Larsen, KMH & Jacobsen, S 2017, 'Faroe shelf bloom phenology: The importance of ocean-to-shelf silicate fluxes', *Continental Shelf Research*, vol. 143, pp. 43-53. <https://doi.org/10.1016/j.csr.2017.06.004>

Jochumsen, K, Moritz, M, Nunes, N, Quadfasel, D, Larsen, KMH, Hansen, B, Valdimarsson, H & Jonsson, S 2017, 'Revised transport estimates of the Denmark Strait overflow', *Journal of Geophysical Research. Oceans*, vol. 122, no. 4, 2017JC012803, pp. 3434-3450. <https://doi.org/10.1002/2017JC012803>

Eliassen, SK, Hátun, H, Larsen, KMH, Hansen, B & Rasmussen, TAS 2017, 'Phenologically distinct phytoplankton regions on the Faroe Shelf: identified by satellite data, in-situ observations and model', *Journal of Marine Systems*, vol. 169, pp. 99-110. <https://doi.org/10.1016/j.jmarsys.2017.01.015>

Hansen, B, Poulsen, T, Larsen, KMH, Hátun, H, Østerhus, S, Darelius, E, Berx, B, Quadfasel, D & Jochumsen, K 2017, 'Atlantic water flow through the Faroese Channels', *Ocean Science*, vol. 13, no. 6, pp. 873-888. <https://doi.org/10.5194/os-13-873-2017>

Hansen, B, Larsen, KMH, Hátun, H & Østerhus, S 2016, 'A stable Faroe Bank Channel overflow 1995-2015', *Ocean Science*, vol. 12, no. 6, pp. 1205-1220. <https://doi.org/10.5194/os-12-1205-2016>

Eliassen, SK, Hansen, B, Larsen, KMH & Hátun, H 2016, 'The exchange of water between the Faroe Shelf and the surrounding waters and its effect on the primary production', *Journal of Marine Systems*, vol. 153, pp. 1-9. <https://doi.org/10.1016/j.jmarsys.2015.08.004>

Darelius, E, Fer, I, Rasmussen, TAS, Guo, C & Larsen, KMH 2015, 'On the modulation of the periodicity of the Faroe Bank Channel overflow instabilities', *Ocean Science*, vol. 11, no. 5, pp. 855-871. <https://doi.org/10.5194/os-11-855-2015>

Hansen, B, Larsen, KMH, Hátun, H, Kristiansen, R, Mortensen, E & Østerhus, S 2015, 'Transport of volume, heat, and salt towards the Arctic in the Faroe Current 1993-2013', *Ocean Science*, vol. 11, no. 5, pp. 743-757. <https://doi.org/10.5194/os-11-743-2015>

Rasmussen, TAS, Olsen, SM, Hansen, B, Hátun, H & Larsen, KMH 2014, 'The Faroe shelf circulation and its potential impact on the primary production', *Continental Shelf Research*, vol. 88, pp. 171-184. <https://doi.org/10.1016/j.csr.2014.07.014>

Berx, B, Hansen, B, Østerhus, S, Larsen, KM, Sherwin, T & Jochumsen, K 2013, 'Combining in situ measurements and altimetry to estimate volume, heat and salt transport variability through the Faroe-Shetland Channel', *Ocean Science*, vol. 9, no. 4, pp. 639-654. <https://doi.org/10.5194/os-9-639-2013>

Larsen, KMH, Hátún, H, Hansen, B & Kristiansen, R 2012, 'Atlantic water in the Faroe area: sources and variability', *ICES Journal of Marine Science*, vol. 69, no. 5, pp. 802-808. <https://doi.org/10.1093/icesjms/fss028>

Hansen, B, Gaard, E, Debes, H & Larsen, KMH 2010, 'Abrupt interruptions in the spring bloom on the Faroe Shelf', *Fróðskaparrit - Annales Societatis Scientiarum Færoensis*, vol. 52, pp. 21-35.

Larsen, KMH, Hansen, B & Svendsen, H 2009, 'The Faroe Shelf Front: Properties and exchange', *Journal of Marine Systems*, vol. 78, no. 1, pp. 9-17. <https://doi.org/10.1016/j.jmarsys.2009.02.003>

Larsen, KMH, Hansen, B & Svendsen, H 2008, 'Faroe Shelf Water', *Continental Shelf Research*, vol. 28, no. 14, pp. 1754-1768. <https://doi.org/10.1016/j.csr.2008.04.006>

Eliassen, SK, Gaard, E, Hansen, B & Larsen, KMH 2005, 'A "horizontal Sverdrup mechanism" may control the spring bloom around small oceanic islands and over banks', *Journal of Marine Systems*, vol. 56, no. 3-4, pp. 352-362. <https://doi.org/10.1016/j.jmarsys.2005.03.005>

Hansen, B, Eliassen, SK, Gaard, E & Larsen, KMH 2005, 'Climatic effects on plankton and productivity on the Faroe Shelf', *ICES Journal of Marine Science*, vol. 62, no. 7, pp. 1224-1232. <https://doi.org/10.1016/j.icesjms.2005.04.014>

Hansen, B, Østerhus, S, Hátún, H, Kristiansen, R & Larsen, KMH 2003, 'The Iceland-Faroe inflow of Atlantic water to the Nordic Seas', *Progress in Oceanography*, vol. 59, no. 4, pp. 443-474. <https://doi.org/10.1016/j.pocean.2003.10.003>

Research outputs – Other Contributions

1. Mortensen, E, Larsen, KMH, Hansen, B, Hátún, H, Kristiansen, R & Østerhus, S 2023, *ADCP deployments in Faroese Waters 2022 - 2023*. Faroe Marine Research Institute.
2. Hansen, B, Larsen, KMH, Hátún, H, Mortensen, E & Kristiansen, R 2023, *Quality control and calibration of Faroe Bank Channel bottom temperature..*
3. Mortensen, E, Larsen, KMH, Hansen, B, Hátún, H, Kristiansen, R & Østerhus, S 2022, *ADCP deployments in Faroese Waters 2021 - 2022*. Faroe Marine Research Institute.
4. Hátún, H, Larsen, KMH, Jacobsen, S, Salter, I & Gaard, E 2022, *Open ocean nutrient sampling in Faroese water 2013-2020*. Faroe Marine Research Institute.
5. Mortensen, E, Larsen, KMH, Hansen, B, Hátún, H, Østerhus, S & Kristiansen, R 2021, *ADCP deployments in Faroese Waters 2020 - 2021*. Faroe Marine Research Institute, Tórshavn.
6. Mortensen, E, Larsen, KMH, Hansen, B, Hátún, H, Kristiansen, R & Østerhus, S 2020, *ADCP deployments in Faroese Waters 2019 - 2020*. Faroe Marine Research Institute, Tórshavn.
7. Larsen, KMH, Niclasen, BA, á Norði, G, Olsen, E, Patursson, Ø & Simonsen, K 2020, *Streymur og alda í umhvørvisfyrirsiting av firðunum*. Smárit, no. 01, vol. 2020, Havstovan. <https://www.hav.fo/PDF/Ritgerdir/2020/Smarit2001.pdf>
8. Mortensen, E, Larsen, KMH, Hansen, B, Hátún, H, Kristiansen, R & Østerhus, S 2019, *FARMON II Deployments in Faroese Waters 2018 - 2019*. Faroe Marine Research Institute, Tórshavn.
9. Mortensen, E, Larsen, KMH, Hansen, B, Hátún, H, Kristiansen, R & Østerhus, S 2018, *FARMON Deployments in Faroese Waters 2017 - 2018*. Faroe Marine Research Institute, Tórshavn.
10. Mortensen, E, Larsen, KMH, Hansen, B, Kristiansen, R & Østerhus, S 2017, *ADCP Deployments in Faroese Waters 2016 - 2017*. Faroe Marine Research Institute.
11. Mortensen, E, Larsen, KMH, Hansen, B, Kristiansen, R & Østerhus, S 2016, *NACLIM ADCP Deployments in Faroese Waters 2015 - 2016*. Faroe Marine Research Institute.
12. Mortensen, E, Larsen, KMH, Hansen, B, Kristiansen, R & Østerhus, S 2015, *NACLIM ADCP Deployments in Faroese Waters 2014 - 2015*. Faroe Marine Research Institute.
13. Larsen, KMH, Hansen, B, Svendsen, H & Simonsen, K 2002, The front on the Faroe Shelf. in *Shelf Seas Processes: The Foundation for Ecosystem Understanding: The Foundation for Ecosystem Understanding*. vol. CM 2002/P:10, ICES Annual Science Conference, vol. 2002.