NIELS DUTRIEVOZ

ECOLE NORMALE SUPÉRIEURE

Paris-Saclay

Born on 2 September 1997
French nationality

niels.dutrievoz@lsce.ipsl.fr
+ 33 6 13 43 32 62
https://
nielsdutrievoz.github.io/

5 boulevard de Port-Royal
75013 Paris
FRANCE

PROFILE

Scientific interests: Antarctica, climate and polar meteorology, climate modelling and water isotopes.

ACADEMIC CURSUS

2022 - 2025: PhD thesis at the Laboratory of Climate and Environmental Sciences, University of Paris-Saclay

2021 - 2022 : Pre-doctoral research year

Expedition Antarctique 2.0°C (https://www.j2d.org/antarctique2d)

2020 - 2021 : École Normale Supérieure de Paris - Master 2 in Geosciences

2018 - 2022 : École Normale Supérieure Paris-Saclay, Biology department

2017 - 2018 : Preparatory class BCPST, Lycée Saint-Louis, Paris

Admitted to École des Ponts Paris Tech (Rank: 5 / 286, top 1.8%)
Admitted to Agros Paris Tech
Admitted to the ENS de Lyon

2015 - 2017 : Preparatory classes BCPST, Ginette, Lycée Saint-Geneviève, Versailles

RESEARCH EXPERIENCES

2022 - 2025: PhD thesis at the Laboratoire des Sciences du Climat et de l'Environnement, Université Paris-Saclay

Thesis supervised by Cécile Agosta. Thesis title: Water vapour isotopes in Antarctica as tracers of boundary layer processes and large-scale dynamics.

2022 - Internship at the Centre for Environmental and Marine Studies (CESAM), University of Aveiro, 4 months.

Internship supervised by Irina Gorodetskaya and Claudio Durán-Alarcón. Study of the functioning and impacts of warm moisture intrusions associated with extra-tropical cyclones on the Antarctic Peninsula.

2022 - Internship at the Institute of Environmental Geosciences (IGE), Grenoble-Alpes University, 6 months.

Internship supervised by Jonathan Wille. Development of an algorithm to predict atmospheric rivers in Antarctica.

2021 - Internship at the Institute of Environmental Geosciences (IGE), Grenoble-Alpes University, 5 months.

Internship supervised by Vincent Favier and Juliette Blanchet. Climatology of Antarctic atmospheric rivers and statistical analyses of extremes.

2021 - 2022: Organisation of a research mission to Antarctica - Antarctica 2.0°C

Interdisciplinary study of climate change and the human footprint on the environment. This project, at the heart of the science-research-society relationship, is based on three axes: Research - Education - Awareness-raising.

2020 - Internship at the Laboratoire des Sciences du Climat et de l'Environnement (LSCE), Université Paris-Saclay, 5 weeks.

Internship supervised by Masa Kageyama and Sebastien Fromang. Study of mid- and high-latitude westerlies in the Southern Hemisphere at the Last Glacial Maximum: analysis of PMIP4-CMIP6 simulations

PUBLICATIONS

Ollivier, I., Lauwers, T., Dutrievoz, N., Agosta, C., Casado, M., Fourré, E., Genthon, C., Jossoud, O., Prié, F., Steen-Larsen, H. C., & Landais, A. Time series of the summertime diurnal variability in the atmospheric water vapour isotopic composition at Concordia station, East Antarctica. Earth System Science Data Discussions, 2025 (preprint). https://doi.org/10.5194/essd-2025-35

Dutrievoz, N., Agosta, C., Risi, C., Vignon, É., Nguyen, S., Landais, A., Fourré, E., Leroy-Dos Santos, C., Casado, M., Masson-Delmotte, V., Jouzel, J., Dubos, T., Ollivier, I., Stenni, B., Dreossi, G., Masiol, M., Minster, B., & Prié, F. Antarctic Water Stable Isotopes in the Global Atmospheric Model LMDZ6: From Climatology to Boundary Layer Processes. Journal of Geophysical Research: Atmospheres, 2024. DOI: 10.1029/2024JD042073

Landais, A., Agosta, C., Vimeux, F., Magand, O., Solis, C., Cauquoin, A., Dutrievoz, N., Risi, C., Leroy-Dos Santos, C., Fourré, E., Cattani, O., Jossoud, O., Minster, B., Prié, F., Casado, M., Dommergue, A., Bertrand, Y., Werner, M. Abrupt excursions in water vapor isotopic variability at the Pointe Benedicte observatory on Amsterdam Island. Atmospheric Chemistry and Physics, 2024. DOI: 10.5194/acp-24-4611-2024

Gorodetskaya, I. V., Durán-Alarcón, C., González-Herrero, S., Clem, K. R., Zou, X., Rowe, P., Rodriguez Imazio, P., Campos, D., Leroy-Dos Santos, C., Dutrievoz, N., Wille, J. D., Chyhareva, A., Favier, V., Blanchet, J., Pohl, B., Cordero, R. R., Park, S.-J., Colwell, S., Lazzara, M. A., Carrasco, J., Gulisano, A. M. Record-high Antarctic Peninsula temperatures and surface melt in February 2022: a compound event with an intense atmospheric river. npj Climate and Atmospheric Science, 2023. DOI: 10.1038/s41612-023-00529-6

Pohl B, V Favier, J Wille, DG Udy, TR Vance, J Pergaud, N Dutrievoz, J Blanchet, C Kittel, C Amory, G Krinner & F Codron (2021) Relationship between weather regimes and atmospheric rivers in East Antarctica. Journal of Geophysical Research: Atmospheres, 126, e2021JD035294. doi:10.1029/2021JD035294

INFORMATIQUE

Language: Python, Fortran, R, LateX

Software: Word, Powerpoint, Excel, Final Cut Pro, Première Pro

LANGUAGES (CEFR)

French (mother tongue), English B2 (IELTS: 6,5)

TEACHING

https://nielsdutrievoz.github.io/teaching

2023 - present: Climate Physics.

2023 - present: Systemic Analysis of the Anthropocene

Teaching assistant at ENSTA Paris, guiding students on climate science and systemic analysis of the Anthropocene.

OUTREACH

https://nielsdutrievoz.github.io/outreach

2022 - present : Popularising science on social networks

Creation of a popularisation channel on social networks *Ordres de grandeur* (100,000+ followers, 26+ million views).

2021 - present : Popularisation of science

Creation of a series of popular science films as part of the Antarctica 2.0°C project produced by ENS Paris-Saclay and the association Juste 2.0°C (7 x 15 minute videos).

2021 - Present: Educational mission

Participation in the pedagogical project of the Antarctic 2.0°C project: hundreds of classes.

2018: Creation of the association *Juste 2.0°C (*https://www.j2d.org/*)*

Juste 2.0°C is an association whose objective is to support and promote projects combining scientific research, awareness raising and citizen initiatives on the effects of climate change and anthropisation.

ACADEMIC REFERENCES

- Doctor Cécile Agosta - cecile.agosta@lsce.ipsl.fr
- Professor Gérald Peyroche - gerald.peyroche@ens-paris-saclay.fr