MICKAËL LALANDE

CONTACT

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Canada

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🚗 Driving licence

🏳 French nationality

SOCIAL NETWORKS

🐦 @LalandeMickael

💼 @mickaellalande

🐙 @mickaellalande

🌐 mickaellalande.github.io

COMPUTER SKILLS

- **Python** (xarray, proplot, dask, pandas, scipy, xesmf, keras, etc.)
- **Jupyter** Lab/Notebook
- **Linux**
- **GitHub**
- **Latex** (Overleaf)
- **Fortran**
- **Climate models:** LMDZ/ORCHIDEE (IPSL)
- **Supercomputer:** IDRIS, TGCC

LANGUAGES

- **French** (native speaker)
- **English** (fluent)

RESEARCH INTERESTS

Snow - Models - Parameterizations - General Circulation Models - CMIP6 - Mountain Areas - Arctic Regions - Deep Learning

CURRENT POSITION

Postdoc | Oct 2023 - Sep 2025 | UQTR (Trois-Rivières, Canada)
Snow cover heterogeneity and its impact on the Climate and Carbon cycle of Arctic regions (ESA CCI Fellowship)
(supervised by Christophe Kinnard)
↳ Snow Model Development - CLASSIC - Arctic regions

PROFESSIONAL EXPERIENCE

PhD Student | Oct 2019 - Feb 2023 | IGE (Grenoble, France)
Modeling climate trends and variability in High Mountain Asia to understand cryosphere changes
(supervised by Martin Ménégoz and Gerhard Krinner)
↳ CMIP6 - LMDZ/ORCHIDEE (IPSL GCM) - Snow Cover Parameterization

Master thesis | Feb 2019 - Jul 2019 | IGE (Grenoble, France)
Identification and filtering of oceanic chaos by Machine Learning
(supervised by Thierry Penduff and Redouane Lguensat)
↳ Oceanography - Chaos - Deep Learning - Spatial Altimetry

MSc internship | May 2018 - Jul 2018 | IGE (Grenoble, France)
Impact of Arctic sea ice variability on the northern latitude
(supervised by Olga Zolina and María Santolaria-Otín)
↳ Hydrological cycle - Models - Reanalyses

EDUCATION

PhD | 2019-2023 | Université Grenoble Alpes (Grenoble, France)
Earth and Environmental Sciences

MSc | 2017-2019 | Université Grenoble Alpes (Grenoble, France)
Majors in Atmosphere, Climate, and Continental Surfaces
(with highest honors)

BSc | 2013-2014 | Université Joseph Fourier (Grenoble, France)
Majors in Physics (with high honors)

BSc | 2012-2013 | Université Joseph Fourier (Grenoble, France)
Majors in Earth and Environmental Sciences (with honors)

PUBLICATIONS

Lalande, M., Ménégoz, M., Krinner, G., Ottlé, C., & Cheruy, F. (in review TC). **Reducing the High Mountain Asia cold bias in GCMs by adapting snow cover parameterization to complex topography areas**

Lalande, M., Ménégoz, M., Krinner, G., Naegeli, K., & Wunderle, S. (2021). **Climate change in the High Mountain Asia in CMIP6**. Earth System Dynamics, 12(4), 1061–1098. https://doi.org/10.5194/esd-12-1061-2021

TALKS

Lalande, M., Ménégoz, M., Krinner, G., & Ottlé, C: **Adaptation of a snow cover scheme for complex topography areas: regional calibration over High Mountain Asia and application in global models**, JMSC2022, International Symposium on Snow 2022, International Mountain Conference 2022, EGU2022, SnowHydro2022, https://doi.org/10.5194/egusphere-egu22-615

Lalande, M., Ménégoz, M., & Krinner, G.: **Climate change in the High Mountain Asia simulated with CMIP6 models**, EGU2021, https://doi.org/10.5194/egusphere-egu21-8365

Penduff, T., **Lalande, M**., Lguensat, R., Close, S., & Speich, S.: **Attenuating the ocean chaotic variability in altimetric observations: from band-pass filtering to machine learning**, AGU2019, OST/ST2019

TEACHING

ERCA school | Jan 2022 | UGA (Grenoble, France)
Practical works (4h), https://github.com/mickaellalande/ERCA (referent Didier Voisin)

Climatic and Environmental Variability | 2020 - 2021 | UGA
Tutored project (~ 6h), Python (3h), Practical works (6h) (referent Théo Vischel)

MISCELLANEOUS & REVIEWING ACTIVITIES

MC-Toolkit | 2019 - 2022 | IGE (Grenoble, France)
Organizer of computer tools meetings for research (Python, etc.)

Mountain Research School | Jun - Jul 2021 | French Alps
Interdisciplinary school to address issues in mountain territories

Lautaret Field Course | Feb - Mar 2018 | French Alps
Snow-Atmosphere interface (mass and energy balance of the surface, nivology, thermics, chemistry; referent Ghislain Picard)

Reviewing activities journals
Journal of Advances in Modeling Earth Systems (JAMES)