Edgar Dolores-Tesillos

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Education

2018–2022 **Ph.D. in Meteorology**

Freie Universität Berlin, Berlin, Germany

Thesis: *Changes in Extratropical Cyclone Dynamics in the North Atlantic in a Warming Climate*
Supervisor: Prof. Dr. Stephan Pfahl

2015–2018 **M. Sc. in Earth Science**

UNAM, Mexico City, Mexico

Thesis: *Detection of the impact of soil moisture on convective initiation in Mexico*

2009–2014 **B. Sc. in Atmospheric Sciences**

University of Veracruz, Veracruz, Mexico

Thesis: *Characteristic thermodynamics profile for a Norte event in the port of Veracruz.*

Research Experience

2023–Present **Postdoctoral Researcher**

University of Bern, Switzerland

Project: *Representation and Impacts of Atmospheric Blocking in the nextGEMS*
- Assessed biases in blocking frequency and dynamics in climate models
- Collaborated with international partners on large-scale circulation diagnostics and renewable energy impacts in Europe
- Experience with high-performance computing (DKRZ, Levante) and ensemble datasets

2018–2022 **PhD Researcher**

Freie Universität Berlin, Germany

Project: *Extratropical Cyclone Dynamics in CESM Large Ensemble*
- Analyzed storm track shifts, precipitation and wind extremes
- Used Python/Fortran for diagnostics, statistics, and visualization

Selected Publications

-**Dolores-Tesillos, E.**, Otero, N., and Allen, S. (2024). Projections of standardised energy indices in future climate scenarios. *Environmental Research Letters*. `https://doi.org/10.1088/1748-9326/ad9b3f`.

-**Dolores-Tesillos, E.**, Martius, O., and Quinting, J. (2024). On the role of moist and dry processes for atmospheric blocking biases in the Euro-Atlantic region in CMIP6. EGUsphere [Preprint]. https://doi.org/10.5194/egusphere-2024-2878.

-**Dolores-Tesillos, E.**, Teubler, F., and Pfahl, S. (2022). Future changes in North Atlantic winter cyclones in CESM-LE – Part 1: Cyclone intensity, potential vorticity anomalies, and horizontal wind speed, *Weather Clim. Dynam.*, 3, 429–448, https://doi.org/10.5194/wcd-3-429-2022.

- **Dolores, E.**, Caetano, E., López-Bravo, L. C., and Calheiros, A. (2019). Influence of soil moisture on mesoscale convective initiation in central Mexico. *European Journal of Remote Sensing*, 52(1), 640–652. https://doi.org/10.1080/22797254.2019.1700397.

Skills

Programming: Python, Fortran, Bash, R, MATLAB

Tools: CDO, NCO, xarray, netCDF, Git, LaTeX

HPC Experience: Levante (DKRZ), local clusters

Languages: English (fluent), Spanish (native), German (intermediate)

Teaching and Mentorship [Selected]

2025–Present: Lecturer: "Climate Risk Assessment" (labs and tutorials), University of Bern

2023–2023: TA: "Meteorologie 3" (tutorials), University of Bern

2020–2022: TA: "Synoptic Meteorology" (labs and tutorials), FU Berlin

2024–Present: Co-supervisor of MSc thesis on Mediterranean cyclones at University of Bern

2024–2024: Co-supervisor of BSc thesis on Wintertime eddy-driven Jet stream over the North Atlant at University of Bern

2023–2024: Co-supervisor of MSc thesis on tracking heatwaves in the Northern Hemisphere at University of Bern

Collaborations and Outreach [Selected]

Workshops: Organizer and instructor: nextGEMS "Hazard hackathon". From 14th to 18th October 2024 in Wageningen, The Netherlands.

Engagement: Speaker at GIUB Colloquium on atmospheric blocking representation in climate models (2025)