Athina Lange, Ph.D | Coastal Scientist

Seeking a position at the intersection of coastal science and policy, where I can apply my technical expertise in data analysis, modeling, and remote sensing to develop practical solutions and inform strategic decision-making for the sustainable management of coastal regions.

Contact

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LinkedIn Athina Lange

Technical Skills

- Coastal Oceanography
- Deep Learning
- Machine Learning
- Computer Vision
- Data Analysis and Visualization
- Numerical Modeling (SWASH, SWAN)
- Scientific Coding (MATLAB, Python)

Soft Skills

- Project Management
- Problem-Solving
- Technical Writing
- Public Speaking
- Adaptability
- Creativity

Language

English (Native)

French (Fluent, DALF C1)

German (Fluent, Abitur)

Certificates

FAA Part 107, UAV Pilot

PADI Advanced Open Water Scuba

Other Interests

Snowboarding

Knitting

Drone Piloting

- Skilled technical professional with a rigorous scientific and project management background, conducting innovative research in coastal processes.
- Experienced in achieving diverse research objectives by coordinating complex field campaigns and utilizing cutting-edge technology, including remote sensing, numerical modeling, and deep learning, to enhance data collection and analysis.

Education

2018 - 2023 Scripps Institution of Oceanography | San Diego, CA

Doctor of Philosophy (Ph.D), Oceanography

Thesis: Improved wave runup forecasts using remote observations and numerical models

Advisors: Mark Merrifield and Bob Guza

2014 - 2018 University College Dublin | Dublin, Ireland

Bachelor of Science (B.Sc.), Theoretical Physics

Experience

2024 - present US Geological Survey | Woods Hole, MA

Oceanographer

- Improving the USGS Total Water Level and Coastal Change Forecast by understanding the role that sandbars have on wave runup and our ability to generate accurate total water level forecasts, particularly during storm and hurricane conditions.

2023 - 2024 Scripps Institution of Oceanography | San Diego, CA

Postdoctoral Scholar

- Developed an innovative automated UAV rectification tool leveraging airborne LiDAR surveys and computer vision algorithms, reducing human oversight and enhancing efficiency in coastal monitoring projects.
- Coordinated a four-month-long field campaign involving cameras, LiDAR, and in-situ surveys to collect a comprehensive dataset of beach evolution during a beach nourishment.

2019 - 2023 Scripps Institution of Oceanography | San Diego, CA

Graduate Researcher

- Improved wave runup forecasting using a multidisciplinary approach:
  - Utilized nearshore numerical models to investigate the effect of nearshore bathymetry on wave runup for coastal hazard forecasting.
  - Used in-situ observations to better understand and quantify the nearshore wave field and create a more accurate boundary condition for numerical models.
  - Employed UAV remote sensing data to develop a neural network / deep learning to identify wave crests and improve bathymetry estimates.
- Organized a comprehensive four-month-long field campaign, overseeing the deployment and operation of 17 specialized instruments and managing a team of 15 personnel to ensure the successful execution of data collection and multiple research objectives.