

SYED DANISH ALI

[LinkedIn](#) | [Email](#) | [Website](#) | [GitHub](#)

PROFILE

- MSc researcher investigating regime shifts in Norwegian glaciers using empirical-statistical methods & machine learning.
- Now seeking a PhD opportunity in Climate & Ocean dynamics to advance skills in modeling, data analysis & machine learning—to analyze and predict abrupt changes in Earth system.

EDUCATION

Master of Science in Marine Environment & Resources

Erasmus Mundus Joint Master's Degree (MER2030)

Sep '23 - Sep '25

Europe, EU

- **Université de Bordeaux** (France), **Universidad del País Vasco** (Spain), **Université de Liège** (Belgium)
- GPA: 8.31 / 10 – *High honors*
- Nominated finalist – Prof. M.B. Collins Award for Best Master's Thesis (2025)
- Erasmus+ Scholarship & Grants

Bachelor of Science (Honors) in Geology

University of Delhi

Jul '20 - Jul '23

New Delhi, India

- GPA: 8.122 / 10 GPA – *First Division*
- Minor in Mathematics & Physics
- L. Austin Week's Undergraduate Grant (by American Association of Petroleum Geologists- U.S.A.)

RESEARCH EXPERIENCE

Visiting Researcher

University of Glasgow: School of Geographical and Earth Sciences ([Climate Dynamics Lab](#))

Feb '25 - Present

Scotland, U.K.

- **Master Thesis** titled “Detection and explanation of shifts in the climatic controls on Norwegian glaciers.” completed in August 2025, under the supervision of Dr. rer. nat. habil. Sebastian G. Mutz.
- **Web-Links:** [Thesis Manuscript](#) | [Presentation Recording](#)
- **Project aims:**
 - Quantifying shifts in glacier–climate relationships (pre-/post-2000) to detect potential regime changes.
 - Developing an empirical-statistical (downscaling) model framework for glacier mass balance.
 - Employing and testing multiple machine learning techniques and model types.
 - Coupling the best model(s) with GCMs (e.g. CMIP6) to predict future glacier trajectories.
- **Key Competencies:**
 - Designing and executing the research plan in collaboration with the supervisor.
 - Working with the ‘pyESD’ package to adapt and extend the package for glacier applications.
 - Drafting a peer-review-style manuscript of the thesis findings for submission to a Q1 journal.

Research Intern

Universidad del Pais Vasco (UPV/EHU)

Jul '24 - Aug '24

Plentzia, Spain

- **PlasteMER project** at Plentzia Marine Station
- Focused on the assessment of microplastic (MP) abundance in the Urdaibai Estuary, Basque Country.
- **Key Competencies:**
 - Assisting a PhD student involved in the project.
 - Operating a laminar-flow cabinet in a clean laboratory to minimize contamination.
 - Performing the chemical digestion of polychaete samples to quantify MP abundance.
 - Preparing laboratory reagents (e.g. acetic acid, ethanol, filtration membranes).

Research Intern
Universidad del Pais Vasco (UPV/EHU)

May '24 - Jul '24
Plentzia, Spain

- **ECOTRANSEAS project:** A Professional Placement in a European project at Plentzia Marine Station.
- Focused on the ecotoxicological analysis of ballast water from 3 ports in Spain (Algeciras, Bilbao, & Valencia).
- **Key Competencies:**
 - Categorizing and organizing water samples from the ports.
 - Measuring and analyzing the chemical properties of the water samples.
 - Conducting toxicity tests on sea-urchin embryos (SET, ICES, 2012) & polychaetes (coelomocytes viability).

OTHER EXPERIENCE

Student Help Team: Library Manager (Part-Time)
Universidad del Pais Vasco (UPV/EHU)

Apr '24 - Jun '24
Plentzia, Spain

- Management of the research archive at the Plentzia Marine Station.
- Responsibilities included cataloging & organizing the research paper archive, maintaining and preserving records, facilitating access, ensuring compliance with guidelines, and supporting research activities.

Gas Chromatography Analyst (Intern)
Greatwall Drilling Company

Nov '22 - Dec '22
Kuwait

- Gained an understanding about: Hydrocarbon detection and analysis, Gas thermal conductivity, Infra-red absorption, Gas sampling, separation, identification & measurement.

Mud Logger (Intern)
Geolog International Kuwait

Sep '22 - Oct '22
Kuwait

- Gained an understanding about: Petroleum generation & accumulation, Drilling techniques, Flow line analysis, Lithologic & Mineralogical analysis, Mud log charts & data analysis.

PROJECTS

Ecological Modeling – NPZDO₂ Biogeochemical Model:

- Extended NPZD framework model with oxygen dynamics for eutrophication management, nutrient speciation, & sediment interactions.
- Data Analysis & Visualization in R (used FME for parameter sensitivity).

2D Diffusion Model in Geophysics:

- Simulation of pollution patch using Finite Difference Method (FDM) with explicit and implicit numerical schemes (Neumann boundary conditions & optimized CFL constraints for stability).
- Programming with Julia (in Jupyter Notebook) to test diffusion models using sparse matrices and iterative solvers for efficiency.

Sertraline Toxicity in Copepods (*Acartia tonsa*):

- Designed an acute toxicity bioassay: Sertraline (SRT) on marine copepods over 24h and 48h exposure.
- Conducted ANOVA, Probit analysis, and time-dependent mortality tests using R and IBM SPSS.

Estuarine Hydro-Sedimentary Model- Gironde Estuary, France:

- Processed ADCP velocity profiles, CTD-derived salinity, turbidity, and oxygen using R.
- Processed multispectral reflectance data to map SPM and turbidity zones (using ArcGIS & LANDSAT-8 imagery).
- Implemented bottom-tracking ADCP methods to quantify sediment transport dynamics and turbulence during tide reversals.

Ecological Quality Assessment of Intertidal Communities in Bilbao, Spain:

- Applied PRIMER & PERMANOVA for statistical analysis of ecological community structures (Macrobenthic fauna diversity & pollution gradient impacts) in La Salvaje and Arrigunaga, Bizkaia, Spain.
- Identified long-term ecological recovery trends through historical data comparisons.

SKILLS

- **Technical:**
 - Programming: R (Intermediate), Python (Intermediate), Julia (Beginner)
 - Typesetting: LaTeX
 - GIS: QGIS & ArcGIS (Intermediate), SNAP (Sentinel Application Platform)
 - IBM SPSS Statistics
 - Microsoft Office Suite: Excel, Word, Access, etc.
 - Mathematica (Wolfram), Circuit designing (LT Spice)
 - Adobe: Photoshop, Illustrator, AI
- **Language:**
 - English: C2
 - French: A1
 - Hindi: C2
 - Urdu: C1
- **Other:**
 - International Driving License Permit

MEMBERSHIPS

- American Association of Petroleum Geologists (AAPG) : (2021- Present)

REFERENCES

1. **Name:** Dr. rer. nat. habil. Sebastian G. Mutz
Capacity: Master Thesis Supervisor
Institute: University of Glasgow, Scotland (UK)
Email: Sebastian.Mutz@glasgow.ac.uk
2. **Name:** Prof. Manuel Soto
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