

Gouri Anil

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EDUCATION

LOUISIANA STATE UNIVERSITY	Baton Rouge, LA
PhD Candidate , Department of Oceanography and Coastal Sciences	August 2022 - August 2026
CGPA: 4.18	Expected
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY	Kerala, India
MSc in Physical Oceanography	August 2019 - June 2021
CGPA: 9.69	
MAR ATHANASIUS COLLEGE OF ARTS AND SCIENCES	Kerala, India
BSc in Physics	June 2016 - May 2019
CGPA: 9.43	

RESEARCH EXPERIENCE

LOUISIANA STATE UNIVERSITY	Baton Rouge, LA
PhD Candidate	August 2022–Present

Assessing Impacts of Stratospheric Aerosol Injection (SAI) on Coral Bleaching and Marine Climate Exposure

Advisor: Dr Cheryl S Harrison
Committee: Dr Daniel Holstein, Dr Junhong Liang, Dr Gaurav Kandlikar

Impacts of timing and level of SAI on Coral Thermal Bleaching

Collaborators: Dr Joan Kleypas (NCAR and Raising Coral Costa Rica), Dr. Thomas Oliver (NOAA), Dr. Danielle Jayewardene (NOAA), Dr. Daniel Holstein (Stony Brook University), Dr Tyler Felgenhauer (Duke University)

Marine climate exposure under SAI and assessing socio-economic impacts to global nations

Collaborators: Dr. Daniel Boyce, Dr. Kelsey Roberts

Building an Observation-Based Model to Predict Coral Bleaching from Both Heat and Light Stress to Assess Impacts of SAI

Collaborators: Dr. Thomas Oliver (NOAA)

INDIAN NATIONAL CENTRE FOR OCEAN INFORMATION SYSTEMS (INCOIS)

Graduate Researcher
Advisor: Dr Abhisek Chatterjee (Senior Scientist, INCOIS)
Understanding Marine Heatwaves in the Arabian Sea

Hyderabad, India
December 2020 – May 2021

INDIAN INSTITUTE OF TECHNOLOGY

Undergraduate Summer Research Fellow
Advisor: Dr Varun Bhalerao
X-Ray data analysis of a pulsar Centaurus X-3 using NASA HEASoft

Mumbai, India
May 2018 – July 2018

GRANTS AND FUNDING

Concept Lead and Lead Proposal Writer: *Preventing Coral Bleaching Through SAI: An Observation-Based Model to Predict Coral Bleaching from Both Heat and Light Stress to Assess Impacts of Stratospheric Aerosol Injection*

Environmental Defense Fund, 2025 — Accepted for Funding

PI: Dr. Cheryl S Harrison, Co-PI: Dr Thomas Oliver

PUBLICATIONS

[Google Scholar](#)

Manuscripts in Preparation (Target Submission: Early December 2025)

G. Anil, C.S. Harrison, J.A. Kleypas, D. Holstein, T.A. Oliver, V. Garza, K.E. Roberts, T. Felgenhauer, D. Jayewardene, *Impacts of Timing and Level of Stratospheric Aerosol Injection on Coral Thermal Bleaching*, AGU Earth's Future

Submitted

L. Kounta, L. Luo, **G. Anil**, D. Hueholt, C. S. Harrison, D. Visioni, M. Tye, T. Felgenhauer, A. T. Gaye, P.L. Zarnetske, *Climate Intervention through Stratospheric Aerosol Injection may partially mitigate marine heatwaves*, ESS Open Archive. November 29, 2025.

DOI: 10.22541/essoar.176442822.27571009/v1

In prep

H.C. Olivarez, C. S. Harrison, J. S. Coupe, B. Kravitz, **G. Anil**, V. Garza, N. S. Lovenduski, *Impacts of Climate Intervention on Ocean Acidification and the Aragonite Saturation Horizon*, Environmental Research Letters (in prep).

E.K. Asante, C.S. Harrison, L. Gouvea, **G. Anil**, J. Assis, K. Cavanaugh, *Projected Impacts of Stratospheric Aerosol Injection on Global Mangrove Distribution, Aboveground Biomass, and Carbon Stocks* (in prep)

In Review

K. E. Roberts, C. S. Harrison, ... **G. Anil**..., *Potential impacts of climate interventions on marine ecosystems*, Reviews of Geophysics, Revised and Submitted, 2025,
DOI: 10.22541/essoar.173482381.11257447/v1

Published

A. Chatterjee, **G. Anil**, L. R. Shenoy, *Marine Heatwaves in the Arabian Sea*, Ocean Science, 2022,
DOI: 10.5194/os-18-639-2022

PRESENTATIONS

ORAL

G Anil, CS Harrison, JA Kleypas, D Holstein, TA Oliver, V Garza, K Roberts, T Felgenhauer, D Jayewardene, *Impacts of Timing and Level of Stratospheric Aerosol Injection on Coral Bleaching*, AGU Fall Meeting, December 2025 (scheduled)

G Anil et al, *Do we need Stratospheric Aerosol Injection to save Corals?*, AGU Fall Meeting, December 2025 (scheduled)

G Anil, Thesis Presentation, LSU 3-Minute Thesis Competition, November 2025

G Anil et al, *Assessing Impacts of Stratospheric Aerosol Injection on Coral Bleaching*, LSU College of Coast and Environment Annual Graduate Student Symposium, April 2025

G Anil et al, *Assessing Impacts of Stratospheric Aerosol Injection on Coral Bleaching*, Reef Futures, December 2024

POSTERS

G Anil et al, *Do we need Stratospheric Aerosol Injection to save Corals?*, AGU Fall Meeting, December 2025 (scheduled)

G Anil et al, *Assessing Impacts of Stratospheric Aerosol Injection on Coral Bleaching*, LSU Graduate Research Conference, April 2024

L Kounta, **G Anil**, DM Hueholt, CS Harrison, AT Gaye, PL Zarnetske, *Can solar radiation modification mitigate future increases in marine heatwaves?*, American Geophysical Union, Ocean Sciences Meeting, February 2024, **Presenting author**

G Anil et al, *Impacts of Stratospheric Aerosol Injection on Coral Bleaching*, American Geophysical Union, Ocean Sciences Meeting, February 2024

WORKSHOPS

- Community Climate Intervention Strategies (CCIS) Workshop, Arizona, US, April 2024, Notetaker
- Marine Geoengineering Scenario Design Workshop, San Diego, CA, Scripps Institute of Oceanography, University of California, March 2023, Rapporteur
- Designing Scenarios for Climate Intervention Strategies, Boulder, CO, National Center for Atmospheric Research, October 2022
- MARICON International Conference on Frontiers in Marine Science, Kochi, Kerala, School of Marine Sciences, Cochin University of Science and Technology March 2019, Volunteer and Session Host

AWARDS AND FELLOWSHIPS

- Selected as a finalist for the LSU 3-Minute Thesis Competition
- Graduate Excellence Award for Academic Achievement, School of Marine Sciences, Cochin University, 2022
- Indian Academy of Sciences Summer Research Fellowship, 2019
- Indian Academy of Sciences Summer Research Fellowship, 2018

TECHNICAL SKILLS

- Programming Languages: Python, R
- Modeling: Experience running Community Earth System Model Simulations, Model Data Processing
- *Climate Data Processing and Visualization*: netCDF, xarray, geopandas, matplotlib, CDO
- Spatial Tools: QGIS
- Experience writing successful large allocation proposals (NCAR Derecho)

SERVICE

Co-reviewer for Journal of Geophysical Research – Oceans with Dr Cheryl S Harrison

TEACHING

Teaching Assistant for Introduction to Oceanography (Fall 2023 and 2024)

OUTREACH

- Student Host for Ocean Commotion Outreach Event by LSU
- Student Host for LSU College of Coast and Environment Open House
- Coast and Environment Graduate Organization Secretary
- Volunteer and Shelter Team Lead at a non-profit Guardians of Dreams, India
- Volunteer and Art Teacher at The Art Outreach Society, India