

# Gouri Anil

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## EDUCATION

LOUISIANA STATE UNIVERSITY

**PhD Candidate**, Department of Oceanography and Coastal Sciences

CGPA: 4.18

Baton Rouge, LA

August 2022 - August 2026

Expected

COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

**MSc in Physical Oceanography**

CGPA: 9.69

Kerala, India

August 2019 - June 2021

MAR ATHANASIOS COLLEGE OF ARTS AND SCIENCES

**BSc in Physics**

CGPA: 9.43

Kerala, India

June 2016 - May 2019

## RESEARCH EXPERIENCE

LOUISIANA STATE UNIVERSITY

PhD Candidate

Baton Rouge, LA

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