

Santiago Bravo

Oceanographer — Marine Pollution Modeler

CMCC Foundation — Euro-Mediterranean Center on Climate Change · Lecce, Italy

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LANGUAGES

Portuguese & Spanish — native
English — fluent
Italian — in progress

03 EDUCATION

M.Sc. Oceanography

2022 — 2024

Federal University of Pernambuco · CAPES scholarship. Coastal processes and oil distribution in beach–estuary–reef ecosystems. Advisor: Mirella B. S. F. Costa.

B.Sc. Oceanography

2014 — 2020

University of São Paulo · CNPq scholarship. Coastal vulnerability to erosion at Massaguaçu Beach. Advisor: Eduardo Siegle.

Mitacs Globalink Research Internship

2019

University of Victoria, Canada · The Juanes Lab. The systematized review that became FishSounds.

ONSHORE / RESEARCH

OFFSHORE / AT SEA

01 PROFILE

Oceanographer (University of São Paulo) with an M.Sc. from the Federal University of Pernambuco, bridging numerical modeling, geospatial analysis, environmental monitoring and bioacoustics. At CMCC I model marine pollutant dispersion and its hazards — oil, produced water and litter — from 24/7 operational forecasting to risk assessment and digital twins. Before that, four years in offshore oil & gas licensing, preceded by a decade of field and laboratory work with marine fauna and Brazilian protected areas.

02

Current work

2024 — Present



Marine Pollution Modeler

2024 — Present

CMCC Foundation · Lecce, Italy

Oil spill, produced-water and marine-litter dispersion modeling; hazard, vulnerability and risk assessment across the Mediterranean and its coasts. Operational forecasting of spill drift and weathering with MEDSLIK-II — satellite detections and met-ocean data combined into forecasts up to 10 days ahead for the **Italian Coast Guard, ISPRA and MASE**.

PROJECTS

SIM — integrated monitoring & forecasting

2024–2026

PNRR / MASE, coordinated by Exprivia. **Scientific lead** of the produced-water use case (CU 3.3); oil spill drift (3.2) and risk analysis (3.5).

EDITO-Model Lab

2023–2025

European Digital Twin Ocean, Horizon Europe. Next-generation models hosting the WITOIL and SURF coastal services.

LIFE CONCEPTU MARIS

2022–2026

EC LIFE, coordinated by ISPRA. Lagrangian modeling of floating debris on ferry-based Mediterranean transects.

iMagine

2022–2025

EC, coordinated by EGI. Machine-learning image analysis for aquatic science — the oil spill modeling suite.



Co-founder — Observatório da Chapada do Araripe

2026 — Present

Non-profit scientific, educational and socio-environmental association · Crato, Ceará, Brazil

Open science, made from the territory — interdisciplinary projects across climate, ecology and conservation, and monitoring platforms built with the traditional communities of the Chapada do Araripe. observatoriodachapadadoararipe.com

07 TRAINING 19 · 500+ h

OFFSHORE & FIELD

CBSP & HUET offshore safety Shelter, 60 h
PAM operator Biosonar, 50 h
Multibeam hydrographic surveys PGGM
EIVA navigation data integration EIVA

GEOSPATIAL & DATA

Drone mapping & photogrammetry G Drones, 20 h
Cartography and Geo Apps ESRI
Power BI Bloom, 30 h

OCEAN SCIENCE & GOVERNANCE

Ocean Governance, Ocean Sciences & Geoethics IOI Malta, 120 h
Human Rights, Human Wrongs SDG Academy, 66 h
One Planet–One Ocean Kiel / GEOMAR, 20 h and 8 further short courses

08 AWARDS

Mitacs Globalink award

2019
Competitive research internship for international undergraduates Canada

National Society of High School Scholars

2012
Academic achievement and community service

FIELD KIT

CTD rosettes · USBL acoustic positioning · Dropcam and ROV video · box and gravity corers · plankton nets · multibeam and side-scan sonar · passive acoustic recorders
PADI Advanced Open Water Diver

02 Previous experience

May–Jun
2024

Environmental Party Chief

Semi-submersible rig Alpha-Star & vessel Maersk Maker · offshore Brazil

Led the environmental teams aboard both units — deep-water seabed imaging through ROV footage.

2020–2023

Environmental Analyst

CLS Brasil (A Collecte Localisation Satellites Company) · Rio de Janeiro

Environmental characterization and monitoring, seabed imaging, spill vulnerability analyses, environmental databases and numerical modeling under offshore licensing. Member of a 24/7 emergency response team for spill response and search & rescue.

12+

MONITORING & CHARACTERIZATION
SBM,
TOTALENERGIES,
KAROON, TRIDENT

4

LICENSING & VULNERABILITY
PETROBRAS, 3R,
TRIDENT

2

BASINS COVERED
SANTOS & CAMPOS

2023

Seabed mapping & characterization — Port of Suape

Technical consultancy · Pernambuco, Brazil

Bathymetry, sonography and sedimentology of the port's continental shelf.

2018–2020

Researcher — Coastal Dynamics Laboratory

University of São Paulo · Prof. Eduardo Siegle

Coastal vulnerability to erosion at Massaguaçu Beach: GIS, Delft3D wave modeling and multicriteria vulnerability indices.

2019

Instituto de Recifes Costeiros & ICMBio/CEPENE*Research and fishery monitoring · Pernambuco*

Fishery monitoring and research on the effects of the 2019 oil spill on artisanal fisheries.

2018

North Coast Marine APA & São Sebastião ARIE*Fundação Florestal · State of São Paulo*

GIS vectorization of the Participatory Diagnosis maps for the protected-area management plan.

2018

Serra da Bodoquena National Park*ICMBio · Mato Grosso do Sul*

Mammal and bird bioindicators surveyed along a 5 km transect.

2016–2019

Management, Ecology & Marine Conservation Lab*University of São Paulo · Prof. Alexander Turra*

GIS mapping for Marine Protected Area management plans, fishery management assessments and technical review of Environmental Impact Assessments.

2016–2017

Tupinambás Ecological Station*ICMBio · Ubatuba, São Paulo*

Sun coral monitoring by free diving; management meetings of the Alcatrazes and Tupinambás protected areas.

2016

Marine Ichthyoplankton Biology & Ecology Lab*University of São Paulo · Prof. Mario Katsuragawa*

Identification, photography and measurement of fish larvae by stereomicroscopy.

2015

Uatumã Biological Reserve*ICMBio / CPPMQA · Amazonas*

Coordinated the Biodiversity Monitoring Programme; Amazonian chelonian nesting and captive-animal handling.

2015

Projeto Baleia Franca / Instituto Australis*Imbituba, Santa Catarina*

Field monitoring of southern right whales, stranding response and environmental education.

2014–2015

Illustrated Guide to Fishes of the São Paulo Coast*USP extension project · Prof. June Ferraz Dias*

Laminated field cards for identifying fishes of ecological and economic importance.

2014–2015

Reproduction & Recruitment Ecology Lab · CPPQA*University of São Paulo / CPPQA*

Ichthyofauna data collection and sorting; volunteer environmental agent for aquatic mammals and chelonians.

04 Publications & outputs

orcid.org/0000-0002-8299-0997



- 2026 Calcareous nannofossils of the Araripe Basin: Aptian/Albian of central Gondwana — *Journal of South American Earth Sciences*
- 2026 Chapada do Araripe Deforestation Monitor (v2.0.0) — *software · Zenodo*
- 2026 SIM MASE early warning system for the Italian seas — *EGU General Assembly*
- 2026 Produced water discharge modeling with TAMOC and ChemicalDrift — *EGU General Assembly*
- 2026 Macro litter in Lagrangian particle tracking — *EGU General Assembly*
- 2025 FishSounds v2 & v3 — achieving the largest global database of fish sound production — *Global Ecology and Biogeography*
- 2025 Operational monitoring and forecasting of the Kerch Strait oil spill accident — *EGU General Assembly*
- 2025 WITOIL service in the European Digital Twin Ocean — *EGU General Assembly*
- 2025 Coastal oil spill risk via Digital Twins — WITOIL and SURF in EDITO — *AGU Fall Meeting*
- 2024 Fish sound production research: historical practices and ongoing challenges — *Effects of Noise on Aquatic Life · Springer*
- 2024 FishSounds v1.1: data archive, user experience and online resources — *Effects of Noise on Aquatic Life · Springer*
- 2024 World Register of Marine Species underwater sonifery data repository — *dataset · Borealis*
- 2024 Seabed Imaging Protocol — standardizing georeferenced seabed data — *Rio Oil & Gas · IBP*
- 2024 Coastal processes and the oil distribution pattern in beach–estuary–reef ecosystems — *M.Sc. dissertation · UFPE*
- 2023 Global inventory of underwater sonifery — *Scientific Data · Nature*
- 2023 FishSounds v1.0 — a website for fish sound production information and recordings — *Ecological Informatics*
- 2023 Acoustic behaviors of subtropical fish — *Journal of the Acoustical Society of America*
- 2023 FishSounds: a data-sharing website of global soniferous fish diversity — *Acoustics 2023 Sydney*
- 2022 A quantitative inventory of global soniferous fish diversity — *Reviews in Fish Biology and Fisheries*
- 2022 Sampling grid definition — Block C-M-541, Campos Basin — *Rio Oil & Gas · IBP*
- 2020 Coastal vulnerability to erosion at Massaguaçu Beach — *B.Sc. thesis · IOUSP*