

Newsletter Highlights

Science Plan published soon!

DNA Metabarcoding Activity

COESSING 2026 underway in Nigeria!

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BioGeoSCAPES in a nutshell

Whether you are new to BioGeoSCAPES or have been with us since the beginning, we think this is a good time for a quick look at who we are, what we are working toward and where BioGeoSCAPES is headed next.

The **vision** for BioGeoSCAPES is to achieve an integrated and predictive understanding of the global ocean metabolism and its role in shaping biogeochemical cycles and climate, empowering society to better address the impacts of global change.

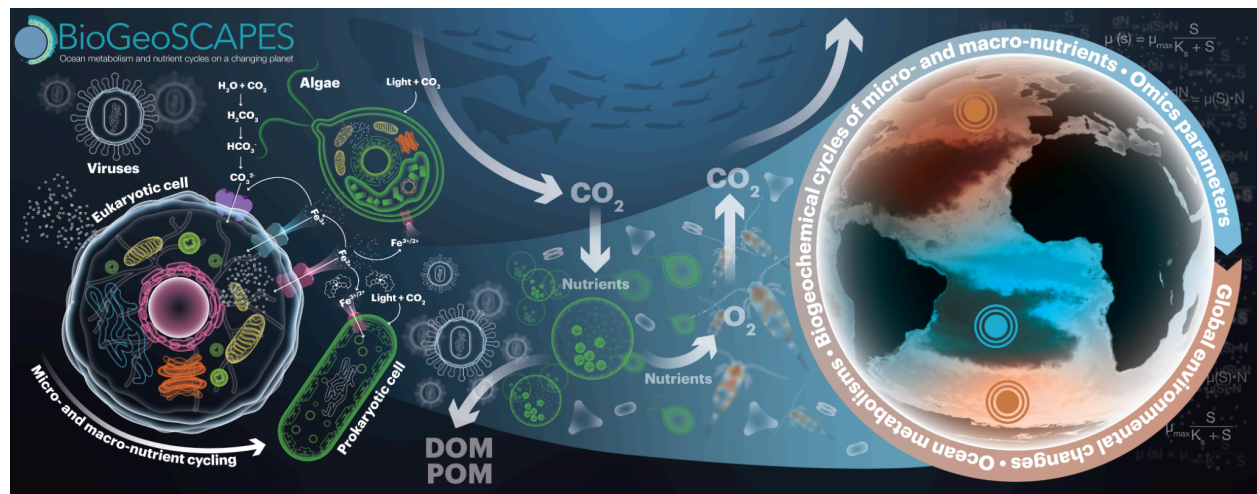


Illustration by Dr. Ichiko Sugiyama

To execute this vision, BioGeoSCAPES's **mission** is to measure the global distribution of marine microbes and chemical drivers (*States*), quantify the microbial metabolisms regulating planetary nutrient cycles (*Rates*), and integrate these insights, using next-generation biogeochemical models to deliver the predictive capabilities required to forecast ecosystem resilience in a rapidly changing planet (*Fates*).

The BioGeoSCAPES Program is international and interdisciplinary, encompassing oceanic expeditions across all ocean basins, localized spatial studies of key regional

and coastal ecosystems including process and time-series studies, laboratory experiments, and modeling and informatics research.

Together, these activities span the scales needed to connect observations of marine microbes and their environments with the processes that regulate ocean biogeochemistry, and, ultimately, the capacity of marine ecosystems to respond to global environmental change.

BioGeoSCAPES SCIENCE PLAN

After more than a decade of organizing and planning, the BioGeoSCAPES community has collectively developed a Science Plan that provides a roadmap for the program. It outlines the scientific questions BioGeoSCAPES will address, the approaches, collaborations, and infrastructure needed to advance them, and a framework for connecting the many existing and emerging research efforts that contribute to understanding ocean metabolism and biogeochemical cycles. The Plan includes the three science themes (States, Rates, and Fates), as well as an Implementation chapter.

Thank you to the 60+ volunteer scientists representing 16 nations who contributed as authors to the BioGeoSCAPES Science Plan, as well as to the many members of the BioGeoSCAPES community who provided feedback throughout its development and to the external reviewers from the Scientific Committee on Oceanic Research (SCOR). Their contributions have helped shape and strengthen the final Science Plan, which has undergone multiple rounds of internal and external review. We also extend a special thank you to Dr. Ichiko Sugiyama, who created the new cover art for the Science Plan. **The final, published version will be publicly available soon.** We can't wait to share it with you!

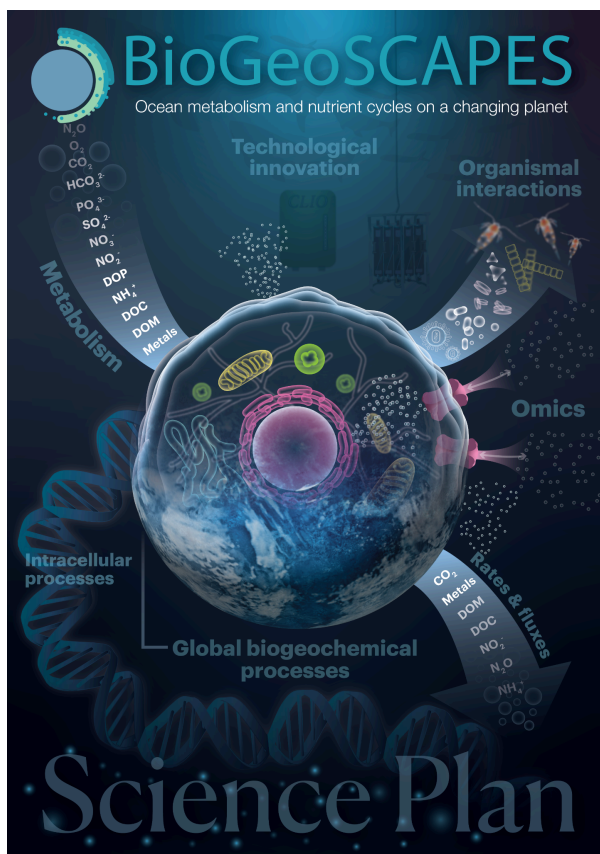
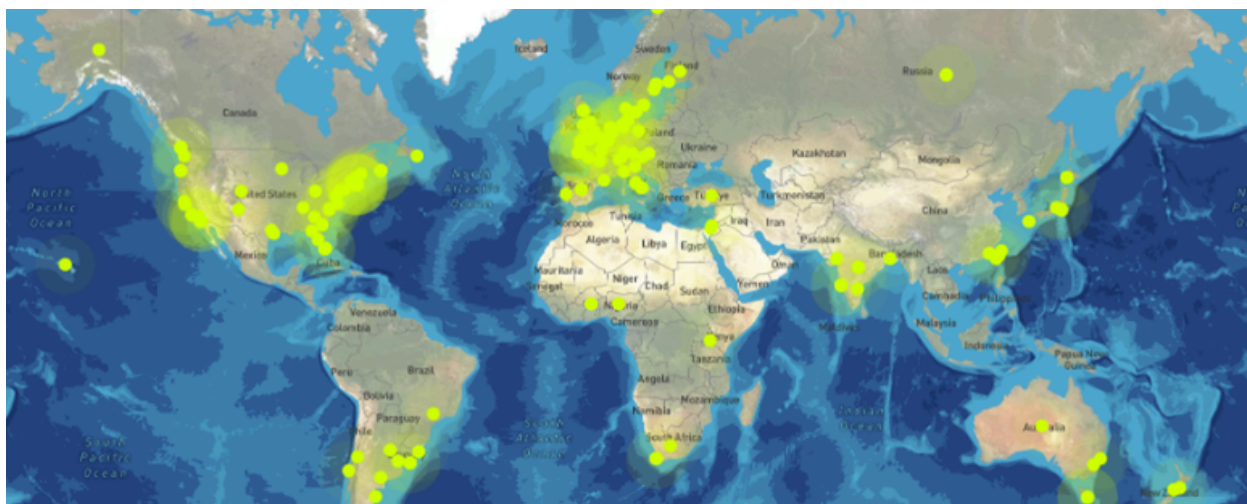


Illustration by Dr. Ichiko Sugiyama

Our Community is Growing!

From around the world, the BioGeoSCAPES community is coming together to tackle some of the biggest questions in ocean science, and we are excited to continue growing this diverse, collaborative network. We're delighted to welcome four new BioGeoSCAPES Ambassadors: Bassey Bassey of the Nigerian Institute for Oceanography and Marine Research (NIOMR), Nigeria; Viktoria Emeka of the University of Calabar, Nigeria; Lailah Gifty Akita of the University of Ghana; and Valeria Guinder of the National Scientific and Technical Research Council of Argentina (CONICET). Together, our growing community is building the connections and partnerships needed to better understand ocean metabolisms and biogeochemical cycles. Visit biogeoscapes.org/community to explore our network and check out our global representation on the map below!



BioGeoSCAPES Working Groups

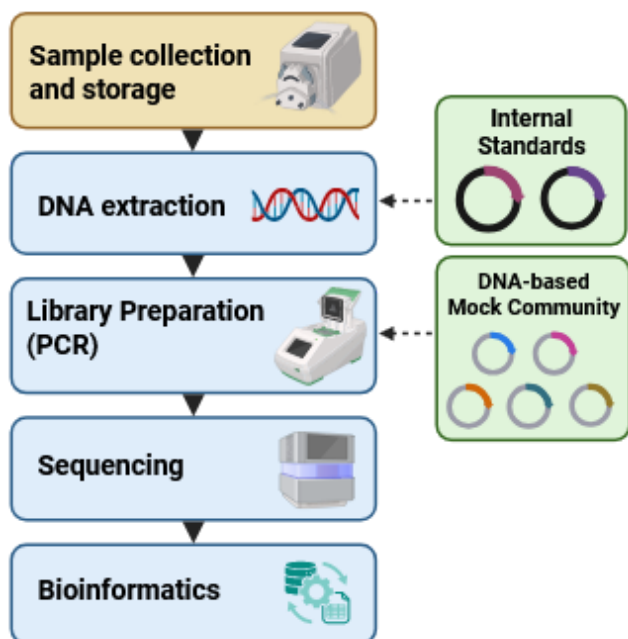
The BioGeoSCAPES **Informatics Working Group** and **Standardization and Intercalibration Working Group** have now been assembled and are getting to work! Both groups are currently planning workshops for 2027 to advance key BioGeoSCAPES priorities around data, informatics, standardization, and intercalibration across the community.

Keep an eye out for additional updates soon as these groups develop their plans and workshop details take shape!

Ocean Metabarcoding Intercomparison

An effort to **intercompare metabarcoding of marine microbial communities** has begun, supported by the Ocean Carbon & Biogeochemistry (OCB) Project Office and

BioGeoSCAPES. This working group is conducting an international intercomparison of metabarcoding results using standardized materials to develop guidance on best practices for laboratory procedures and data analysis. The group has developed and shared educational resources, including wet-lab protocols and bioinformatic workflows, and has trained participants new to metabarcoding data analysis.



Participants will now prepare and analyze samples targeting 16S or 18S sequences and contribute to a synthesis meeting, with protocols and workflows made publicly available. Applications and advancements in metabarcoding are shared in public bi-monthly webinars.

Join us for the **next webinar** of the OCB Intercomparing metabarcoding of marine microbial communities working group.

Date: Tuesday September 22, 1PM ET

Speakers: Jed Fuhrman and Tatiana Ryneearson

To learn more, visit <https://www.us-ocb.org/metabarcoding-intercal-working-group/>

OceanWiki is now live!

OceanWiki is a community-driven platform for explicitly describing and sharing sampling methods and models. Anyone with an account can contribute by improving definitions and descriptions, and referencing protocols and code. It's open to everyone, from undergrad to emeritus. Visit the website and the 'How to Contribute' page to get started, or scan the QR code to tell us what topics you care about, what you can contribute and sign up for updates. Your input will directly shape this important community resource.



Looking for
OceanWiki?

Click here or visit
www.biogeoscapes.net
to check it out and
contribute!

COESSING 2026 is underway in Calabar, Nigeria!

BioGeoSCAPES is excited to support a third year of omics instruction at the Coastal Ocean Environment Summer School in Nigeria and Ghana (COESSING), held this year at the University of Calabar in Nigeria as part of the Biogeochemistry of Water module. Instructors Katie Roche, Amina Schartup, Unyime Umoh, and Mak Saito are pictured on the right; Hannah Adams, also an instructor, is not shown.

The omics module included field sampling, sensor deployment, laboratory analysis including DNA extraction and PCR, PlanktoScope visualizations, an introduction to Python programming, and lectures on microbial biogeochemistry, omics, and opportunities to engage with the BioGeoSCAPES program. The photos below highlight several of these hands-on training activities. We're excited to share more about the collaborative projects emerging from these training sessions and to see where this work leads!

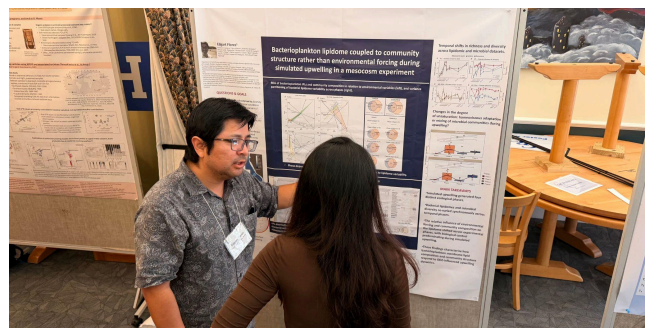
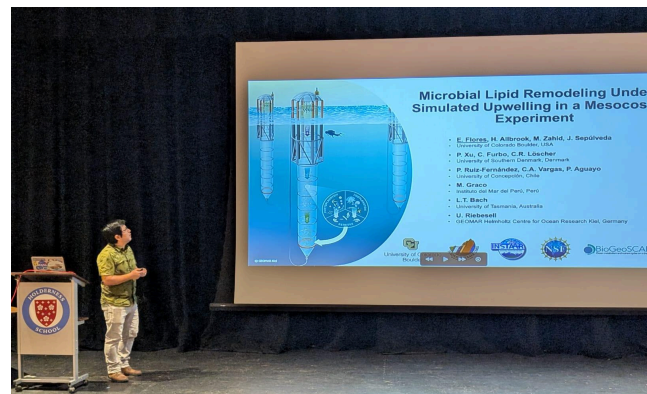


BioGeoSCAPES Fellows in Action

The BioGeoSCAPES Fellows Program has supported two cohorts of early career researchers, including postdocs and senior graduate students, working across ocean metabolism, biogeochemical cycling, biological and chemical oceanography, and marine microbiology, with expertise spanning experimental and modeling approaches.

Fellows receive professional development awards that support travel for laboratory exchanges, courses, workshops, conferences, and other collaborative opportunities. They also participate in monthly networking activities for at least one year and come together for an in-person workshop designed to foster collaboration, professional development, and connections across disciplines.

Our Fellows have been busy! Below are a few highlights from their recent activities and collaborations supported by AccelNet BioGeoSCAPES Fellows Awards:



Pictured left: Fellows Sharvari Gadegaonkar (Sorbonne Université, French National Centre for Scientific Research (CNRS), Paris, France) and Swan Sow (Laboratoire des Sciences du Numérique de Nantes (LS2N), Nantes, France) during a visit to the Woods Hole Oceanographic Institution. *Pictured top and bottom right:* Fellow Edgar Flores (Center for Marine Environmental Sciences (MARUM), University of Bremen, Germany) presents his research at the 2026 GRC Marine Microbes conference in Barcelona, Spain.

NEWS FROM OUR NETWORK

The PRIMO SCOR Working Group Inventory of Oceanographic Physiological Assays is ready for community review, and we need your input.



Physiology and Rates in Microbial Oceanography
PRIMO SCOR WG

Help us improve our inventory of oceanographic physiological assays

Our goal: Develop a framework to co-design physiological metrics to link 'omics and biogeochemistry. You can read more about us here: www.primoscorwg.org

Our first step: Compile an inventory of metrics used in biological oceanography to determine physiological rates and their potential readiness to be used in biogeochemical models.

Our ask: Your input and expertise is greatly appreciated to identify where information is incomplete or could be improved!

Scan the QR code to share your feedback!

Co-design and assay development
Next generation marine microbial physiology
Novel sampling platforms
Computational biology and modeling
Capacity Building

This resource compiles established and emerging physiological metrics to help connect omics datasets with biogeochemical models of the marine ecosystem. It includes details on currencies, units, assumptions, uncertainties, and key references.

The inventory is organized into:

- Primary Production
- Secondary Production
- Nutrient Fluxes
- Interactions

Please review the section(s) you are most familiar with and share suggestions for missing data or improvements. Your feedback will help make this a valuable community tool.

 [View the Inventory](#)
 [Submit Feedback](#)

RESOURCES



Help connect researchers from underrepresented regions with new collaborations at sea.

Looking for Jobs, Postdocs or Professional Development Opportunities?

Check out www.biogeoscapes.org/jobs for an up-to-date list of opportunities! Want to advertise a position with us? Email info@biogeoscapes.org with the details.

IN CASE YOU MISSED IT...

Championing Early-Career Scientists in Interdisciplinary Research

A recent *Nature Microbiology* article by BioGeoSCAPES Early Career Fellows and leaders highlights the importance of including early-career scientists in shaping interdisciplinary programs. The concept was developed at the first cohort Fellows workshop at the Santa Fe Institute in August 2024.

Krinos A.I., Muratore D., Bittner M.J., Akenga P., Wallace Auerbach L., Dills M., Faure E., Flores E., Levine N.M., Monteiro T., Richon C., Twining B.S. 2025. A call for early-career teams in interdisciplinary microbiology research. *Nature Microbiology* 10: 2097–2099 (2025) <https://www.nature.com/articles/s41564-025-02097-2>

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TEAM SCIENCE STARTS EARLY



**BioGeoSCAPES Fellows in
*Nature Microbiology***