#### December 2024 SCOR Newsletter # 55



# **SCOR News - Updates from the Annual Meeting**

The 2024 annual meeting was successfully conducted in Qingdao, China on 16-18 October! Thank you to all of the national committee members, working group and project representatives, and partners who participated in person and online across time zones.

SCOR renewed membership of the Executive Committee at this year's meeting. Welcome to new SCOR President **Paul Myers** (Canada), Vice Presidents **Constanza Ricaurte Villota** (Colombia) and **Yukio Masumoto** (Japan), and Co-opted members **Kai Deng** (China) and **Hilkka Ndjaula** (Namibia). Thanks to **Marie-Alexandrine Sicre** (President/Past President, France), **Stefano Aliani** (Vice President, Italy), **Bradley Moran** (Vice President, USA), and **Wee Cheah** (Co-opted member, Malaysia) for your service! The next round of elections will be in 2026.

A <u>summary of the symposium</u> celebrating the 40th anniversary of the China-SCOR Committee highlights the presentations about the long history of the committee's involvement in SCOR.

Mark your calendars for the 2025 SCOR Annual Meeting: 29-31 October 2025, with a premeeting event on 28 October. The meeting is in Santa Marta, Colombia hosted by INVEMAR.



Participants at the symposium celebrating the 40th anniversary of SCOR-China



Participants in the 2024 SCOR annual meeting

#### Two new Working Groups were approved at the SCOR 2024 Annual Meeting!

SCOR WG 171 MASIS (Towards best practices for Measuring and Archiving Stable Isotopes in Seawater) will produce best practices and build a network around sample collection, measurement, and quality control for seawater isotope measurements including recommendations on reference materials. <u>Visit the webpage</u>.

**SCOR WG 172 SALTWATER (Oceanic Salt Intrusion into Tidal Freshwater Rivers)** will develop tools for observing, modeling, and analyzing salt intrusion into tidal rivers. <u>Visit the webpage</u>.

#### IMBeR-SCOR-ECNU MOU signing

Following the SCOR annual meeting, SCOR, IMBeR, and East China Normal University (ECNU) signed a memorandum of understanding to mark continuation of support of the IMBeR International Project Office at the State Key Laboratory for Estuarine and Coastal Research at ECNU. International support for project staff greatly increases the capacity for SCOR's projects to achieve their scientific and capacity building goals.



# **SCOR's Capacity Development Activities**

## Now Accepting 2025 Visiting Scholar Applications

The SCOR Visiting Scholar program enlists the services of ocean scientists, from both developed countries and developing countries, to teach short courses and to provide more extended on-site education and mentorship at developing country institutions.

### Submit an application by 16 December!



# Travel Grants: Support the attendance of early-career, developing-country scientists at your meetings and trainings!

Applications from meeting organizers are reviewed quarterly by the SCOR Capacity Development Committee. Read the requirements and download an application here

# **News from the Working Groups and Projects**

## SCOR-Related Sessions at the AGU Annual Meeting

Participants at the upcoming meeting of the American Geophysical Union can find sessions from the SCOR community at:

- GEOTRACES-related sessions
- WG 162 OASIS-related sessions

**SCOR-Related Sessions at the EGU Annual Meeting** (submit abstracts by 15 January 2025)

- AS2.5 Air-sea Chemical Fluxes: Impacts on Biogeochemistry and Climate (SOLAS)
- OS1.5 Understanding the Indian Ocean's past, present, and future (IIOE-2)
- OS2.5 Chemical Processes in Coastal Oceans: Natural and Anthropogenic Impacts on Biogeochemical Processes (GEOTRACES)

## WG 168 4D-BGC Webinar Series

The working group has initiated a webinar series with the topic, "Advancements in Biogeophysical 4D reconstructions: New methods development and exploitation of existing products for scientific

investigations." A recording can be found on the working group <u>YouTube channel</u>. More information about the series can be found <u>here</u>.

#### New Southern Ocean Collaborative Hub on Ocean Acidification

The joint SOOS/GOA-ON hub was launched on 19 November during a workshop at the Australian Antarctic Research Conference. A video of the launch is <u>available here</u>.

- A <u>call for the first leadership team</u> is now open.
- The community can provide feedback on what they are looking for in the hubhere.

#### Final Deadline for GEOTRACES IDP2025

The final deadline for inclusion of data in the 2025 GEOTRACES intermediate Data Product is 15 December 2024. Complete information about the deadline and requirements can be <u>found here</u>.

#### Updated GEOTRACES Cookbook (version 4.0)

An updated version of the *Sampling and Sample-handling Protocols for GEOTRACES Cruises* (Cookbook, version 4.0, 2024) is now available! Read the <u>news item here</u>.

#### **IMBeR ESSAS Open Science Meeting Announced**

The 2025 Ecosystem Studies of the Subarctic and Arctic Seas (ESSAS) Open Science Meeting will be held 24-26 June 2025 at the National Institute of Polar Research, Tachikawa, Tokyo, Japan. Abstract submission and registration are now open! <u>Read more about the meeting here</u>.

#### IMBeR Indonesia Marine Biogeochemistry Forum (IMBF) Webinar Series

The IMBF launched its webinar series to mainstream marine biogeochemistry as a vital field of study. The third webinar of the 12-part series will be held 11 December. More information and links to recordings of the first webinars are <u>available here</u>.

#### SCOR at COP-29

SOOS and BEPSII (formerly SCOR WG 140) organized events at the recent COP29 Cryosphere Pavilion:

- Polar Oceans: the Triple Threat of Acidification, Warming and Freshening in the Cryosphere Pavilion (with the newly launched SOOS/GOA-ON Ocean Acidification Regional Hub for the Southern Ocean and SOOS Executive Officer, Alyce Hancock) <u>watch the recording</u>
- Antarctic Sea Ice at a Crossroads: Status Quo and Future Implications in the Cryosphere Pavilion (with BEPSII Co-Chair & SOOS Weddell Sea and Dronning Maud Land Regional Working Group Co-Chair, Stefanie Arndt) - <u>watch the recording</u>
- Vanishing Sea Ice: What it Means for Our Oceans and Ecosystem in the Cryosphere Pavilion (with SOOS Co-Chair, Sian Henley, and BEPSII Co-Chair & SOOS Weddell Sea and Dronning Maud Land Regional Working Group Co-Chair, Stefanie Arndt) - <u>watch the recording</u>
- Vanishing Sea Ice, Changing Oceans: Why it Matters in for the Climate, Marine Ecosystems, and People in the Oceans Pavilion (with SOOS Co-Chair, Sian Henley, and BEPSII Co-Chair & SOOS Weddell Sea and Dronning Maud Land Regional Working Group Co-Chair, Stefanie Arndt) - <u>watch</u> <u>the recording</u>

#### Latest news from the projects at:

#### SCOR Research projects:

- Marine biogeochemical cycles of trace elements and their isotopes(GEOTRACES)
- Integrated Marine Biosphere Research (IMBeR)
- Surface Ocean Lower Atmosphere Studies (SOLAS)
- International Indian Ocean Expedition II (IIOE-2)
- International Quiet Ocean Experiment (IQOE)

#### **SCOR Infrastructural projects:**

- International Ocean Carbon Coordination Project (OCCP)
- Global Harmful Algal Blooms (GlobalHAB)
- Southern Ocean Observing System (SOOS)
- Changing Ocean Biological Systems (COBS)
- Joint Committee on Seawater (JCS)

# **Publication Highlights**

Calls for Contributions to Special Issues:

<u>Understanding the Trajectory and Implication of a Changing Southern Ocean: the Need for</u> <u>an Integrated Observing System</u>, *Elementa* - Organized by SOOS, Deadline 31 December 2024

The 2nd International Indian Ocean Expedition (IIOE-2): Motivating New Exploration in a Poorly Understood Basin (Volume 7), Deep Sea Research Part II- Organized by IIOE-2, Deadline 15 February 2025



#### WG 167 RUSTED Copernicus Inter-journal Special Issue

The special issue curates cutting-edge studies which advance our knowledge of the deposition of soluble aerosol trace elements and their impacts on marine ecosystems.

View the special issue here

**GEOTRACES:** Chowdhury, S., Berthelot, H., Baudet, C., González-Santana, D., Reeder, C. F., L'Helguen, S., Maguer, J.-F., Löscher, C. R., Singh, A., Blain, S., Cassar, N., Bonnet, S., Planquette, H., & Benavides, M. (2024). Fronts divide diazotroph communities in the Southern Indian Ocean. *FEMS Microbiology Ecology*, *100*(8), fiae095. <u>https://doi.org/10.1093/femsec/fiae095</u>

**IMBeR:** Cvitanovic, C., Blythe, J., van Putten, I., Maddison, L., Bopp, L., Brodie, S., Fulton, B., Lopes, P., Pecl, G., Penca, J., & Sumaila, U. (2024). Building Successful International Summer Schools to Enhance the Capacity of Marine Early Career Researchers. *Ocean and Society*, 1, Article 9328. <u>https://doi.org/10.17645/oas.9328</u>

WG 160 ATOMIX: Fer, I., Dengler, M., Holtermann, P., Le Boyer, A., & Lueck, R. (2024). ATOMIX benchmark datasets for dissipation rate measurements using shear probes. *Scientific Data*, *11*(1), 518. <u>https://doi.org/10.1038/s41597-024-03323-y</u>

**IMBeR:** Ford, D. J., Shutler, J. D., Blanco-Sacristán, J., Corrigan, S., Bell, T. G., Yang, M., Kitidis, V., Nightingale, P. D., Brown, I., Wimmer, W., Woolf, D. K., Casal, T., Donlon, C., Tilstone, G. H., & Ashton, I. (2024). Enhanced ocean CO2 uptake due to near-surface temperature gradients. *Nature Geoscience*, *17*(11), 1135–1140. <u>https://doi.org/10.1038/s41561-024-01570-7</u>

**SOLAS:** Hamilton, D. S., Kelley, D., Perron, M. M. G., Llort, J., Burton, C., Bergas-Masso, E., Ligouri-Bills, N., Barkley, A., Buchholz, R., Diez, S., Dintwe, K., Forkel, M., Hall, J., Hantson, S., Hayman, G., Hebden, S., Jones, M. W., Kulkarni, C., Nowell, B., ... Volker, C. (2024). *Igniting Progress: Outcomes from the FLARE workshop and three challenges for the future of transdisciplinary fire science*. Zenodo. <u>https://doi.org/10.5281/zenodo.12634068</u>

IMBeR (early-career scientists): Kaikkonen, L., Shellock, R., Selim, S., Ojwala, R., Addey, C., Dias, B., Gianelli, I., Jiang, S., Li, S., Maltby, K., García-Morales, S., Palacios Abrantes, J., Albo-Puigserver, M., García Alonso, V., Baker, C., Bove, C., Brodie, S., Dahlet, L., Das, J., & Strand, M. (2024). Fostering diversity, equity, and inclusion in interdisciplinary marine science. *Authorea*. https://doi.org/10.22541/au.171052473.32741331/v1

**GEOTRACES:** Kurisu, M., Sakata, K., Nishioka, J., Obata, H., Conway, T. M., Hunt, H. R., Sieber, M., Suzuki, K., Kashiwabara, T., Kubo, S., Takada, M., & Takahashi, Y. (2024). Source and fate of atmospheric iron supplied to the subarctic North Pacific traced by stable iron isotope ratios. *Geochimica et Cosmochimica Acta*, *378*, 168–185. <u>https://doi.org/10.1016/j.gca.2024.06.009</u>

**GEOTRACES:** Lagarde, M., Pham, V. Q., Lemaitre, N., Belhadj, M., & Jeandel, C. (2024). Rare earth elements in the North Atlantic, part II: Partition coefficients. *Chemical Geology*, 664, 122298. <u>https://doi.org/10.1016/j.chemgeo.2024.122298</u>

**GEOTRACES:** Lagarde, M., Pham, V. Q., Lherminier, P., Belhadj, M., & Jeandel, C. (2024). Rare earth elements in the North Atlantic, part I: Non-conservative behavior reveals margin inputs and deep waters scavenging. *Chemical Geology*, 664, 122230. <u>https://doi.org/10.1016/j.chemgeo.2024.122230</u>

WG 160 ATOMIX: Lueck, R., Fer, I., Bluteau, C., Dengler, M., Holtermann, P., Inoue, R., LeBoyer, A., Nicholson, S.-A., Schulz, K., & Stevens, C. (2024). Best practices recommendations for estimating dissipation rates from shear probes. *Frontiers in Marine Science*, *11*. https://doi.org/10.3389/fmars.2024.1334327

**GEOTRACES:** Obata, H., Mase, A., Gamo, T., Nishioka, J., & Okamura, K. (2024). In-situ analysis of sub-nanomolar level of Fe(II) in open-ocean waters. *Analytical Sciences*, *40*(11), 2017–2025.

https://doi.org/10.1007/s44211-024-00637-0

WG 165 MixONET: Mitra, A., Flynn, K. J., Stoecker, D. K., & Raven, J. A. (2024). Trait trade-offs in phagotrophic microalgae: The mixoplankton conundrum. *European Journal of Phycology*, 59(1), 51–70. <u>https://doi.org/10.1080/09670262.2023.2216259</u>

**GEOTRACES:** Portlock, G., Whitby, H., & Salaün, P. (2024). Distribution and behaviour of reduced sulfur substances in the oligotrophic and hydrothermal waters of the Western Tropical South Pacific. *Frontiers in Marine Science*, *11*. <u>https://doi.org/10.3389/fmars.2024.1426906</u>

WG 159 DeepSeaDecade: Ramirez-Llodra, E., Meyer, H. K., Bluhm, B. A., Brix, S., Brandt, A., Dannheim, J., Downey, R. V., Egilsdóttir, H., Eilertsen, M. H., Gaudron, S. M., Gebruk, A., Golikov, A., Hasemann, C., Hilario, A., Jørgensen, L. L., Kaiser, S., Korfhage, S. A., Kürzel, K., Lörz, A.-N., ... Saaedi, H. (2024). The emerging picture of a diverse deep Arctic Ocean seafloor: From habitats to ecosystems. *Elementa: Science of the Anthropocene*, *12*(1), 00140. https://doi.org/10.1525/elementa.2023.00140

**COBS:** Sejr, M. K., Poste, A. E., & Renaud, P. E. (2024). Multiple climatic drivers increase pace and consequences of ecosystem change in the Arctic Coastal Ocean. *Limnology and Oceanography Letters*, *n*/a(n/a). <u>https://doi.org/10.1002/lol2.10431</u>

WG 165 MixONET: Sixto, M., Riobó, P., Rodríguez, F., Díaz, P. A., & Figueroa, R. I. (2024). Climate Change Stressors, Phosphate Limitation, and High Irradiation Interact to Increase Alexandrium minutum Toxicity and Modulate Encystment Rates. *Microorganisms*, *12*(7). https://doi.org/10.3390/microorganisms12071480

WG 148 IQuOD: Song, X., Tan, Z., Locarnini, R., Simoncelli, S., Cowley, R., Kizu, S., Boyer, T., Reseghetti, F., Castelao, G., Gouretski, V., & Cheng, L. (2024). DC\_OCEAN: an open-source algorithm for identification of duplicates in ocean databases. *Frontiers in Marine Science*, *11*. <u>https://doi.org/10.3389/fmars.2024.1403175</u>

**COBS:** Vargas, C. A., & Gelcich, S. (2024). Integrated actions across multiple sustainable development goals (SDGs) can help address coastal ocean acidification. *Communications Earth & Environment*, *5*(1), 319. <u>https://doi.org/10.1038/s43247-024-01485-6</u>

# Emily Twigg SCOR Executive Director

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