

{rokbox title=|Participants, instructors, and organizers at the ITCOcean Hack2Week in Hyderabad, India :: Image: Authors|
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Martin, P.E., E. Eli Holmes, E. Mayorga, J.K. Ansong, U. Bhaskar, J. Cornejo-Donoso, D. Correa-Chilón, R. Damoah, D. Fierro-Arcos, L. Gómez-Navarro, N. Kumar, A. Lawal-Are, S. Maity, S. Majumder, D. Menemenlis, A. Modi, E. Nyadjro, O. Oghenechovwen, A. Oikonomou, M. Oladipo, **M. Peña**, D.T. Quaye, Y. Santana-Falcón, BR Smitha, C. Troupin, G. Vagenas, H. Villalobos, and G.L. Wagner, 2025.

[Harnessing Marine Open Data Science for Ocean Sustainability in Africa, South Asia, and Latin America.](#)

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Abstract: One of the biggest barriers to conducting ocean science around the globe is limited access to computational tools and resources, including software, computing infrastructure, and data. Open tools, such as open-source software, open data, and online computing resources, offer promising solutions toward more equitable access to scientific resources. Here, we discuss the enabling power of these tools in under-resourced and non-English speaking regions, based on experience gained in the organization of three independent programs in West African, Latin American, and Indian Ocean nations. These programs have embraced the “hackweek” learning model that bridges the gap between data science and domain applications. Hackweeks function as knowledge exchange forums and foster meaningful international and regional connections among scientists. Lessons learned across the three case studies include the importance of using open computational and data resources, tailoring programs to regional and cultural differences, and the benefits and challenges of using cloud-based infrastructure. Sharing capacity in marine open data science through the regional hackweek approach can expand the participation of more diverse scientific communities and help incorporate different perspectives and broader solutions to threats to marine ecosystems and communities.

Keywords: