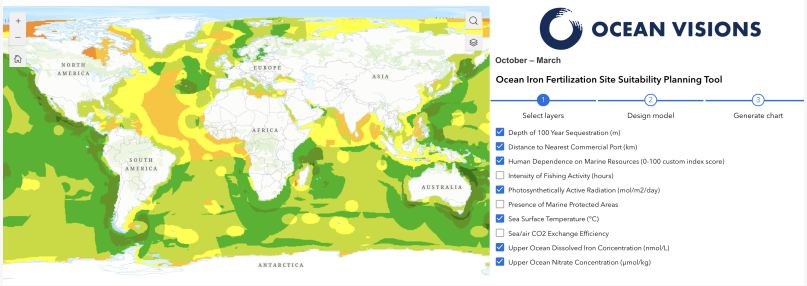
Ocean Visions Unveils Ocean Iron Fertilization (OIF) Site Suitability Planning Tool

Effort to support research on the viability of OIF as a climate solution



Ocean Iron Fertilization Site Suitability Planning Tool

ATLANTA, GEORGIA, USA , April 10, 2024 /EINPresswire.com/ -- Ocean Visions and Esri have collaborated to create a first-of-its-kind Ocean Iron Fertilization Site Suitability Planning Tool. The tool will support the design and siting of locations for field trials designed to help evaluate the effectiveness and safety of Ocean Iron Fertilization (OIF) as a possible method to draw down and safely store atmospheric carbon dioxide.

After nearly 30 years of scientific investigation, including both field trials and modeling studies, estimates of the potential for OIF to contribute to carbon dioxide removal at climate-relevant scales remain inconclusive. A new generation of controlled field trials, coupled with better computational models, is needed to answer the remaining critical scientific questions regarding durability of carbon sequestration and associated environmental impacts.

> Field trials play a crucial role in assessing the practical implications and real-world applicability of ocean iron fertilization as a climate solution."
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> *Ocean Visions Chief Scientist Dr. David Koweek*

The Ocean Iron Fertilization Site Suitability Planning Tool offers researchers, planners, resource managers, decision makers, and more a multidimensional and holistic picture of possible field trial locations. It includes oceanographic data layers (e.g., temperature, nutrients, light) as well as critical social and logistical criteria (e.g., human dependence on marine resources, fishing intensity, proximity to commercial ports). It shows where deployments may be most feasible, and thus, high priority sites for field testing.

"Field trials play a crucial role in assessing the practical implications and real-world applicability of ocean iron fertilization as a climate solution," said Ocean Visions Chief Scientist Dr. David Koweek. "The Ocean Iron Fertilization Site Suitability Planning Tool will boost efforts to find the highest priority sites for field trials by combining oceanographic, social, and ecological

information. A complete lens to the problem is needed to answer the remaining critical scientific questions regarding durability of carbon sequestration and associated environmental impacts."

While not a substitute for emission reduction, carbon dioxide removal (CDR) is acknowledged by the Intergovernmental Panel on Climate Change as an imperative for slowing climate change—the top threat to ocean health.

The ocean is the largest carbon sink on the planet, already holding about 50 times more carbon in the deep ocean than what is in the atmosphere. There are a number of ways the ocean naturally cycles carbon that could be enhanced and accelerated, and the ocean's sheer size means that these potential solutions could be scaled to meaningful levels. Several marine carbon dioxide removal (mCDR) approaches are being explored, but each requires additional research and testing.

"The Ocean Iron Fertilization Site Suitability Planning Tool pairs Esri's expertise in geospatial science, tools, and planning, with Ocean Visions' approach and network to building evidence-based approaches that advance the testing and developing of potential marine carbon dioxide removal methods," said Chief Scientist of Esri, Dr. Dawn Wright.

"This project is an example of the kind of multidisciplinary collaborations needed to advance mCDR research," said Sara Nawaz, Director of Research at the American University's Institute for Responsible Carbon Removal and an advisor to the project. "This tool is an innovative combination of oceanographic and social data. Collaborations on tools like these will be critical for shaping decisions about potential climate solutions."

Support for the Ocean Iron Fertilization Site Suitability Planning Tool comes from Esri, the global market leader in geographic information system (GIS) software, and a member of the Ocean Visions Network, which created the tool with guidance and input from six expert advisors, facilitated by Ocean Visions:

- Ken Buesseler (Woods Hole Oceanographic Institution)
- Fei Chai (University of Maine – School of Marine Sciences)
- Sara Nawaz (Institute for Responsible Carbon Removal – American University)
- Akash Rastogi (Dalhousie University – Ocean Frontier Institute)
- Steffen Swoboda (GEOMAR Helmholtz Centre for Ocean Research Kiel)
- Romany Webb (Columbia University – Sabin Center for Climate Change Law)

Financial support for the OIF Site Suitability Planning Tool comes from the Astera Institute.

ABOUT OCEAN VISIONS
Ocean Visions is a non-profit organization that catalyzes innovation at the intersection of the ocean and climate crises. We facilitate multisector collaborations from within our Network and

beyond, working with leading research institutions, the private sector, and public-interest organizations to fully explore and advance responsible and effective ocean-based climate solutions. In short, we work to stabilize the climate and restore ocean health. To learn more, visit www.oceanvisions.org or follow @Ocean_Visions on X.

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