integral INSIGHT FOR AN EVOLVING WORLD

Characterization and assessment of offshore environmental stressors

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January 31st, 2024

Northwest Offshore Wind Conference

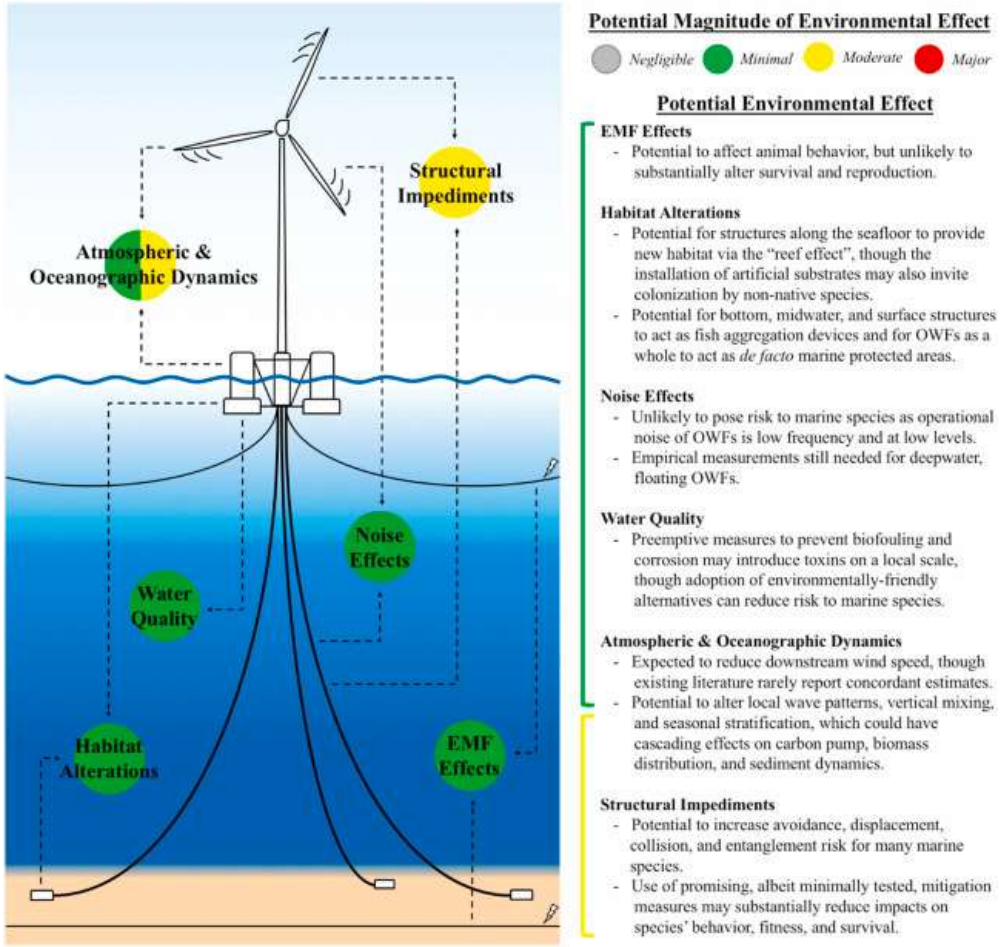
Portland, OR

Not for Third-Party Distribution

Potential Environmental Stressors in Floating Offshore Wind

There is potential for Oceanographic, Noise, EMF, and Habitat stressors in offshore wind deployments

Build confidence in findings through a holistic approach to environmental assessment and provide opportunities for future improvement

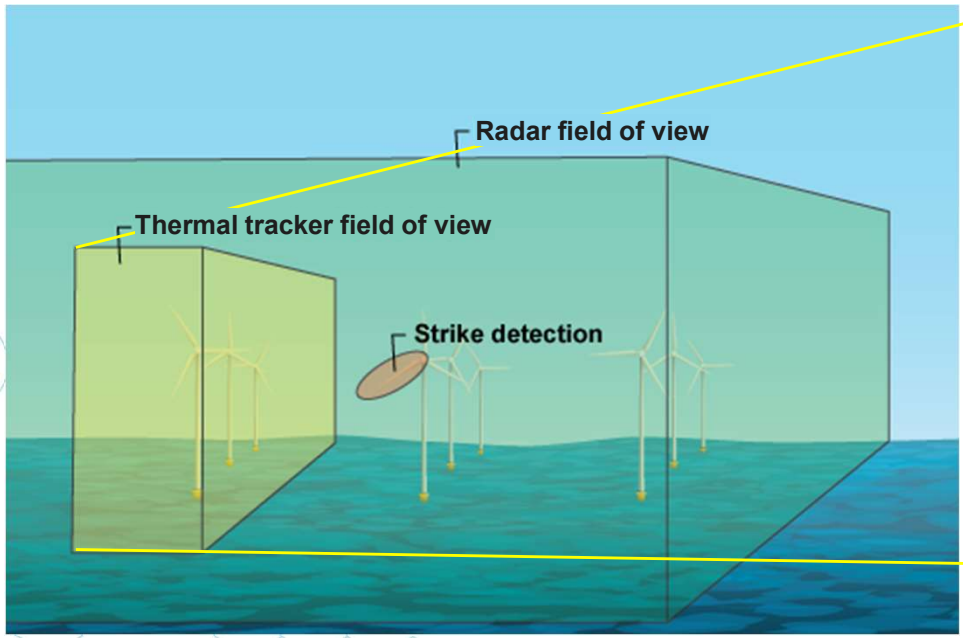


Source: Farr et al. 2021

Seabird Modeling and Monitoring

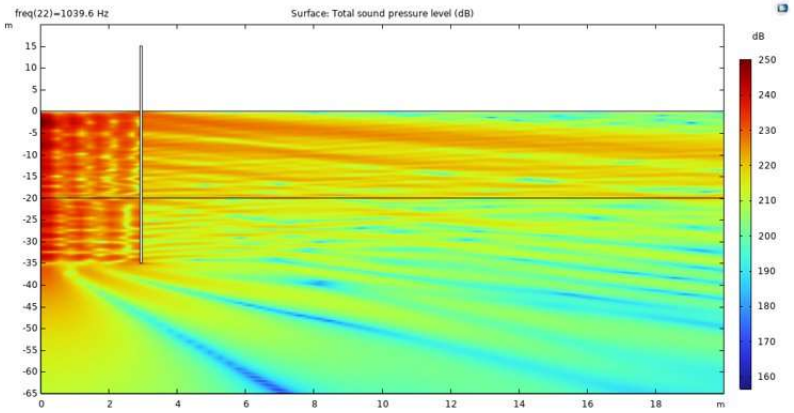
Goal

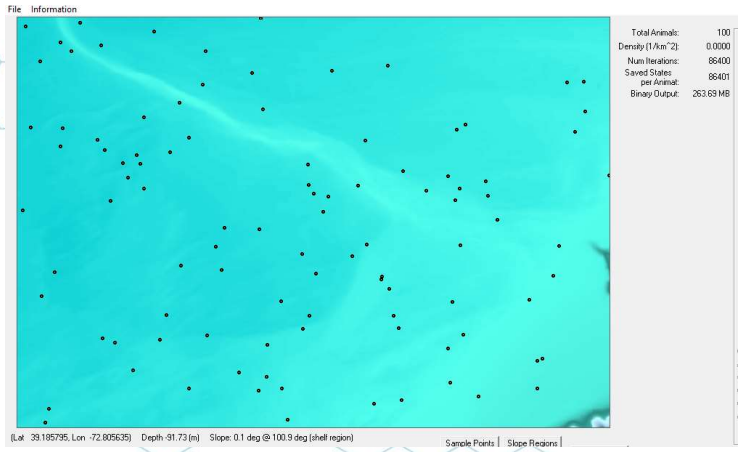
Integrate, test, and validate multiple real-time sensing technologies to quantify seabird and bat avoidance and collision risk across macro-, meso-, and micro-scales to improve wildlife monitoring and seabird and bat collision risk model-based forecasting.

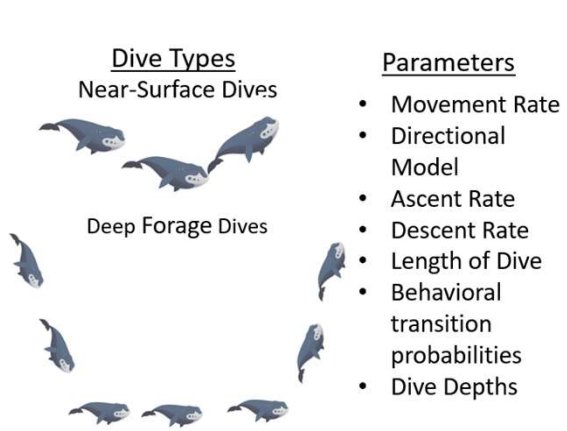


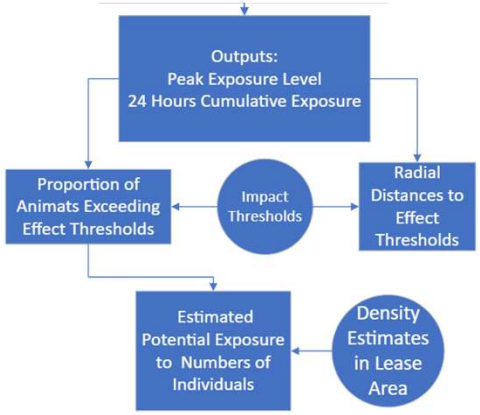
(PNNL = Pacific Northwest National Laboratory)

Estimating acoustic impacts of Offshore Wind facility installation to marine mammals using simulation modeling





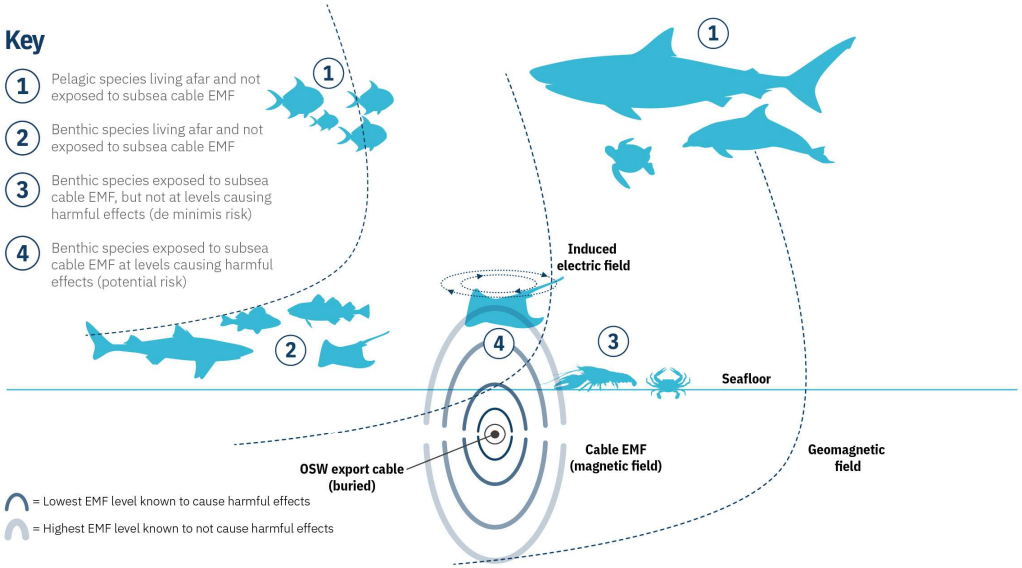


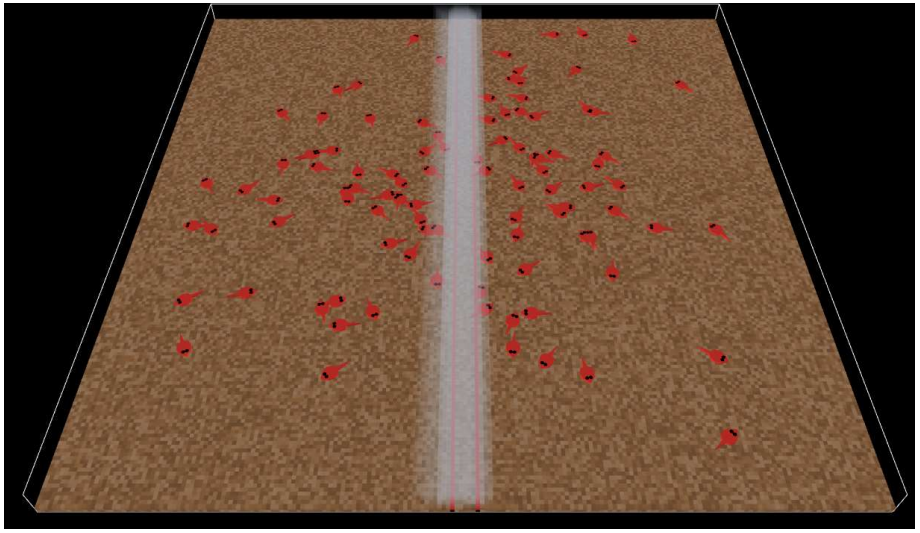


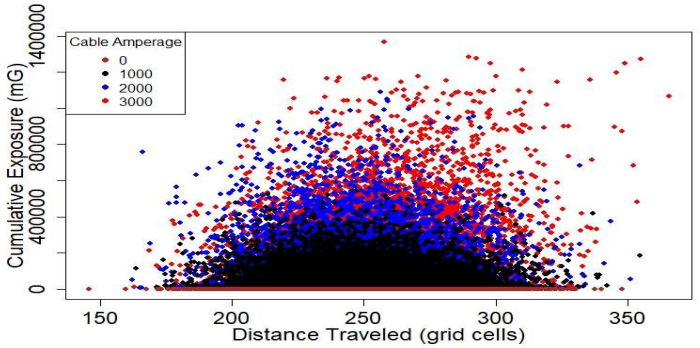
Goal

Developing peer-reviewed open-source models for the community to investigate animal sound exposure levels

An Agent-Based Model to Estimate EMF Exposure from Offshore Wind Infrastructure to Benthic Marine Organisms







Goal

Open-source models for the community to investigate animal EMF exposure levels

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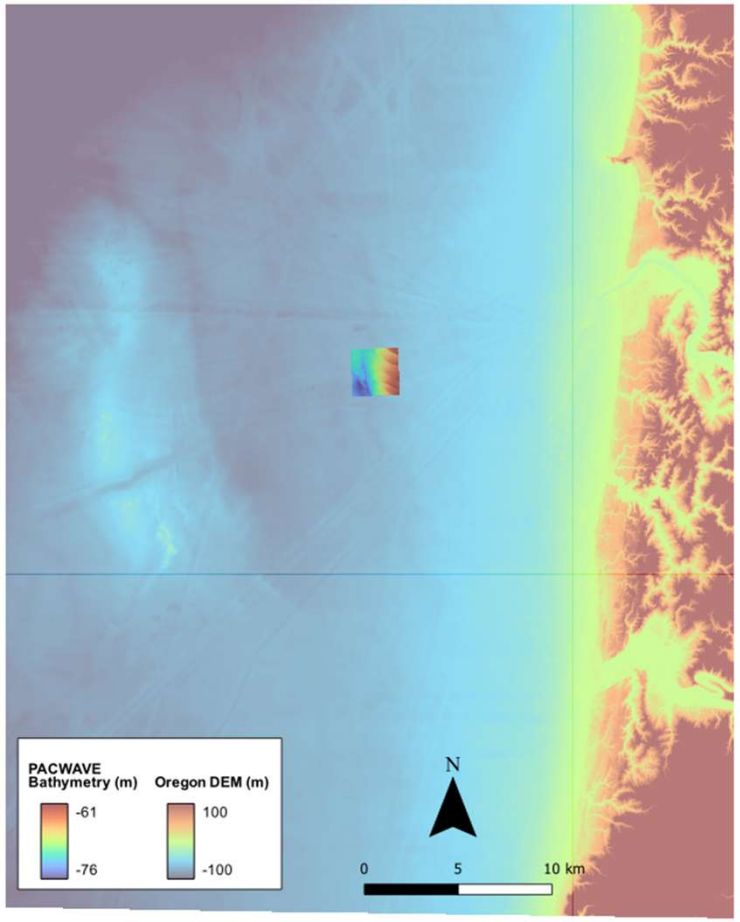
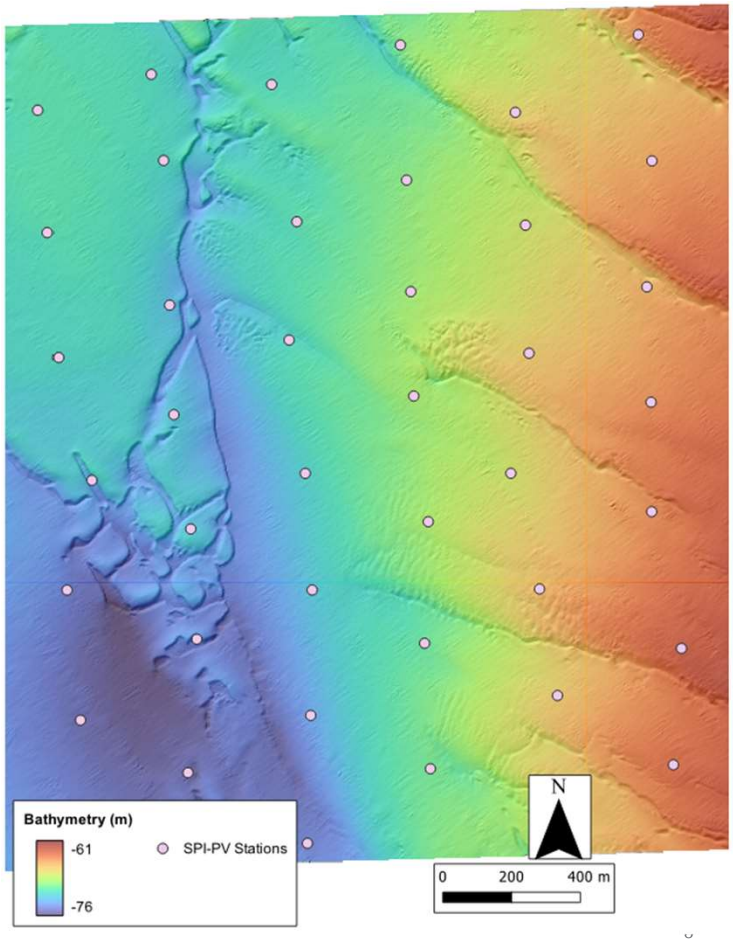
Towards Quantified Seafloor Mapping for Offshore Benthic Characterization

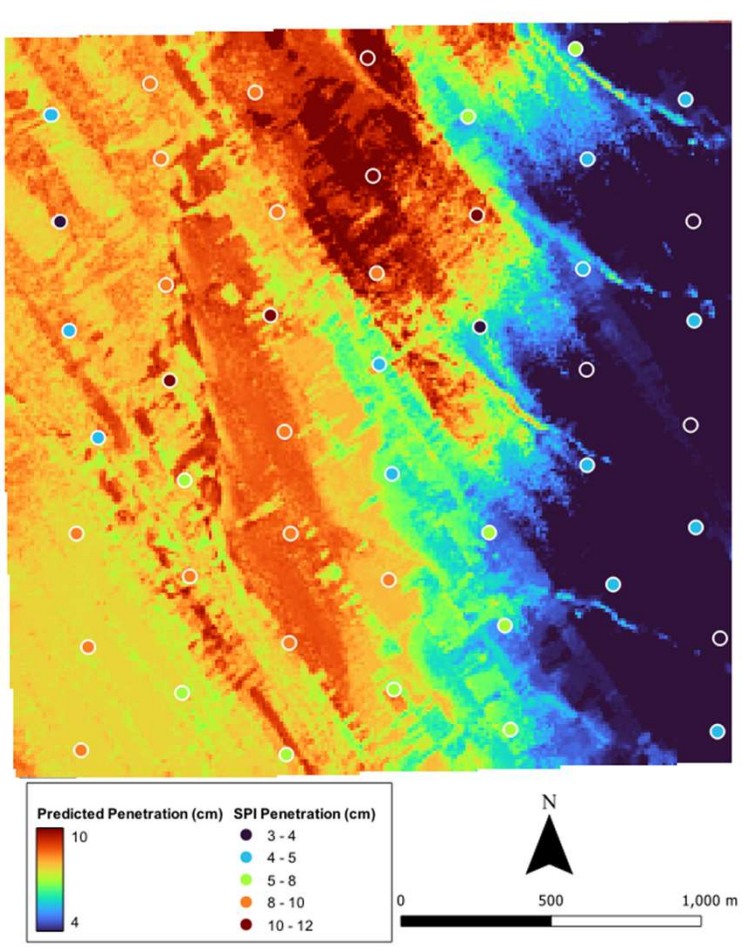
Benthic/Geophysical/Geotechnical mapping is crucial for offshore wind to ensure the selection of suitable locations for turbines, minimize environmental impacts, and aid in safe and efficient installation and maintenance

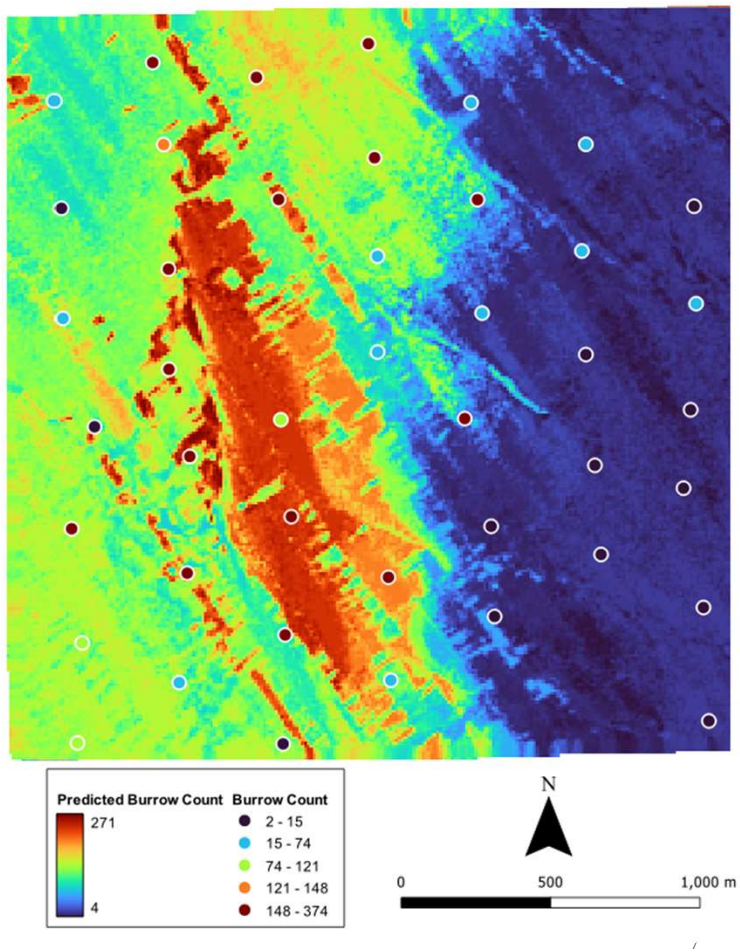




Machine learning aids in high resolution benthic mapping

The ability to extrapolate ground-truth data using geophysical data provides for significant expansion in mapping capabilities





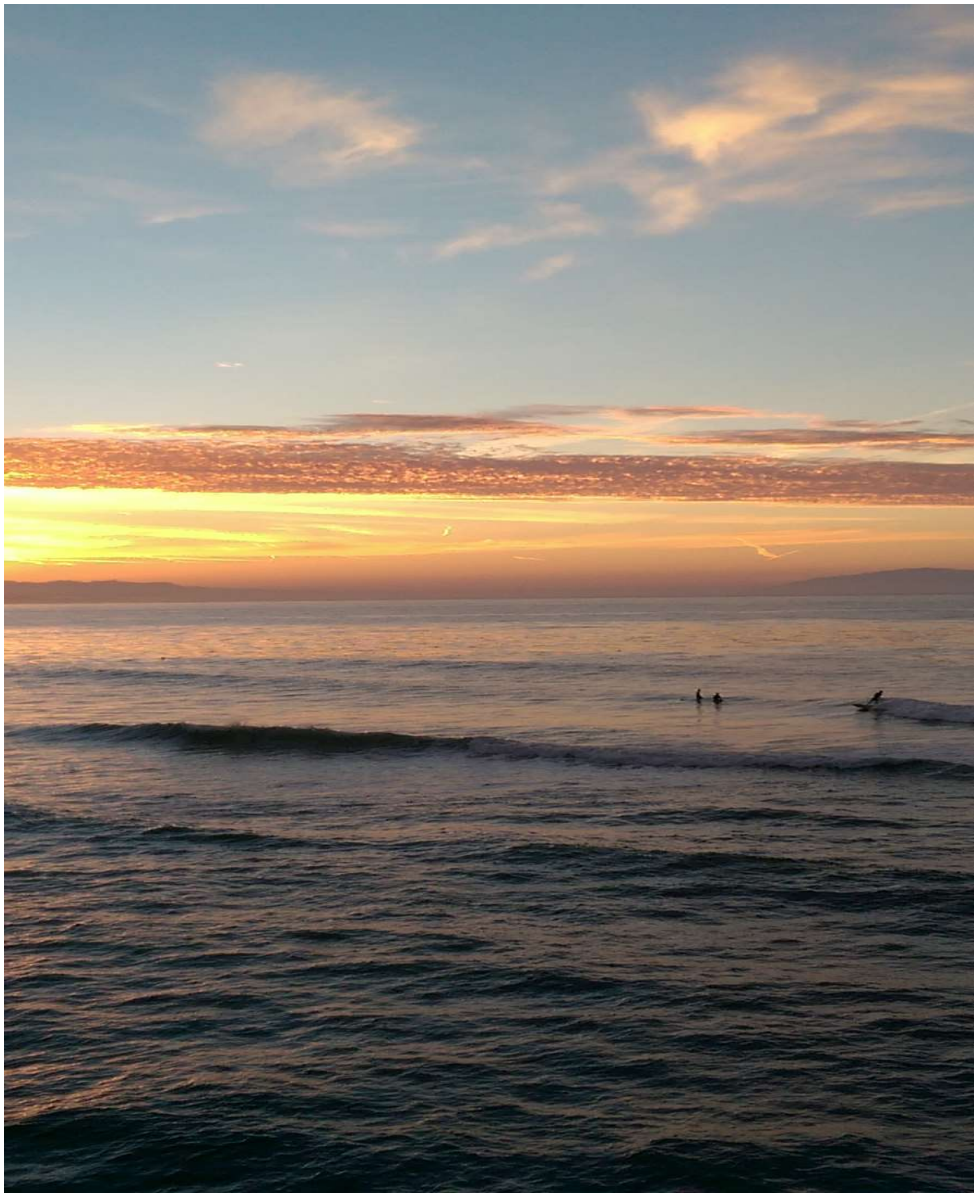
Summary

Lessons learned from other offshore industries are informative

Non-technical risks are the primary source of delays and overruns

Address the big issues/conflicts directly

Develop ***certainty and opportunity*** with focused science



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