

Update on Ocean Energy Systems-Environmental (OES-E)

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PURPOSE



Ocean Energy Systems-Environmental seeks to understand and resolve the risks to the marine environment from the development and operation of marine renewable energy (MRE) devices, with the intent of accelerating deployment of devices in a responsible manner. The task publishes a State of the Science report every four years, which brings together up-to-date research on potential risks to marine animals, habitats, oceanographic processes, and the marine ecosystem from the development of MRE.

Ocean Energy Systems-Environmental is a long-running task under Ocean Energy Systems (OES), a consortium of 23 countries and the European Commission. Of those nations, 16 have come together under OES-Environmental, led by the United States (U.S.) Department of Energy, in collaboration with other U.S. federal agencies, and implemented by Pacific Northwest National Laboratory.



2020 State of the Science Report

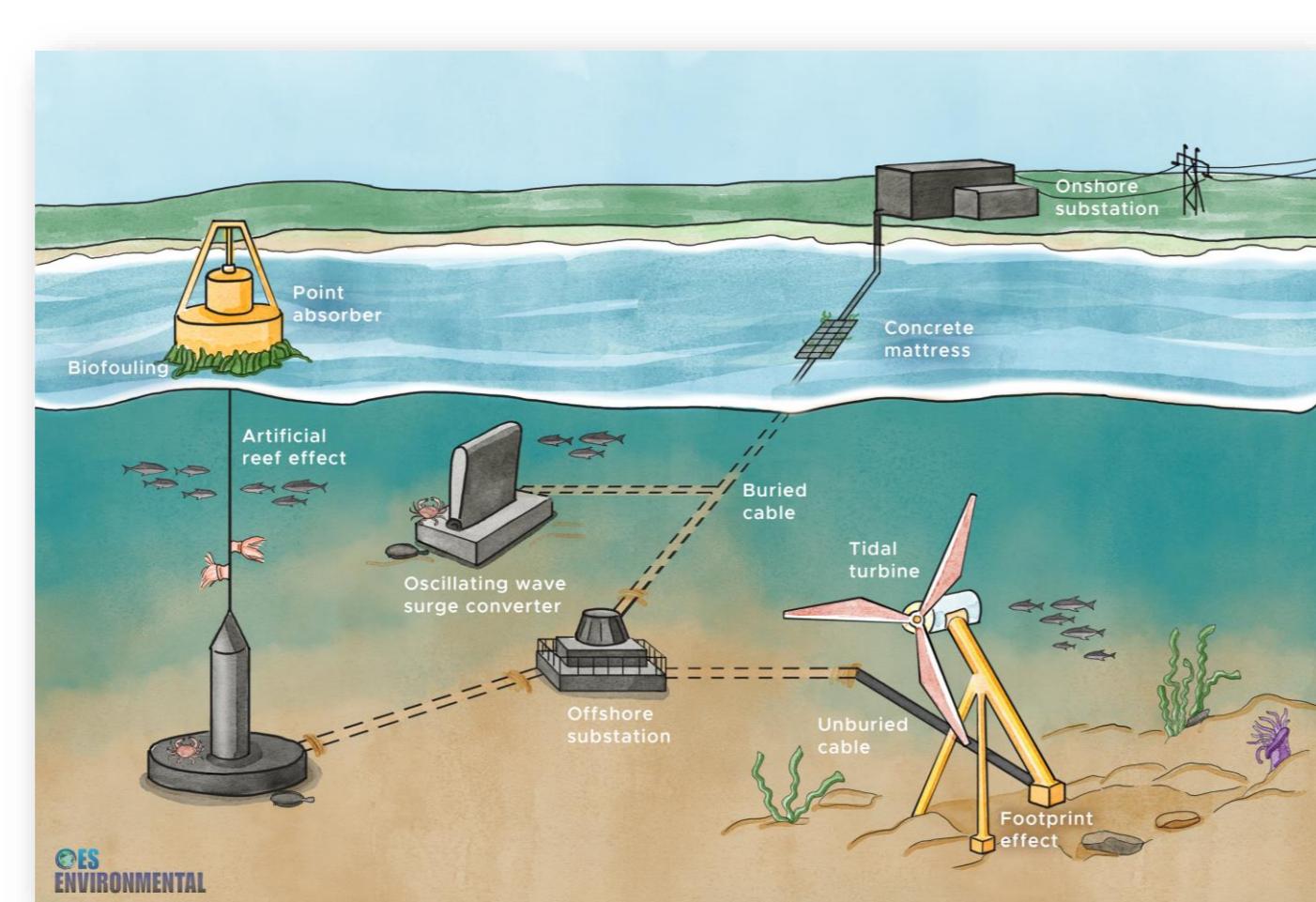
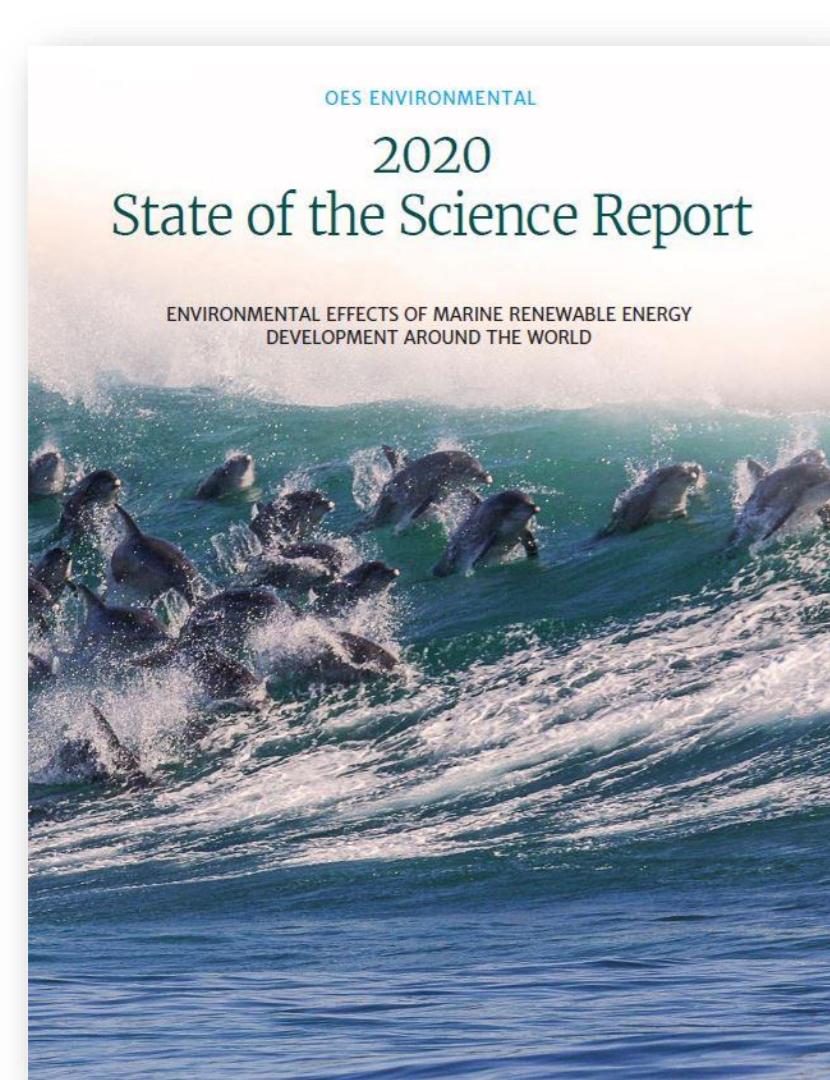


Illustration of wave and tidal energy devices, and balance of station, showing potential effects on benthic and pelagic habitats. (Illustration by Rose Perry/PNNL from Copping and Hemery et al. 2020).

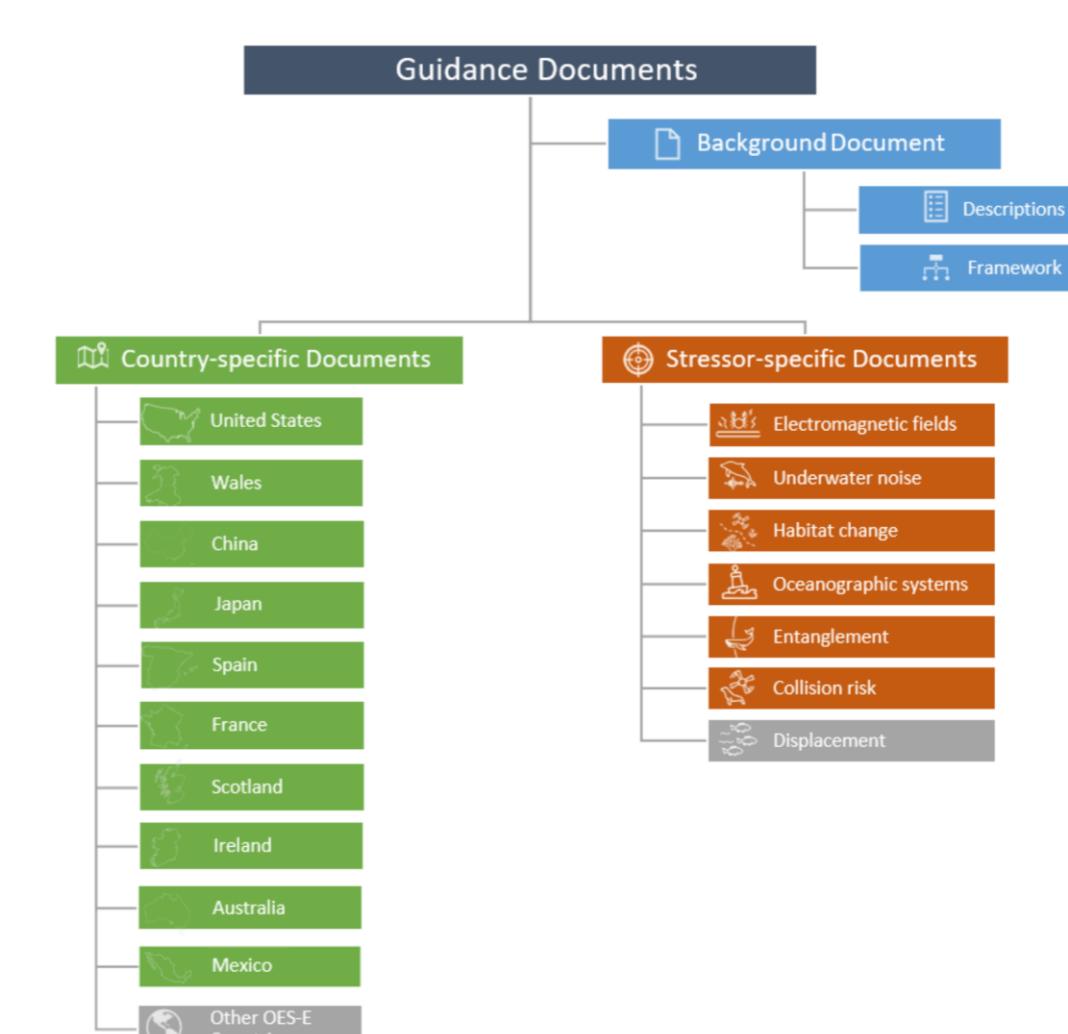
ACHIEVEMENTS

Risk Retirement

For certain interactions, potential risks need not be fully investigated for every project. Four stressors are considered retired for small numbers of MRE devices, including habitat change depicted in the image on the left.

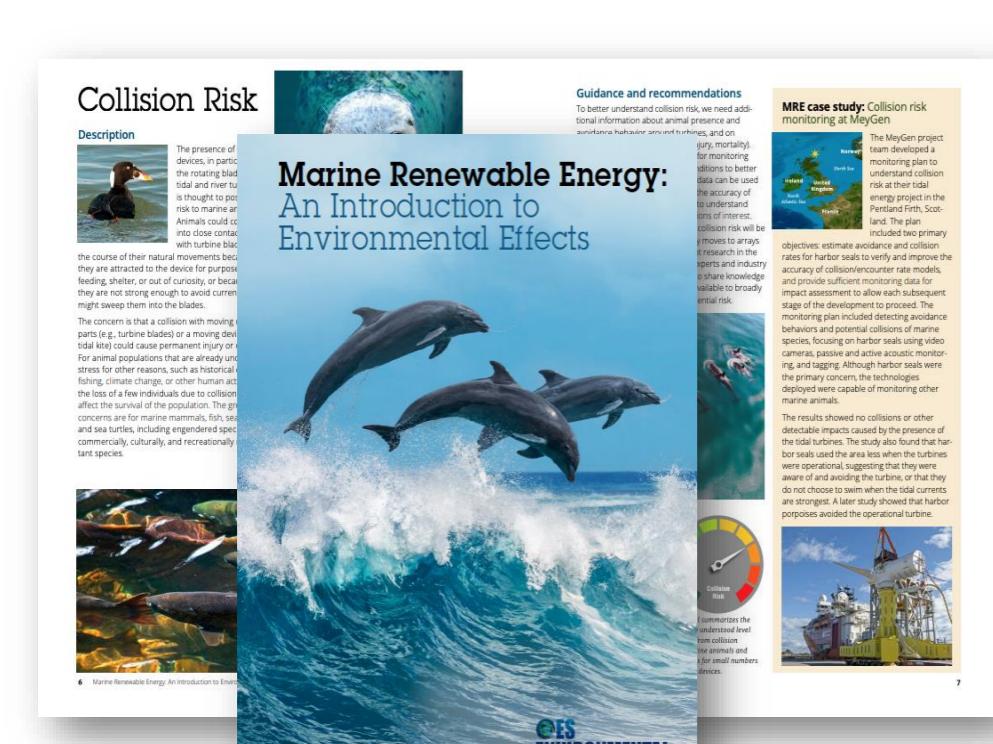


Guidance Documents



OES-Environmental has created a series of guidance documents that translate the science into regulatory-accessible language. These can be used to evaluate environmental, social, and economic effects within a general regulatory context.

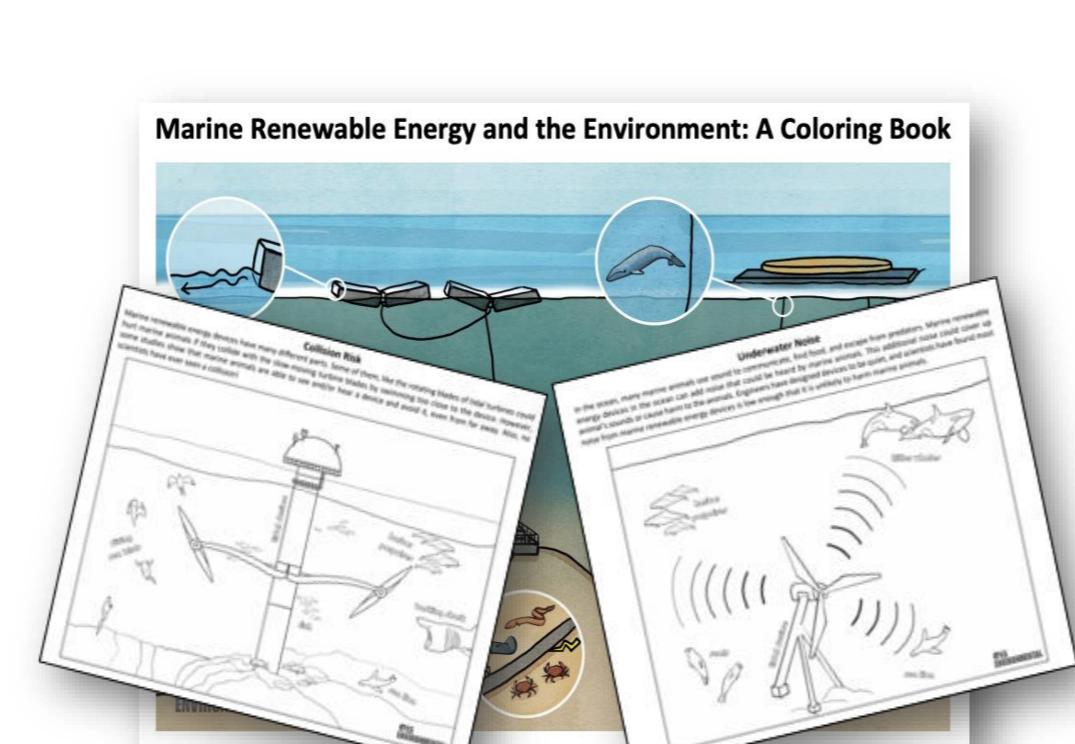
Outreach & Education



24-page brochure for regulators



Podcast episodes for general public



Coloring book for STEM audience



Video series for general public



Video game for general public

2024 State of the Science Report



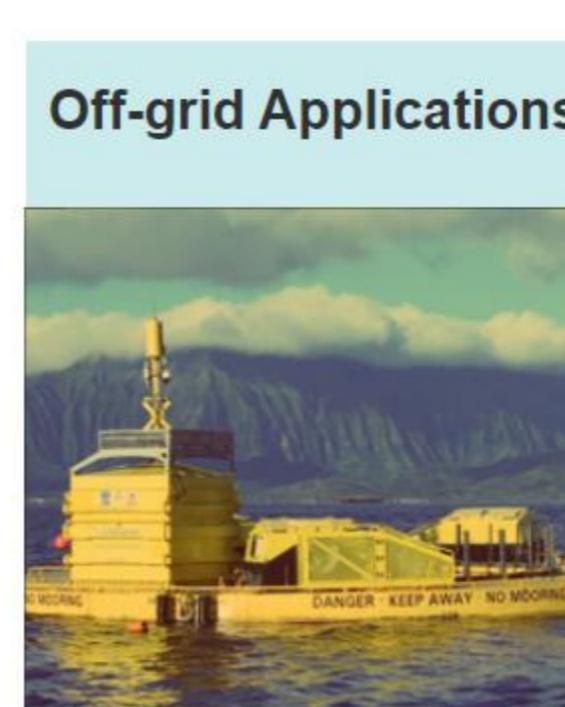
Final report to be released in September 2024.

ONGOING WORK

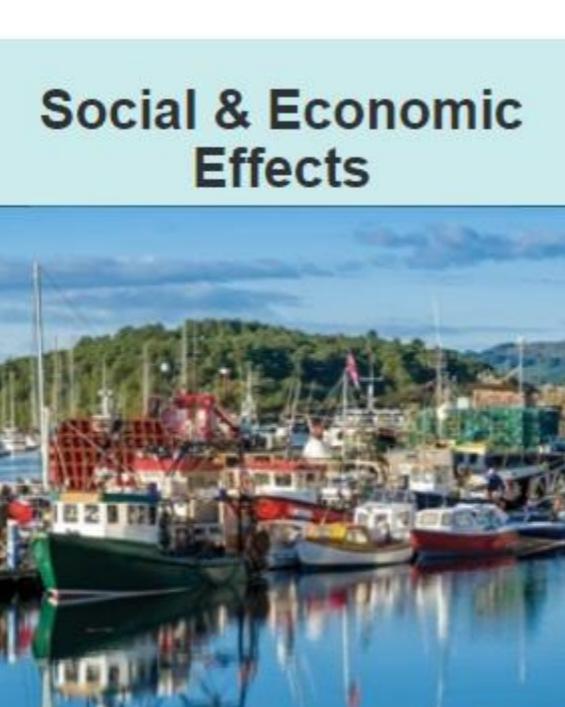
Phase 5 (2024-2027) Proposed Topics



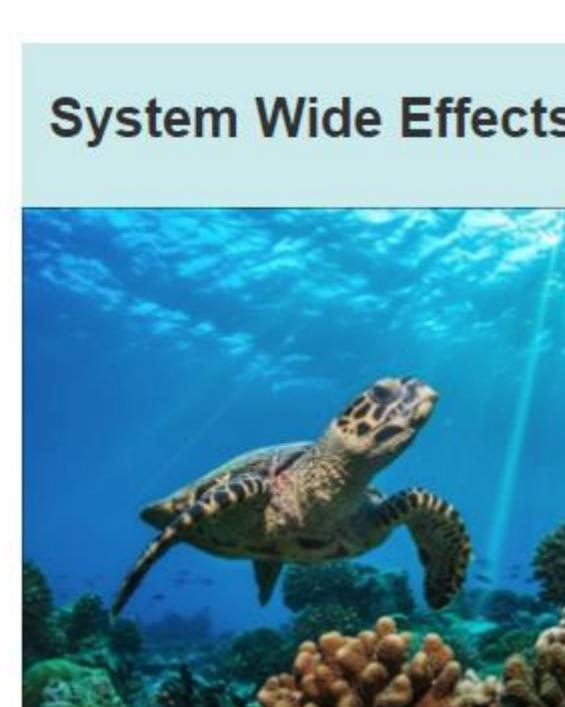
Environmental Acceptability



Off-grid Applications



Social & Economic Effects



System Wide Effects

MORE INFO



About OES-Environmental



Educational Resources

Risk Retirement

ACKNOWLEDGEMENT

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