Dynamic ocean management in support of climate-resilient fisheries

Ocean Science Meeting 2020
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Dynamic ocean management is an emerging management framework that uses near real-time data to guide the spatiotemporal distribution of commercial activities to address a fundamental challenge of ocean resource use – how to balance economically viable industries with ecological sustainability.

While several dynamic ocean management applications have been developed in support of ocean resource use worldwide, there have been fewer advances in how dynamic ocean management applications can focus specifically on supporting climate-resilient and climate ready fisheries.

This town hall is a community-wide discussion of the opportunities, challenges and potential for new applications of fisheries dynamic ocean management in the context of climate change. We look forward to an engaging community conversation to explore how dynamic ocean management can promote and support climate resilience in current and future fisheries management.

**Relevant papers on dynamic ocean management in support of climate-resilient fisheries:**

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Hazen, E. L. *et al.* (2018) 'A dynamic ocean management tool to reduce bycatch and support sustainable fisheries', *Science Advances*, 4(5), pp. 1–8. doi: 10.1126/sciadv.aar3001.

Hobday, A. J. *et al.* (2011) 'Seasonal forecasting of tuna habitat for dynamic spatial management', *Canadian Journal of Fisheries and Aquatic Sciences*. doi: 10.1139/f2011-031.

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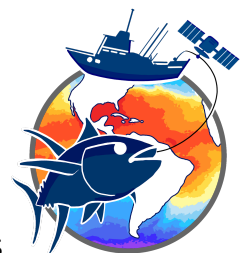
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Liu, G. *et al.* (2018) 'Predicting heat stress to inform reef management: NOAA Coral Reef Watch's 4-month Coral Bleaching Outlook', *Frontiers in Marine Science*. doi: 10.3389/fmars.2018.00057.

McHenry, J. *et al.* (2019) 'Projecting marine species range shifts from only temperature can mask climate vulnerability', *Global Change Biology*. Blackwell Publishing Ltd, 25(12), pp. 4208–4221. doi: 10.1111/gcb.14828.

Mills, K. E., Pershing, A. J. and Hernández, C. M. (2017) 'Forecasting the seasonal timing of Maine's lobster fishery', *Frontiers in Marine Science*, 4(NOV), pp. 1–10. doi: 10.3389/fmars.2017.00337.

Payne, M. R. *et al.* (2017) 'Lessons from the first generation of marine ecological forecast products', *Frontiers in Marine Science*, 4(SEP). doi: 10.3389/fmars.2017.00289.

Silber, G. K. *et al.* (2017) 'Projecting marine mammal distribution in a changing climate', *Frontiers in Marine Science*. doi: 10.3389/fmars.2017.00413.

Strand, K. O. *et al.* (2017) 'The Northeast Greenland shelf as a potential habitat for the Northeast Arctic cod', *Frontiers in Marine Science*. doi: 10.3389/fmars.2017.00304.

Thorson, J. T. (2019) 'Forecast skill for predicting distribution shifts: A retrospective experiment for marine fishes in the Eastern Bering Sea', *Fish and Fisheries*. Blackwell Publishing Ltd, 20(1), pp. 159–173. doi: 10.1111/faf.12330.

Tommasi, D. *et al.* (2017) 'Multi-annual Climate predictions for fisheries: An assessment of skill of sea surface temperature forecasts for large marine ecosystems', *Frontiers in Marine Science*. doi: 10.3389/fmars.2017.00201.

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