

**Aligning science and policy in the Humboldt Current to achieve climate-ready fisheries management**

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**Abstract**

The Humboldt Current is one of the world's most important and productive large marine ecosystems; it is also home to some of the world's most important and productive fisheries. However, this ecosystem is facing various threats and uncertainties in the face of climate change that could alter the productivity and distribution of fisheries that currently provide for the livelihoods of millions of people in these three countries. Achieving an effective climate-ready fisheries management system in this region will entail coordination between the fisheries science agencies and government institutions in Chile and Peru and ultimately, transboundary fisheries management of stocks near or straddling the border between these two countries. In terms of scientific advances, we will describe how we validated a high resolution global climate model for its utility in measuring and anticipating changes in the frequency and magnitude of environmental fluctuations such as El Niño Southern Oscillation under climate change. The validation of this model allows forecasting of changes in average productivity and yield of key fisheries over time, changes in the location and distribution of marine resources, including both targeted and incidentally caught species, and the development of early warning indicators of system changes. We will describe how this work will be used by policy makers to inform and amend management strategies so that they are responsive to climate change on various scales, and how these science and policy changes fit into the larger vision of climate-ready fisheries management in the Humboldt Current Ecosystem.

**Keywords:**

climate-adaptive management, science-policy interface, ecosystem based fishery management

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