

Impacts of temperature measurements from sea turtles on seasonal prediction around the Arafura Sea

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In this work, we add the assimilation of temperature measurements from sea turtles, which covered from surface to maximum depth of about 120m around the Arafura Sea during June-August 2017, into an operational seasonal prediction system. The impact of these new observations is explored by conducting so-called Ocean Observing System Experiments. We find that the prediction of sea surface temperature is significantly improved at 3-4 months lead-time. The results show that the addition of temperature measurements from sea turtles into the existing Global Ocean Observing System (including satellite, mooring buoys, ships, and profiling floats) may open a new door to improve regional seasonal prediction through better representation of the initial state of the upper ocean.

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