

CGD SEMINAR



DATE: Tuesday, 20 February 2018

TIME: 11 a.m.

LOCATION: NCAR, 1850 Table Mesa Drive
Mesa Lab, Main Seminar Room

TITLE: Losing breath: the future of ocean oxygen

SPEAKER: Matthew Long, NCAR

ABSTRACT:

The loss of oxygen from the ocean, termed “deoxygenation”, is a consequence of climate warming. As the ocean warms, it loses oxygen due to the direct effect of temperature on gas solubility: warmer waters hold less oxygen. Additionally, reductions in vertical mixing associated with enhanced upper-ocean buoyancy stratification cause respiration-driven oxygen depletion at depth. The ocean as a whole is expected to lose about 3–4% of its oxygen inventory by the year 2100 under a “business-as-usual” scenario (RCP8.5) with most of this loss concentrated in the upper 1000 m where species richness and abundance is highest. In this talk, I examine the mechanisms driving dissolved oxygen variability in the present climate and present an analysis of future projections using Earth system models. I will examine the uncertainty in these projections and discuss implications for marine ecosystems.

Live webcast: <http://ucarconnect.ucar.edu/live>

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