

CGD SEMINAR



DATE: Tuesday, 9 May 2017

TIME: 11 a.m.

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

TITLE: Decadal acceleration of upper Indian
Ocean warming

SPEAKER: Yuanlong Li, CU

ABSTRACT:

The accelerated warming of the upper Indian Ocean during 2000s accounted for more than half of the global ocean heat uptake increase and was linked to the slowdown of the global surface warming. This warming scenario has been attributed to the shift of Interdecadal Pacific Oscillation (IPO) to its negative phase. Here we show that the upper Indian Ocean continues to warm up after 2012 despite a shift of the IPO to its positive phase, suggesting the necessity of a more in-depth understanding of the Indian Ocean decadal warming. In the observational history, the upper Indian Ocean has undergone two accelerated warming scenarios (1965-1983 and 2002-present), both of which are associated with negative IPO conditions. Their first halves (1965-1975 and 2002-2012) are characterized by enhanced warming in the southeast Indian Ocean owing to Pacific wind-forced Indonesian through-flow enhancement, whereas the second halves (1975-1983 and 2012-present) are featured by widespread west Indian Ocean warming and likely induced by increased surface solar radiation. Climate model predicts much stronger decadal warming scenarios of the Indian Ocean in the 21st century under greenhouse gas forcing.

Live webcast: <http://www.fin.ucar.edu/it/mms/ml-live.htm>

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