

SEMINAIRE CNRM-GAME
N° 2015_02*mardi 6 janvier 2015 à 14h***PAST AND FUTURE OBSERVATIONS OF THE TROPICAL CLIMATE IN JAMSTEC MOISTURE VARIATIONS AND SHALLOW CONVECTION DURING CINDY-DYNAMO (2011-12) AND THE UPCOMING YEAR OF THE MARITIME CONTINENT (2017-18)****par Hugo BELLENGER**
JAMSTEC**en salle de conférences Joël Noilhan**Résumé :

In the first part of this seminar, I will present results obtained from the CINDY/DYNAMO campaign that took place in the equatorial Indian Ocean during winter 2011-2012. This campaign aimed at better understanding the processes involved in the triggering of the Madden-Julian Oscillation (MJO) and, in particular, in the moistening of the troposphere prior to its convectively active phase. There is an ongoing debate on the relative importance of

- (i) the moistening by shallow convection and congestus and
- (ii) the large-scale advection in this preconditioning phase.

Using high frequency soundings, lidar and radar observations, we were able to robustly link shallow convection to moisture variations within the lowest 4 km of the atmosphere. We could then quantify the associated local moisture tendencies from the convective scale (less than few km) to the mesoscale (~100km).

These tendencies are compared with large-scale advection estimates (reanalysis) to discuss their importance in the moisture budget during the transition from convectively suppressed to convectively active periods.

In a second part of this talk, I will present the upcoming Year of the Maritime Continent (YMC) that will take place from April 2017 to October 2018, its scientific background and current status.

The Maritime Continent is a major convective region located in the middle of the warm pool and is under the influence of large-scale variability such as the MJO, monsoon, the Indian Ocean Dipole (IOD) and ENSO. In addition, the Indonesian Throughflow plays a central role in the oceanic circulation. Finally, it is also a region of rich marine and land biodiversity that remains vulnerable to climate variability and climate change. Yet, climate and weather prediction models suffer from large systematic errors over the Maritime Continent and efforts are thus needed to advance our understanding of the key processes at work. The YMC is a framework to conduct Multi-disciplinary studies on this complex and central region for the tropical and global climate.

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