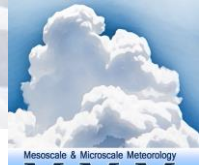


# MMM SEMINAR SERIES



## *Large eddy simulations of a wavy upper ocean with submesoscale surface heterogeneity*

*Dale Barker*  
*CCRS, Singapore*

Singapore is situated approximately one degree north of the equator, within the Western Maritime Continent (WMC) region of Southeast Asia. The small (730sqkm) city-state has a typically tropical climate, with abundant rainfall, high and uniform temperatures, and high humidity all year round. Many of its climate variables, such as temperature and relative humidity, do not show large month-to-month variation. However, many variables exhibit prominent diurnal (or daily) variations from hour to hour, indicating the strong influence that solar heating has on the local climate. Singapore's climate is characterised by two monsoon seasons separated by inter-monsoonal periods. The Northeast Monsoon occurs from December to early March, and the Southwest Monsoon from June to September.

This presentation will provide an update on recent research at the Centre for Climate Research Singapore (CCRS), part of the Met Service Singapore, including:

- Progress with the latest 'V3' national climate change projections for Singapore and the wider WMC region, due to be released in January 2024.
- Design and evaluation of an upgraded 'RAL3' physical parameterisation package within the Unified Model (UM)-based 1.5km 'SINGV\_DA' NWP system, due to be implemented in MSS operations in late 2023.
- Progress in the development and evaluation of a coupled ocean-atmosphere-land 'cSINGV' modelling capability for the WMC.
- Sub-km modelling studies of the impact of the urban environment on local tropical climate, in support of Whole-Of-Government Urban adaptation planning for climate change.

**Thursday, 21 September 2023, 2:00pm**

**Refreshments 1:45pm**

**Please also join colleagues for refreshments and informal discussion after the seminar until 3:30pm**

NCAR-Foothills Laboratory, 3450 Mitchell Lane  
FL2-1022, Large Auditorium

**Seminar will also be live webcast**

<https://operations.ucar.edu/live-mmm>

Participants may ask questions during the seminar via Slido.