Preliminary Examples from AMIE-Gan and AMIE-Manus

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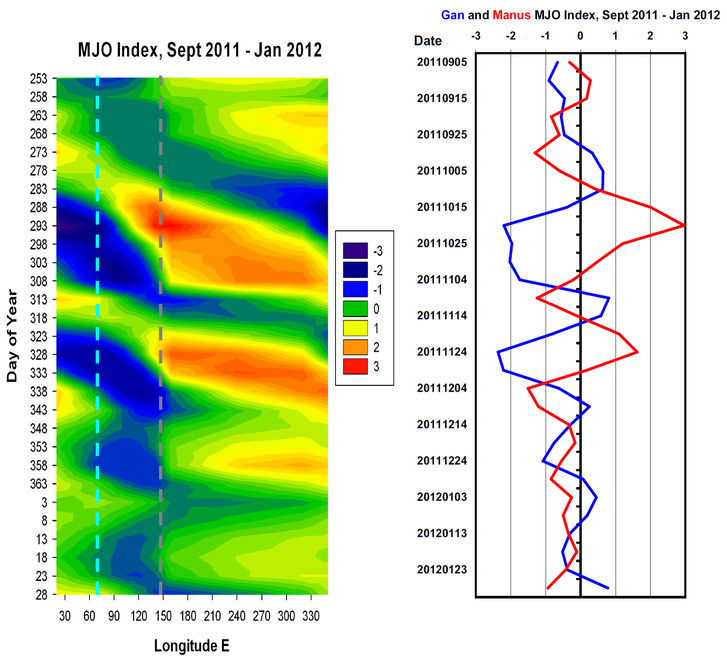
AMIE: the ARM MJO Investigation Experiment

AMIE Sites

The two sites involved with AMIE are located on Gan island in the Addu Atoll, Maldives, in the Indian Ocean; and at the ARM site on Manus island, Papua New Guinea in the western Pacific. The two are separated by the maritime continent area.

MJO: Madden Julian Oscillation

MJO Occurrence During AMIE

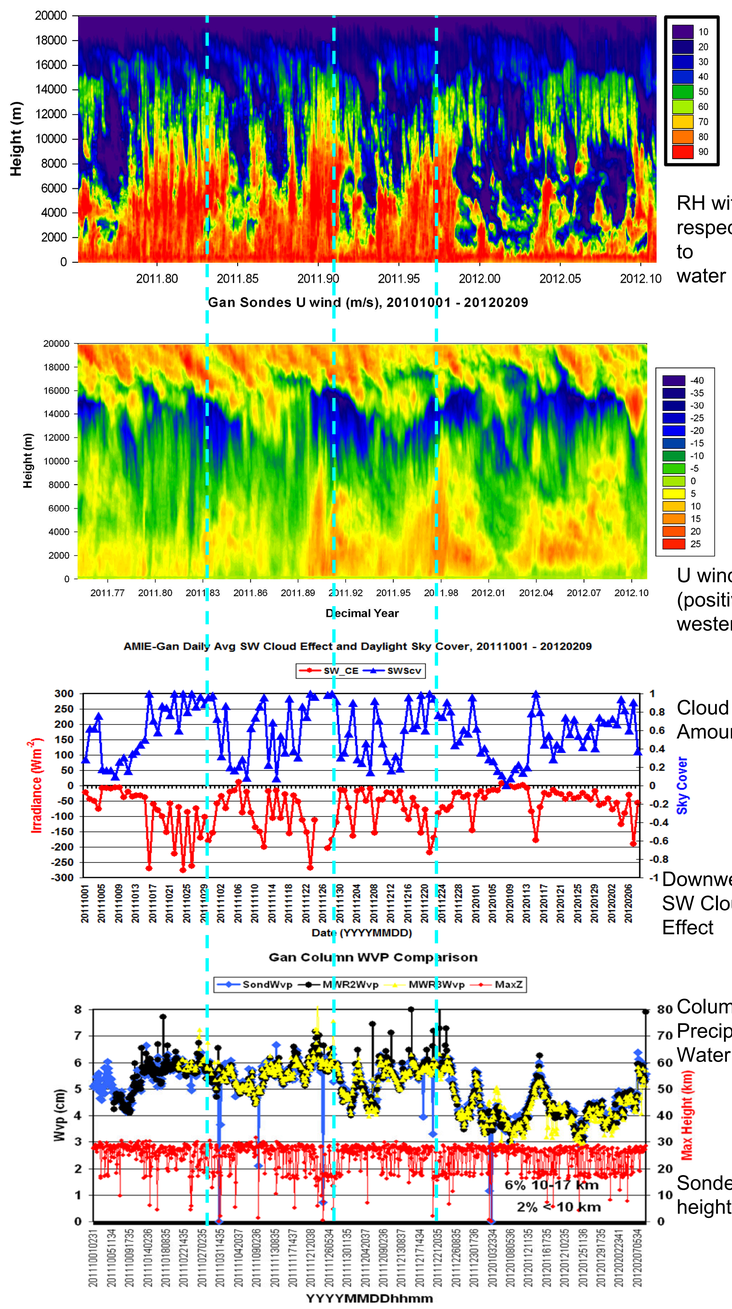


Through the end of January, 2012, each AMIE site experienced 3 MJO events. Two Gan events were stronger, centered on about Oct 30 and Nov 30, with a weaker event in late Dec. The Manus events were all weaker, due to the La Nina conditions present, and centered on about Sept 30, Nov 9, and Dec 9. Periodicity for these MJO events were 30-40 days, with a lag time between Gan and Manus of about 10 days.

MJO Index data from NOAA Climate Prediction Center:
http://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/mjo.shtml

AMIE-Gan and AMIE-Manus Example Results

AMIE-Gan



RH with respect to water

U wind (positive westerly)

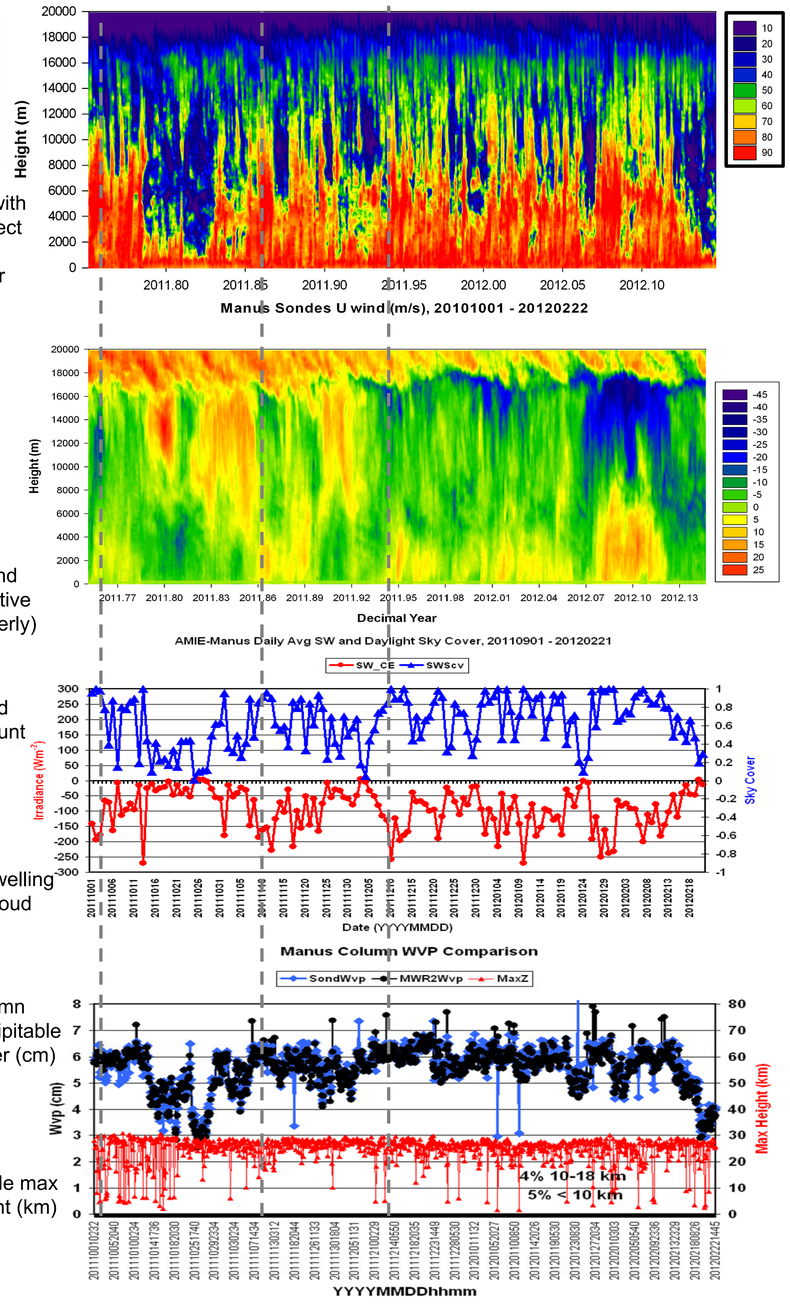
Cloud Amount

Downwelling SW Cloud Effect

Column Precipitable Water (cm)

Sonde max height (km)

AMIE-Manus



Manus MJO signal weaker and less obvious in data due to persistent La Nina conditions. In general, data shows that MJO is associated with:

- **Increased mid-level humidity and upper range of column water vapor amounts**
- **Increased low level westerly and high level easterly winds**
- **Nearly overcast skies and larger magnitude surface downwelling SW cloud effects.**