Characterizing the mesoscale-mean boundary layer moisture field structure for the Gan site using BSL analysis of S-Pol radar data

Dr. Jennifer Davison

Due to the highly variable nature of the moisture field in the tropical marine boundary layer (TMBL), it has largely been characterized in terms of its mean state. Yet, when and where convection is initiated, how long clouds persist, and precipitation amount and distribution is controlled by the actual distribution of moisture. A new radar product was developed using Rain in Cumulus over the Ocean (RICO) data to map the mesoscale-mean moisture field structure, based on Bragg scattering layers (BSLs) detectable with NCAR's S-band dual-polarization radar, S-Pol. BSL analysis provides an unprecedented structural context for both marrying together and more accurately interpreting moisture retrievals generated at a variety of scales and resolutions. This technique is now being applied on S-Pol data taken from the Gan site during DYNAMO. Preliminary DYNAMO BSL results will be shown.