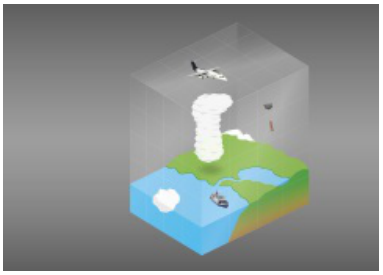

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# Cloudy boundary layers over the Northeast Pacific and Southern Ocean: Field observations and ERA5

*Tuesday, 11 June 2019 11:30 (30 minutes)*

In recent years, field campaigns have deployed modern in-situ and remote-sensing instrumentation in diverse marine cloudy boundary layer regimes. For example, the CSET (2015) airborne campaign sampled across the NE Pacific stratocumulus-cumulus transition between California to Hawaii. The Southern Ocean Atmospheric Research program (2016-8) comprised four observational campaigns (SOCRATES, CAPRICORN, MICRE and MARCUS) sampling between Tasmania and Antarctica, including airborne, ship and island measurements of cloud microphysics, precipitation, turbulence, thermodynamic profiles, and aerosols.
This talk will summarize observations taken during these campaigns and compare them with ERA5. In general, ERA5 is remarkably consistent with in-situ wind and temperature measurements, locates high relative-humidity layers accurately, boundary-layer vertical structure moderately accurately, and the vertical structure of cloud, precipitation and ozone somewhat less accurately. It slightly outperforms MERRA-2 in almost all respects.

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