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Atmospheric aerosols:

- Impact Earth's radiation budget by absorbing and scattering solar radiation
- Affect the extent, lifetime, and albedo of clouds

Aerosol Measurements During DYNAMO

Does the atmospheric aerosol play a role in the onset, strength, and/or dissipation of the MJO?

We can provide:

- Shipboard measurements of the physical, chemical, optical, and cloud nucleating properties of aerosols to elucidate the processes and cause-and-effect relationships between aerosols, cloud physics, and precipitation.
- Time series of aerosol parameters and derived empirical relationships that can be used by cloud-resolving and GCMs.

Measurements

- Aerosol chemical composition – Is the DYNAMO study region impacted by continental aerosols?
- Aerosol light scattering and absorption – Is there black carbon warming the atmosphere aloft?
- Aerosol number size distributions – Does this region have a typical marine tri-modal aerosol size distribution?
- Cloud condensation nuclei concentrations – What is controlling cloud droplet number concentrations?
- Aerosol optical depth – How much is the total aerosol column attenuating the solar radiation reaching the ocean surface?
- Surface seawater dimethylsulfide (DMS) concentrations – What is the marine biogenic source of aerosol precursors to the atmosphere?