

Convection

Objective: Describe thermodynamic and kinematic structure of monsoon and break convection

Issues Cold pool structure, characteristics of air being ingested
Vertical motions, particular in upper trop
Circulation/mass into anvils

Measurements: Proteus overflights – radar, in situ, uvw,T,rh (monsoon)
Dimona: profiles in near storm environment
others include BAE 146 profiles of aerosol uvwTrh
Strong links to Radar, soundings, satellite

Weather Monsoon convection – line or isolated storms not too high
Break: no overflights possible

How Many: Dimona ~ 4-6, other aircraft as opportunity arises

Links – clear links to thick cirrus/anvil cirrus

Flux missions

Objective : Verify ground based measurements

Issues: Day only

Measurements: fluxes – over flights for ~ 60 minutes over flux sites
50 ft altitude, 10-20 km legs

Weather: Ship: Mod –strong winds
Land:

How Many ≥ 4 (short missions)

Flux missions: spatial representativeness

Objective : Describe variability and “grid mean” measurements

Issues: Day only

Measurements: fluxes – long legs to flux sites,
Transects over water, uniform stretches of land for representative
Environments

Weather: Ship: Mod –strong winds
Land:

How Many: 4

Flux missions

Objective : Fluxes during boundary layer recovery

Issues: Day only

Measurements: fluxes – legs ~ 20 km long at stepped altitudes

Weather: Post convective cold pool

How Many 2 or 3?