

Theme 1 : PBL & Clouds

one-liner presentation highlights:

conventional k coefficient overestimated (Brenquier)
weaker POC entrainment induces FT subsidence anomalies (Berner)
lidar $w'w'$ statistics w.r.t. decoupling, diurnal cycle, articulation of
open-celled circulation (Brewer)
20S ship BL+ cloud synthesis dataset (deSzoeko)
combining ship lidar+radar turbulence stats (Fairall)
drizzle dependence on inversion height (Mechem)
large-domain radar precipitation statistics (Burleyson)
.....and tracking (Yuter)
LWP & N_d positively correlated at Pt A. (Zheng)

decoupling correlates to z_i -lcl, not wind speed or z_i jumps (Jones)
IDS of C I 30 remotely-sensed cloud variables (Leon&Zuidema)
satellite-derived relationship of cloud to "FT" (850mb) RH (Wilcox)

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Relevant VOCALS Hypotheses:

1. *Variability in the physicochemical properties of aerosols has a measurable impact upon the formation of drizzle in stratocumulus clouds over the SEP*

theme 1 presentations highlighted aerosol/drizzle dynamical associations more than cause and effect. (do we want a series of schematics?)

Given confounding macrophysical factors, how can we clearly separate out the impact of droplet conc. on drizzle? Of drizzle on PBL structure?

Other science: turbulence/decoupling/entrainment, diurnal cycle of PBL/cloud properties, life cycle of mesoscale drizzle cells

*relate cloud/PBL/precip diurnal cycle to VOCALS diurnal cycle hypothesis?
(the diurnal subsidence wave originating in northern Chile/southern Peru has an impact upon the diurnal cycle of clouds that is well-represented in numerical models)
further low-hanging fruit here?*

*if pocs are the norm, what about deep BLs w/ high LWPs and precip and no poc ?
what is a poc?*

Dataset Discussion:

what distilled datasets are most useful for modelers? How should we package them? how best to combine ship/aircraft?

have an eol website section devoted to collecting volunteer user-defined distilled datasets (published synthesis figures; diurnal cycle; monthly-mean....)

should we push for a more organized effort?