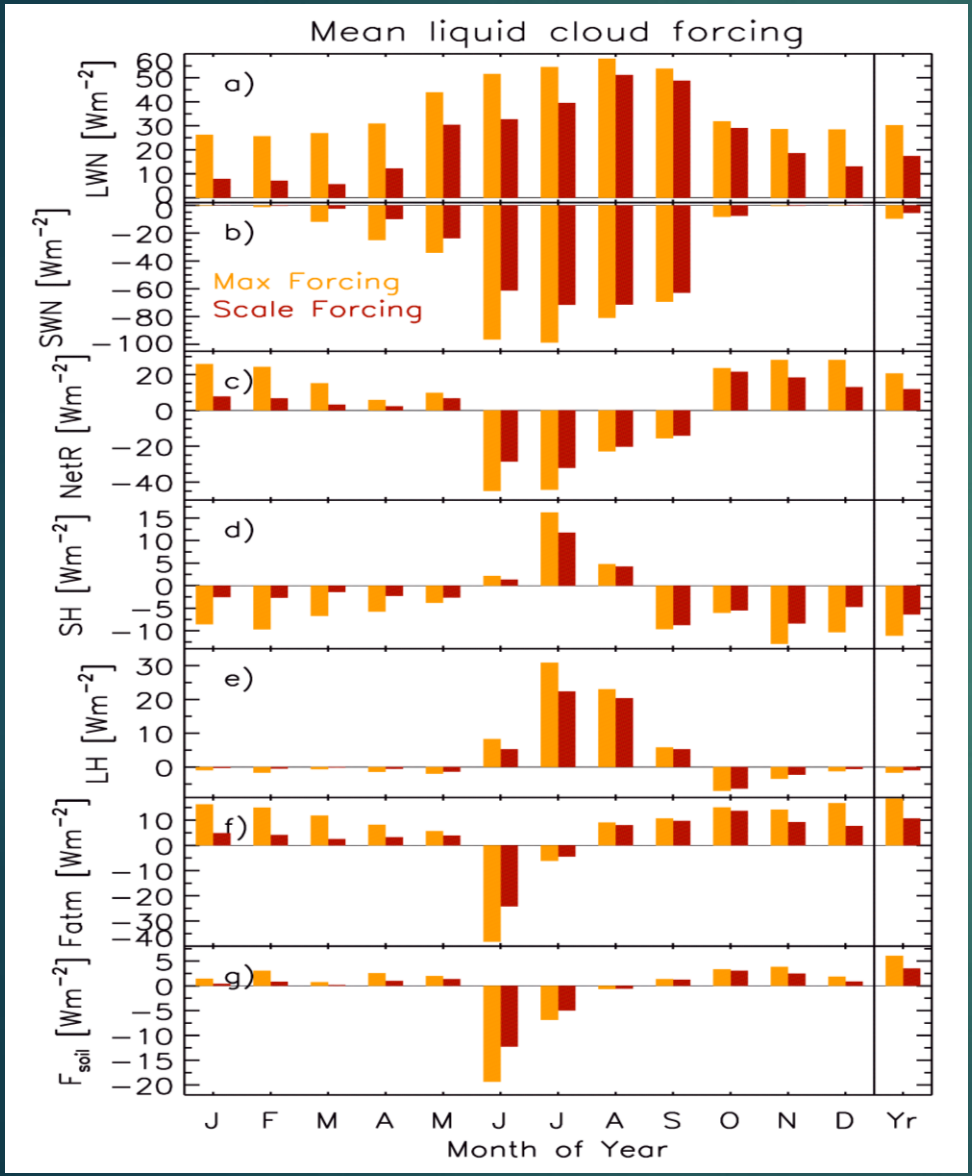
Liquid Cloud Forcing of NSA Surface Fluxes

Matthew Shupe, CU/NOAA



LCF = Liquid Cloud Forcing

$LCF_{max} = (F_{liq} - F_{noliq})$

$LCF_{net} = LCF_{max}$ *Liq_fraction

- LCF_{LWN} peaks in fall due to occurrence of liquid clouds
- LCF_{SWN} peaks in summer due to snowmelt & sun cycle
- LCF_{RAD} negative for 4 mon
- LCF_{TURB} largely counteracts radiative forcing
- LCF_{ATM} negative only in June/July
- LCF_{SOIL} follows LCF_{ATM}
- Liquid slows summer soil warming and winter soil cooling. Snow matters!