# Fire (Clouds) Breakout Group

Goal: starting today, in the next weeks, collectively or individually, generate specific, detailed, hypothetical flight plans (scorecards) that address important science goals. The flight plans must be realistic in face of natural variability in fire (and clouds) and typical lead times needed for implementation.

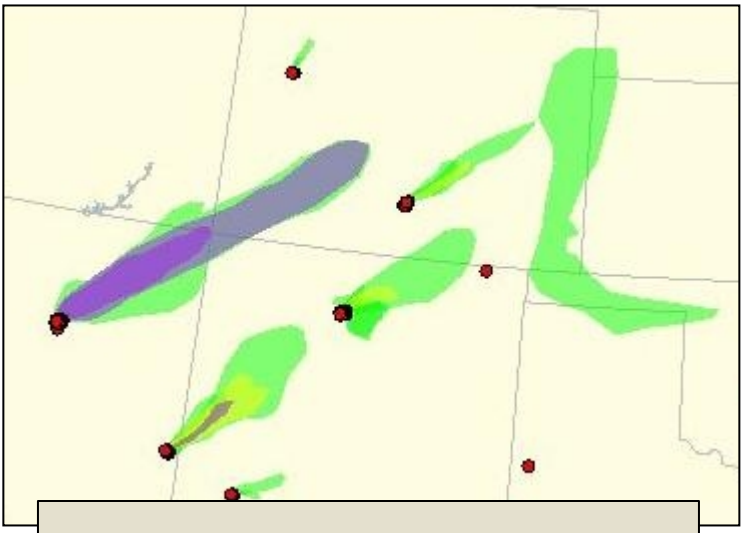
Variability examples >

Single Fire Level: Emissions can change dramatically within minutes or over the diurnal cycle. (aircraft faster than wind).

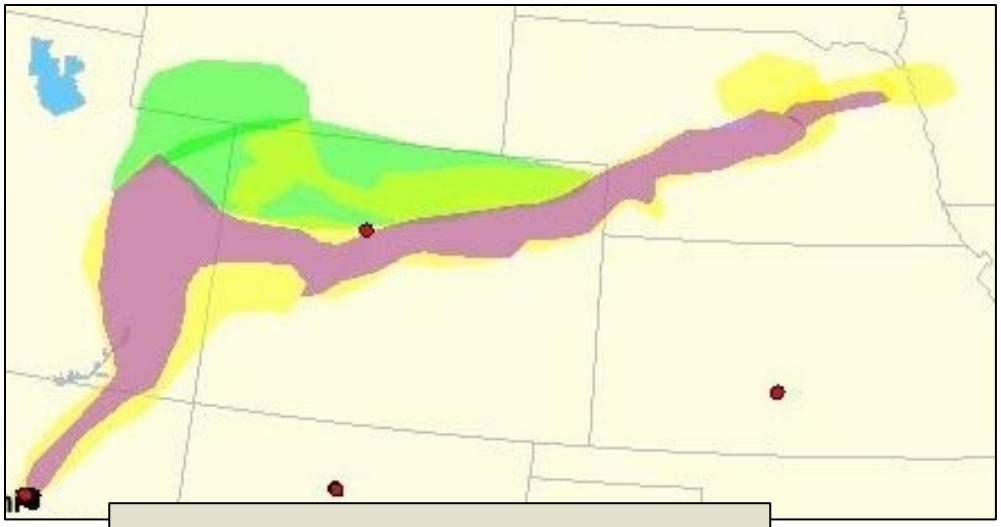
Group Fire Level: Adjacent fires can produce very different emissions and their plumes can mix.

Even prescribed fires planned weeks in advance frequently get rescheduled.

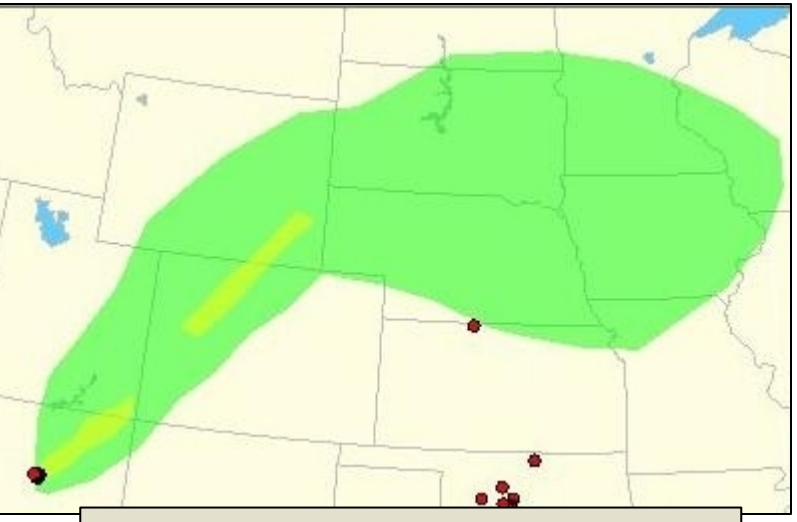
Regional level: Fire activity can surge and wane on time scale of 1-50 days.



June 21, 1224 UTC



June 21, 1846 UTC



June 22, 1721 UTC

June 24, 1958 UTC

# Persistent episode, nice plumes, mixed age/source haze, & backup plans.

ER-2 Above haze and MSU Lidar

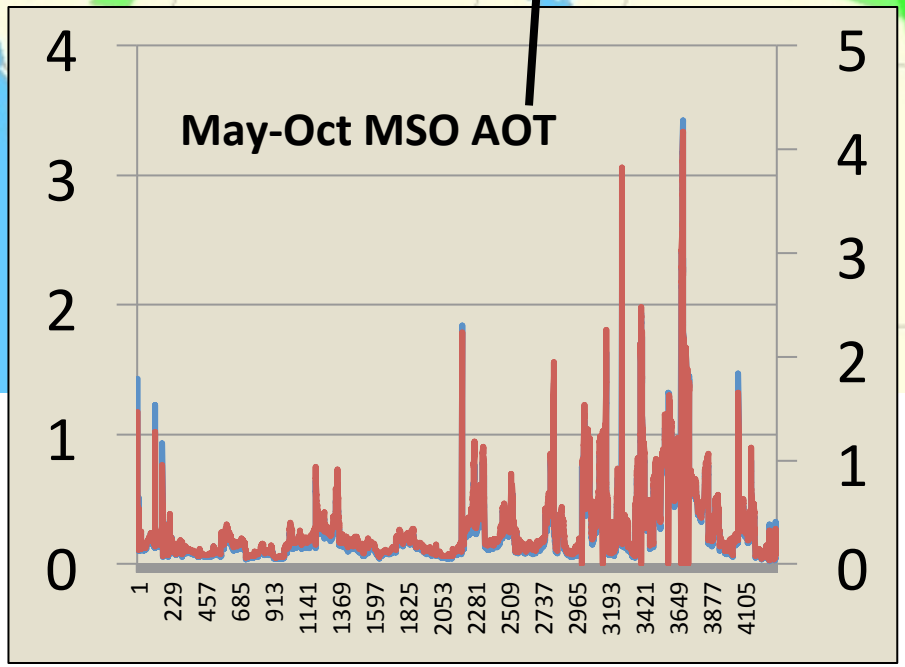
Plan B Fracking

BBOP

DC-8 Regional aged smoke/haze

MCS Cloud/ smoke interactions

Plan C Isoprene




8/31/2012

Ideas > Flight Plans

Which kind of smoke for your science: Plumes or regional haze? Recalling: Rapid early aging (harder target)
Regional haze (mixed age, mixed sources)

Photochemical evolution: no cloud processing, BL and/or FT

Cloud processing: Convective (ice/warm, short residence)
And/or Embedded Cumulus (warm aqueous reactors)?
Smoke impacts on clouds vs Cloud impacts on smoke?

Interactions with urban or biogenic?

Optimize ER2 and DC8 make use of ground observations.
SCORECARDS (Meteorology, instruments, flight tracks, etc)