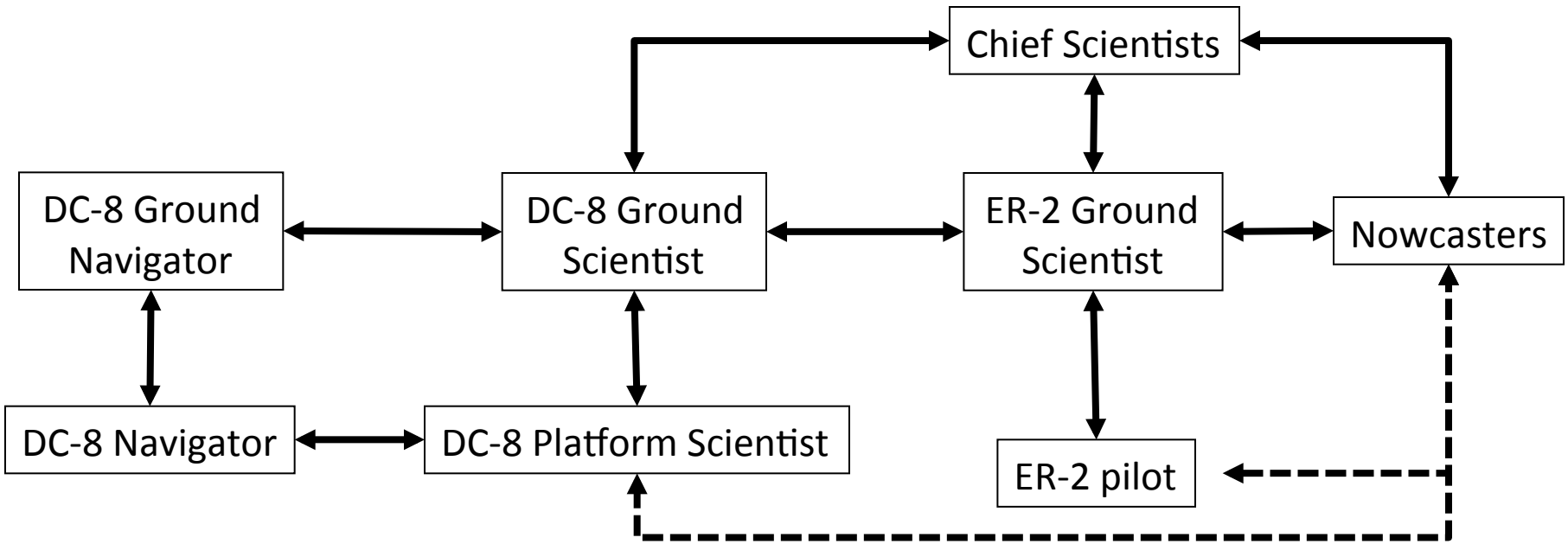
BREAKOUT REPORT: FLIGHT PLANNING

SEAC^{4}RS chain of command (inspired from DC3 Lessons Learned):

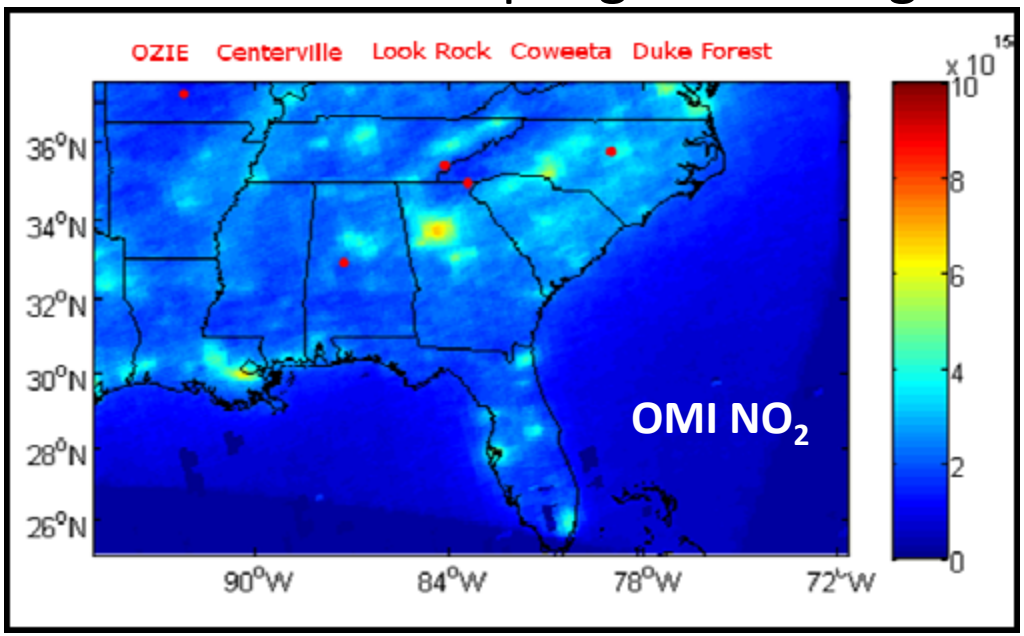


- Ground scientists send planes to major convective cells
- Near-field planning done by platform scientist using radar information

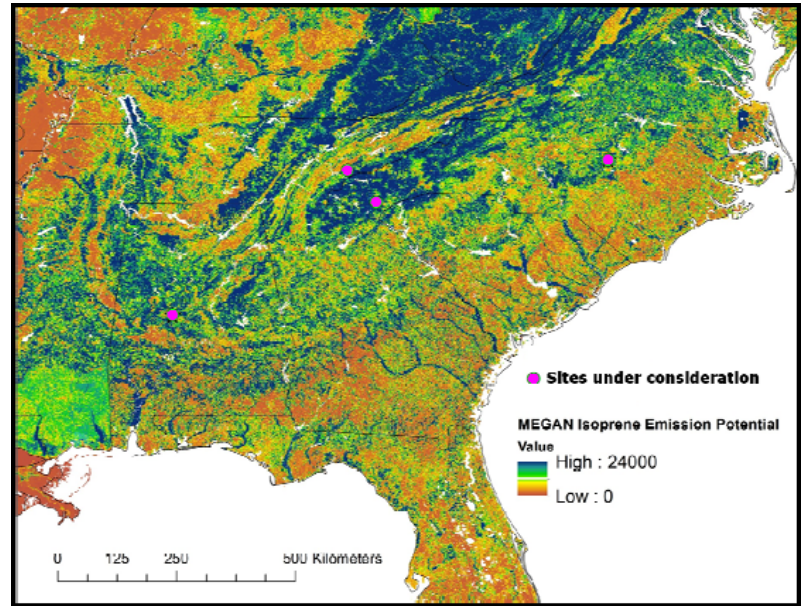
Some flight planning considerations

- Sampling strategy for UT anticyclone should involve long horizontal surveys with continuous vertical profiling , DC-8 and ER-2 stacked at different altitudes
- General strategy for linking DC-8 and ER-2 is to have them stacked. AirMSPI validation needs 150-km flight legs with ER-2 to observe 10x10 km^2 scene from full suite of angles, combined with DC-8 spiral for that scene. We should do this for a few locations in the Southeast US with AERONET sites. Huntsville should be one of them (ground-based lidar)
- ER_2 also has its own in situ sampling objectives for deep thunderstorms with outflow in the lower stratosphere. Under these circumstances it would be decoupled from the DC-8.
- Southeast chemistry objectives for DC-8 to involve combination of regional surveys and plume sampling. Lots of vertical profiling from aircraft floor to lower free troposphere (~3 km). Missed approaches very attractive to acquire information on isoprene gradients near the ground. Need to pick a few places before deployment. Small regional airports without ATC towers are particularly attractive.

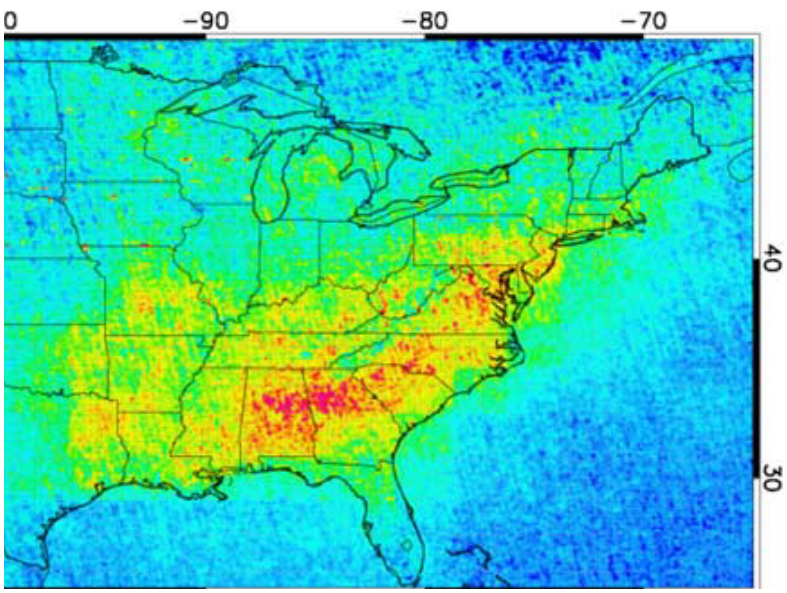
Sampling chemical gradients in the Southeast

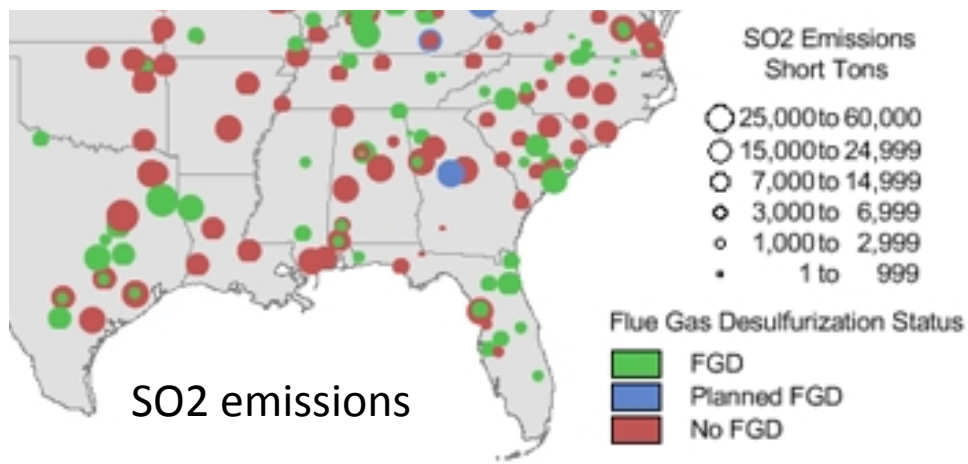


Isoprene emission potential



HCHO column





SO2 emissions