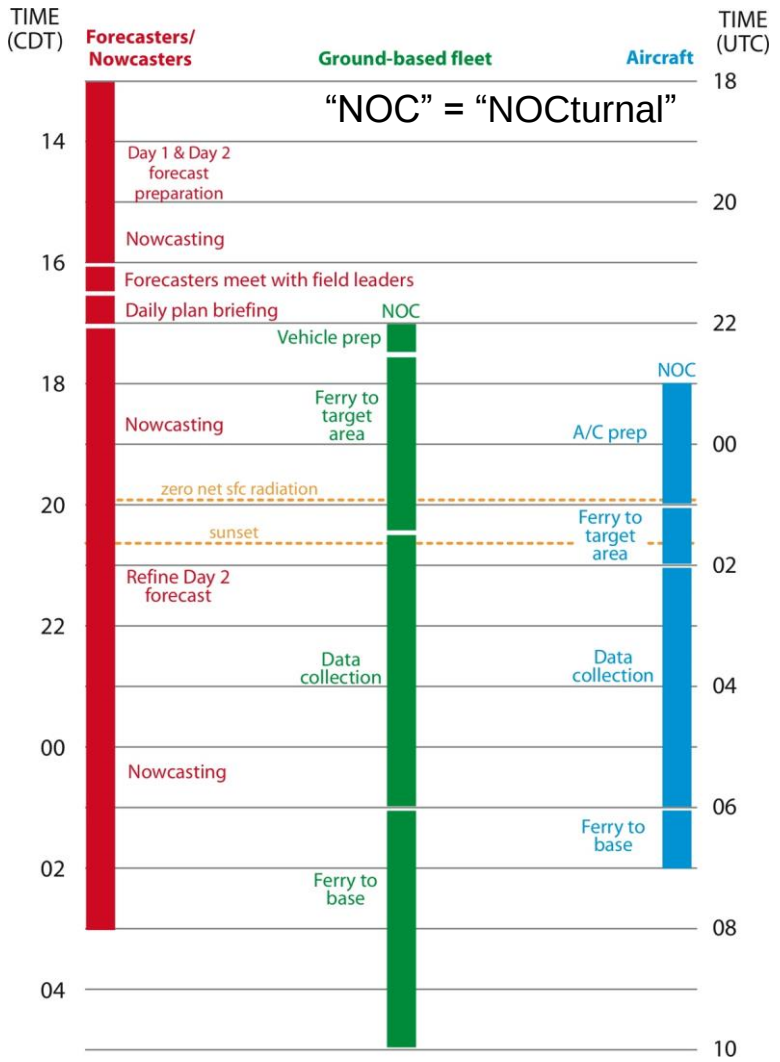
Mobile Radar Deployment

- Daily deployment timetable for mobile radars is mission-driven (i.e., priority given to bores, CI, & MCSs at night)
- Deployment follows advance forecast preparation & briefing and SC decision-making
- Must factor timing/location of Night-1 weather target (e.g., CI, MCS, Bore) relative to Hays (if any)
- Must factor 1-way ferry times, sites, and probable Night-2 and Night-3 missions (if any) & locations
- Radars may need to deploy earlier in some scenarios

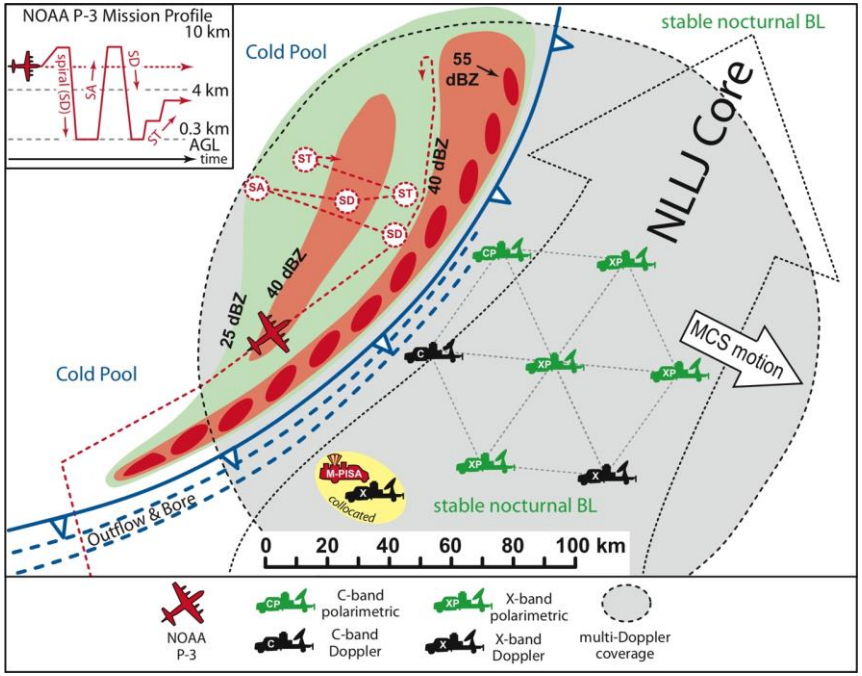
Strawman time-table (needs updating)



Thoughts about mobile radar coordination

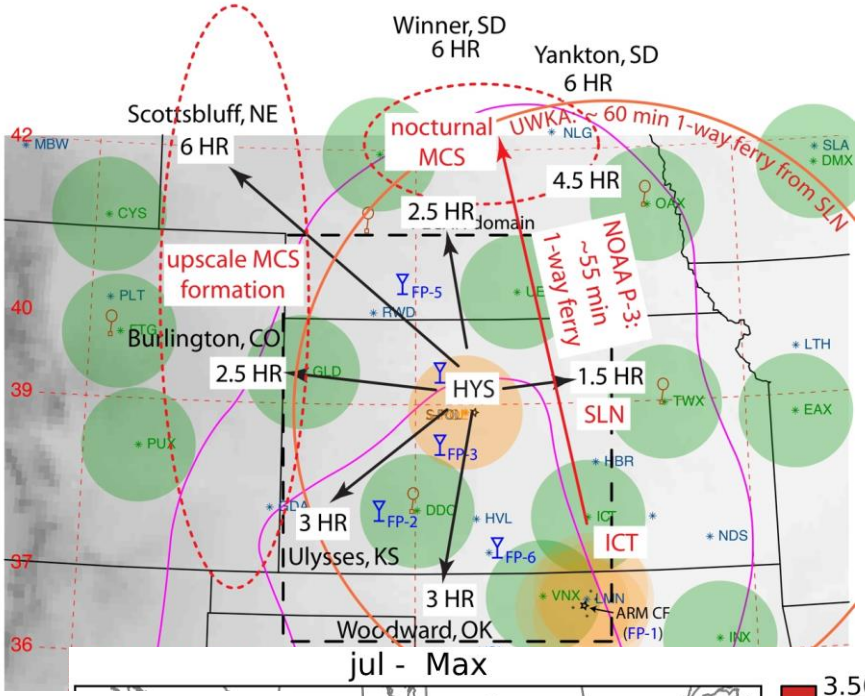
- Location of “ground-based mobile radar coordinator” (field vs. POC)?
- Individual radar teams execute pre-defined Bore, CI, or MCS mission profiles
- Situational Awareness (SA) displays in radars, scout vehicles, & POC is critical
- SA display should include ability to peruse site database
- Cell Internet enables SA computer to access real-time obs: *SA display must work in low-bandwidth conditions!*
- Desirable for text chatrooms to automatically reconnect to mitigate impact of cell Internet dropouts
- VHF radio needed for local comms & emergency use

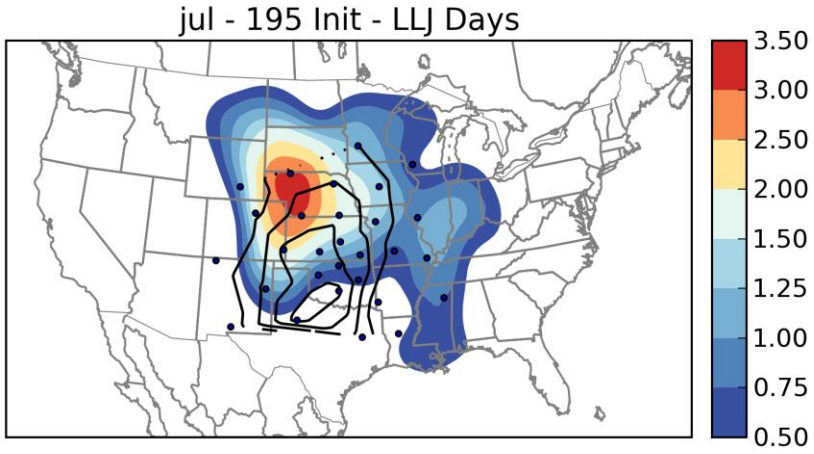
Mobile radars (ground-based and airborne)



Range issues for mobile radar deployments

- Mobile radars can reach most points in PECAN domain within ~ 3 hours.
- Long-distance missions require earlier deployments or pre-deployments & some overnight stays in the field (“semi-nomadic”).
- Mobile radar teams plan to double-book rooms on some fraction of total mission nights (e.g., ~10+ double-booked nights)

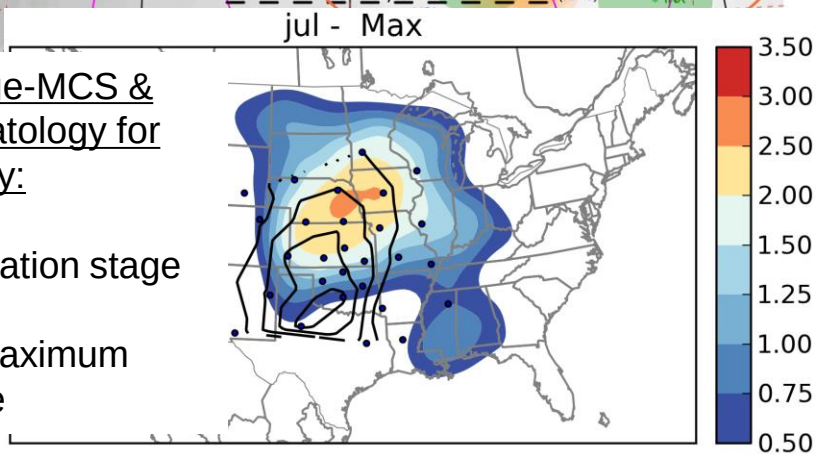




NSSL Large-MCS & NLLJ Climatology for July:

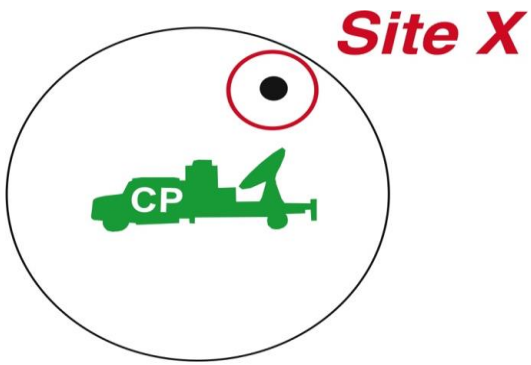
Left: MCS initiation stage

Right: MCS maximum intensity stage



Locating sites during mobile radar deployment

- Example: “virtual” MCS intercept north of Hays modeled from 11 June 2002 IHOP nocturnal MCS/LLJ forecast
- Select target area & IP for MCS, center radar hexagon “template” at IP, set departure time and ETA
- Each radar team leader & RC peruses candidate sites in their situational awareness (SA) displays en route to IP
- Zoom to view radar array relative to IP
- Team leader of each radar zooms on that radar’s assigned array position to peruse sites
- Select “Site X” to peruse properties
- After selecting best site, adjust optimal route as needed.

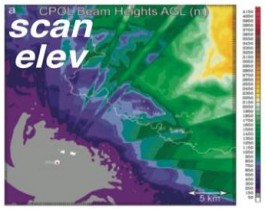


Site X Data
(i.e., all data near gridpoint)

Metadata:

(lat, lon), site rating, description of imaged Site X
(lat,lon) of other proximate (non-imaged) sites

Images:



Some mobile radar redeployment questions

- When does a given radar's mission end for the IOP?
  - When that radar's useful data collection ends?
  - When aircraft, PISA, etc, operations end?
  - Need to consider/minimize crew fatigue
- Return to lodging in Hays, or go to other/nearer hotel?
- What are possible scenarios for Nights #2 and #3?
- In event of long Night-1 mission, is Night-2 declared down?
- Other?