Breakout questions: upsonde group

1. What research questions/problems can be addressed…

(in addition to proposed objectives…)
-composites of inflow soundings
-composites of triangle calculations over different stages of storm evolution
-model verification using the upsonde data
-5/19-5/20 differences in storm location relative to dryline, and tornadic/nontornadic behavior
-collaboration with other groups (e.g., mobile radar)
-comparison of observed soundings with hi-res models (implications on CI, removal of negative buoyancy, etc.)
-reach out to climate modelers (e.g., implications on superparam.; longer-term endeavor, once we have results & quantified impacts) (potential contacts: J. Tribbia, G. Holland, Julio Bachmeister – water cycle group, J. Hurrell

2. What modeling approaches…

3. Are there significant issues…
-triangle calculations (Stan Trier is willing to share "triangle" code)
-access to other data collected
    -Oswego, Valpo soundings
    -mobile radar data
    -DOE data (radar, other platforms)
-need for high-resolution (time, space) analyses that use all MPEX, etc. data:
    -Stensrud – 5-min analysis, via radar data DA (but only a small number of cases)
    -request for Romine-type (hourly) analysis (15, 3-km) – continued past 16 UTC (through 2 or 3 UTC) [possible if only conventional data]
    -Coniglio (15-km grid, hourly, for select cases)
-model forecast sharing (how? what will be available?)
    *Romine/NCAR ensembles: 3-km, only "products", but 15-km full fields;
-bias correction on upsondes

4. Which cases…

5/15	Coniglio (DA of upsonde data)	
5/18	Coniglio (inflow soundings, modification of inflow by supercell in various stages)	

5/19	Woznicki/Trapp (kinematic calculations + environmental changes)	Schumacher (boundary-layer evolution study) Trier (comparison of fcst soundings with upsondes)
5/20	Dawson/Trapp (predictability)	F. Zhang (DA of Moore)
5/23	Schumacher (mesoscale dynamics of cold pool/winds + subsequent effect on MCV & SAT flood)	*note: well sampled environment (by 5 soundings @18 UTC)
5/27	Coniglio (DA of upsonde data)	
5/28	Stensrud (DA of upsonde data)	Coniglio (DA of upsonde data)
5/29	Woznicki/Trapp (kinematic calculations)	
5/30	Stensrud (DA of upsonde data) Trier (evaluation of fcst soundings using upsondes)	30-min soundings in inflow
5/31	Logan/Trapp (predictability) Woznicki/Trapp (kinematic calculations)	Coniglio (DA of upsonde data) Schumacher (upscale group into MCS) Stensrud (DA of upsonde data/verification)
6/3	Stensrud (?)	??? (bow echo genesis?
6/4	Coniglio (DA of upsonde data)	
6/8	Trier (evaluation of fcst soundings	

	using upsondes)	
6/11	Good sampling of west-east variability of the mesoscale environment	
6/12	??	

(will need to get input from Doswell on cases that he's particularly interested)

5. What metrics..

6. What changes in operational strategy…
GV for pre-CI; possible "surround" at larger radii (and upsondes at smaller radii); later-day (after dark) soundings (to get post-convective feedbacks) … with more crews (separate crews for pre-CI, convective, and then post-convective) … possible use of GV for night-time post-convective sampling;
-better communications (solution?)
-more signal frequency options for sondes