Next Generation Observing Systems
Breakout Session Summary
Discussion of ATD work

- Largely user-driven (airborne and ground-based)
- HIAPER (future of manned research aircraft?)
- Intelligent sensor arrays
- ATD’s Analytical Photonic and Optoelectronics Laboratory
- Driftsonde work with UNH
Other topics

• Brief discussion of adaptive or targeted observing strategies

• THORPEX (a global atmospheric research program) with 4 components: (dynamics and predictability; **observing systems**; data assimilation and adaptive observing; societal and economic impacts)
Discussion centered around these questions:

- What is the purpose of the NGOS? Climate studies, weather forecasts, solar dynamics? Validation and improvement of models or to better understand basic physical processes?
- How best to construct/plan a new observing system? Who specifies the requirements? What sort of tests (OSSEs?) should be performed to identify the requirements for the system? What are the incentives for university researchers to conduct this work?
• Are we making the most of our current observing platforms? To this question, the answer seemed to be highly dependent on the type of observation (e.g., research aircraft measurements are highly utilized, while it was broadly agreed that satellite observations are under-utilized).

• What are viewed as the most important problems that need to be addressed with observations (the boundary layer?)
Concluding remarks/questions

• Development of the NGOS should be accompanied by (or preceded by) significant data assimilation algorithm development.
• ATD measuring system development driven by users – what role do non-atmospheric scientists (e.g. hydrologists and biologists) have in this work?
• Noted that university participation in the THORPEX program provides an opportunity to contribute to the NGOS development.