



NCAR
OPERATED BY UCAR

Earth Observing
Laboratory

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Next Steps, Recommendations, and Action Items

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The floor is open for any remaining discussion items or topics that are worth revisiting...



The workshop signals a strategic transition: from debating hardware specifications to building a connected radar ecosystem — while safeguarding workforce, facilities, and U.S. leadership.



What we heard

Limited discussion of new radar hardware needs

No strong push for mm-wavelength or higher-sensitivity systems

No clear consensus on next major hardware capability

Strong interest in connecting radars into a unified data ecosystem

Emphasis on:

Standards & APIs

Real-time operations + computing + AI

Integration testbeds

Low-cost technologies



An strategic opportunity

Airborne radar was the only hardware domain discussed in depth

Significant SWaP and operational challenges

Strong support for NCAR–NOAA partnership

Desire to expand participation to:

Universities

Private industry

Need to broaden scope beyond tropical cyclones:

Severe convection

Wildfires

Rapid-response missions



What concerned us

Concern about retaining radar talent in academia and labs

Question of industry's long-term R&D focus on "weather radar tech"

Tension between:

Emerging AI tools (LLMs, automation)

Traditional radar education and CIF-based training

Prioritize development of a Connected Radar Data Ecosystem, including

- **Standardized APIs for control, operation, and data formats**
- **Integration of airborne, PAR, reflector, and research radars**
- **Real-time AI-ready infrastructure**
- **Establish integration testbeds to validate ecosystem interoperability.**

Expand NCAR–NOAA partnership to include academia and industry in a structured manner.

- **Evaluate diverse suborbital architectures:**
- **Crewed platforms**
- **Uncrewed systems**
- **Rapid-response capabilities**
- **Develop targeted funding pathways to mature airborne radar technologies.**
- **Convene focused airborne/suborbital workshops at regular intervals to maintain progress and coordination.**

Develop a coordinated Radar Workforce Strategy, including:

Integration of AI into radar curricula

Sustained CIF, summer schools, and REU support

Engagement of private sector in training pathways

Conduct a national radar inventory assessment (capabilities, maintenance, gaps).

Establish a roadmap of targeted Radar Workshop Series and repeat this community workshop in 5 years (keep the community connected).



Develop a set of actionable recommendations to NSF
Workshop report
BAMS article

Develop a live strategic document that captures the
short term / long term priorities,
targeted workshops outcomes
evolving recommendations

Develop a roadmap (as part of the actionable recommendations to NSF)
for engaging in a effective way with the U.S. radar community in a routine
way in conferences and targeted workshops.