

Karen E. Cady-Pereira, MS

Physicist and Remote Sensing Scientist
Manager, Radiation, Trace Gases and Clouds Group
Research and Development Division



Ms. Cady-Pereira is a principal scientist with over 30 years at AER. She is the manager of the Radiation and Climate group and part of the management team for AER's Research and Development division. Her primary research interests center on remote sensing of trace gases and the radiative transfer models this activity requires. Her main focus in recent years has been the development and evaluation of ammonia retrieval algorithms. Ms. Cady-Pereira has published over 60 peer-reviewed publications with topics that include:

- Retrieval algorithms for ammonia, methanol and formic acid from infrared sensors
- Evaluation of ammonia, carbon monoxide and HDO retrievals using aircraft and surface data
- Applications of ammonia retrieved products in inverse modeling and emission estimates
- Monitoring of trace gases over megacities
- Improvements of the spectroscopic parameters used in radiative transfer models from the microwave to the NIR
- Modeling surface reflectance of solar system objects

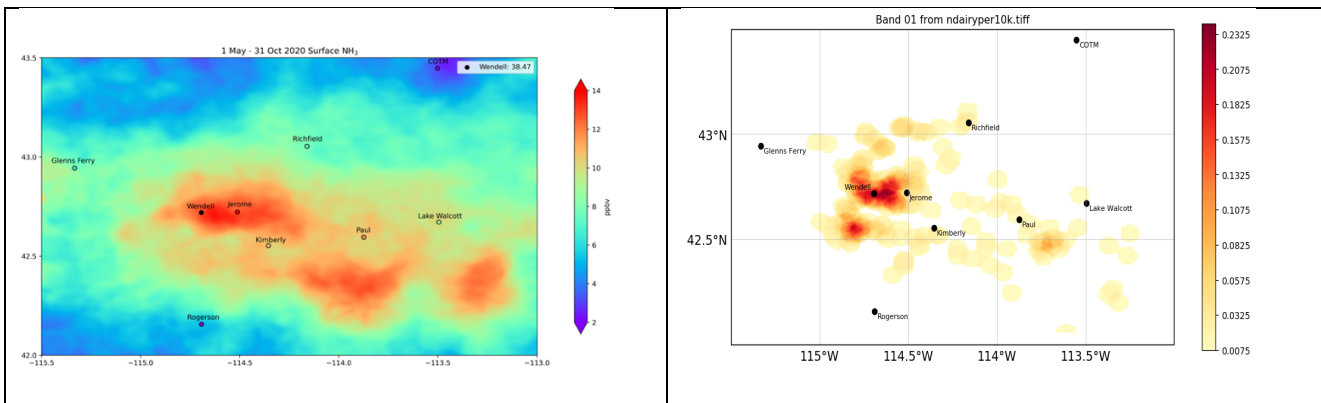
Education

- MS, Civil Engineering, Massachusetts Institute of Technology
- BS, Physics, University of Sao Paulo

Memberships

- AGU
- TROPES Science Team
- NASA Sounder Science Team

For a list of publications, see Karen Cady-Pereira's [Google Scholar Profile](#).



Warm season mean of ammonia from CrIS over the Magic Valley in Idaho (left); dairy density in same region.

Ms. Cady-Pereira's is especially interested in facilitating the use of satellite trace gas retrievals by the air quality and inverse modeling communities, and in collaborating with their research activities.

Her current projects, and their primary objectives, include:

- "Improvements to the NASA CrIS NH₃ Product" (funded by the NASA ESD Standard Products Program)
- "TROPES Science Team": long term collaboration between the TES/TROPES group at JPL and AER; many different topics have been studied, from the development of retrieval algorithms from fundamental principles to applications in air quality monitoring and forecasting, emissions from fires and the water cycle in the atmosphere (funded directly by JPL, indirectly by NASA).