

Progress on NEWS Project *A Merged Atmospheric Water Data Set from the A-Train*
Eric Fetzer, Jet Propulsion Laboratory, July 21, 2009

1) Project Status and Progress

We are collaborating closely with the NASA ACCESS project titled *Web Services enabled Tool for Distributed Custom Level 2 Data Subsetting and Level 3 Data Summarization*, Principal Investigator Hook Hua of JPL. We are averaging our NEWS Level 2 quantities into Level 3 products using web services. See updated Quad Chart for an example of a Hovmoller diagram from the associated analysis.

We are continuing to compare observations from different sensors in an effort to constrain the measurement uncertainties. These comparisons include water vapor (see Fetzer et al. 2008 in the publications) done in collaboration with graduate student Calvin Liang at UCLA. Other comparisons include cloud top properties from AIRS and MODIS.

2) Collaboration

Our primary collaboration has been with the ACCESS project.

3. Publications

We published the following papers since our last written report in March 2008:

- Fetzer, E. J., W. G. Read, D. Waliser, B. H. Kahn, B. Tian, H. Vömel, F. W. Irion, H. Su, A. Eldering, M. de la Torre Juarez, J. Jiang and V. Dang (2008), Comparison of upper tropospheric water vapor observations from the Microwave Limb Sounder and Atmospheric Infrared Sounder, *J. Geophys. Res.*, 113, D22110, doi:10.1029/2008JD010000.
- Kahn, B. H., A. Gettelman, E. J. Fetzer, A. Eldering, and C. K. Liang (2009), Cloudy and clear-sky relative humidity in the upper troposphere observed by the A-train, *J. Geophys. Res.*, 114, D00H02, doi:10.1029/2009JD011738
- Schwartz, M. J., A. Lambert, G. L. Manney, W. G. Read, N. J. Livesey, L. Froidevaux, C. O. Ao, P. F. Bernath, C. D. Boone, R. E. Cofield, W. H. Daffer, B. J. Drouin, E. J. Fetzer, R. A. Fuller, R. F. Jarnot, J. H. Jiang, Y. B. Jiang, B. W. Knosp, K. Krueger, J.-L. F. Li, M. G. Mlynczak, S. Pawson, J. M. Russell III, M. L. Santee, W. V. Snyder, P. C. Stek, R. P. Thurstans, A. M. Tompkins, P. A. Wagner, K. A. Walker, J. W. Waters and D. L. Wu (2008), Validation of the Aura Microwave Limb Sounder temperature and geopotential height measurements, *J. Geophys. Res.*, 113, D15S11, doi:10.1029/2007JD008783.
- Ye, H., and E. J. Fetzer (2009), Atmospheric moisture content associated with surface air temperatures over northern Eurasia, *Int. J. Hydrology*, accepted.
- Yunck, T. P., E. J. Fetzer, A. M. Mannucci, C. O. Ao, F. W. Irion, B. D. Wilson, G. J. M Manipon (2009) Use of radio occultation to evaluate atmospheric temperature data from spaceborne infrared sensors, *Terrestrial Atmospheric And Oceanic Sciences*, **20**, 71-85, DOI: 10.3319/TAO.2007.12.08.01(F3C).

4. Issues or Concerns

Looking for beta testers for L3 web services.

5) Integration

We anticipate delivery of data sets and web services from the ACCESS collaborative effort in the Fall 2009 time frame.