Monthly Outgoing Longwave Radiation Product Improved

CICS-MD Scientist Hai-Tien Lee (NCEI) has completed a major science upgrade of the NOAA operational Monthly Outgoing Longwave Radiation (OLR) Climate Data Record (CDR) product, shown below.

Outgoing Longwave Radiation - Monthly

The Monthly OLR CDR v02r07 has a revised retrieval algorithm. A new regression model was required due to the High-resolution Infrared Radiation Sounder (HIRS) loss of a tropospheric water vapor sensing channel, which had been used as a predictor. Further changes eliminated the instrument dependencies of the new regression model. These efforts were required to improve retrieval consistency for inter-satellite calibration. The Monthly OLR CDR product is available from the NCEI website: https://www.ncdc.noaa.gov/cdr/atmospheric/outgoing-longwave-radiation-monthly.

Importance: The monthly OLR product is important in NOAA climate analysis and forecasting, and is used in radiation budget, climate variability, and global precipitation studies. POC: H.-T. Lee
The World Ocean Database:
CICS-MD Scientist Alexey Mishonov (NCEI) gave an ESSIC Seminar on January 29th to a group of about 20 NOAA and UMD scientists in College Park, MD. His talk was entitled: Supporting the World Ocean Database (WOD): Archiving, Processing, and Analyzing in situ Ocean Data.” The WOD is the largest collection of quality-controlled ocean profile data available internationally in three most common data formats. It is built by merging thousands of data sets submitted for archiving in WOD by many individual researchers and scientific institution from all over the world.

Mishonov took the lead in developing the 3-D viewing environment for ocean data, an example of which is shown above. He was involved in the NCEI Regional Climatology project that resulted in the creation of several high-resolution climatic atlases covering some important USA coastal regions. He also uses the WOD data for global assessment of the seawater optical properties. The World Ocean Database is on the NCEI website at https://www.nodc.noaa.gov/OC5/WOD/pr_wod.html.

Importance: The World Ocean Database promotes NOAA’s mission to share its knowledge and information with others. POC: A. Mishonov
**Lidar of the Boundary Layer:**
CICS-MD Scientist Korak Saha (NCEI) has a new article due to come out in the April 2018 issue of *Atmospheric Research*. The article examines data from the boundary layer for a field study during India’s monsoon season. By luck, they were able to capture a Kelvin Helmholtz Instability (KHI) with the Doppler Wind Lidar, as shown below:


**Importance:** Better understanding of Kelvin Helmholtz Instability could improve numerical weather models. **POC:** K. Saha