Quasi-Operational NLDAS-2 Products and NCEP Official NLDAS-2 Products

Transition Plan for NLDAS-2 Product Users

August 18, 2014

Youlong Xia, Michael B. Ek

NCEP/EMC NLDAS team, 5830 University Research Court, College Park, Maryland

David Mocko, Christa D. Peters-Lidard

NASA/GSFC NLDAS team, Goddard Space Flight Center, Greenbelt, Maryland

1. Quasi-Operational NLDAS-2 Products

The quasi-operational NLDAS-2 products include two parts – a retrospective run (1979-2008) and a near-realtime run (2009-present). These products include NLDAS-2 forcing ("a" and "b" files), and the outputs from the four land surface models (Noah 2.8, Mosaic, SAC, and VIC4.0.3) at 1/8th degree spatial resolution and hourly temporal resolution (in GRIB2 format). The products are staged on a NCEP/EMC public server: ftp://nomad6.ncep.noaa.gov/pub/raid2/wd20yx/nldas/ – for forcing: the "NLDASII_Forcing" sub-directory and for the models: sub-directories "Noah", "Mosaic", "SAC", and "VIC". The NASA/GSFC NLDAS team downloads the products from the NCEP public server to reprocess them through changing filename conventions (http://ldas.gsfc.nasa.gov/faq/#NLDAS_NASAvsEMC), and calculates monthly-averaged values to distribute these re-processed products through the NASA Goddard Earth Sciences Data and Information Services Center – GES DISC (http://disc.sci.gsfc.nasa.gov/hydrology). These products at GES DISC are stored in GRIB1, with an option to also download in netCDF or ASCII formats. The Giovanni and Mirador tools can be used to download selected variables, and/or a selected region and period. Various data processing and converting tools are available at: http://disc.sci.gsfc.nasa.gov/hydrology/additional/software-tools.

2. NCEP Operational Products

On 5 August 2014, the NLDAS-2 system became part of NCEP Central Operations (NCO). These operational products include all products generated from the quasi-operational NLDAS-2 run described in Section 1. It also added hourly gridded streamflow from the four models. The River Routing Model, housed at NCEP/EMC and developed by Lohman et al. (2004), was used

to route the simulated surface runoff and baseflow to a given specific grid point according to routing mask and direction. These operational products are available in GRIB2 format. The data are stored on the NCEP NCO public website - http://www.nco.ncep.noaa.gov/pmb/products/nldas/. GRIB2 documentation is available at: http://www.nco.ncep.noaa.gov/pmb/docs/grib2/grib2_doc.shtml. **All NLDAS users including operational users are encouraged to begin using the GRIB-2 operational products from NCEP NCO directly, as NCEP will generate all products in GRIB2 format in the future (all new implementation systems must use GRIB2 format and upgraded systems are transitioning from GRIB1 into GRIB2 format).**

3. Plan for the Transition Period

In order to help all NLDAS-2 users to transition their codes/scripts smoothly from the quasi-operational NLDAS-2 products to the NCEP operational products**, the joint NLDAS team between NCEP and NASA/GSFC decided that the previous quasi-operational system will continue to run until 30 November 2014 in an overlap period. After that date, the quasi-operational NLDAS-2 system will stop.** The NCEP/EMC NLDAS team will stage the operational products to the previous NCEP/EMC public server nomad6 - ftp://nomad6.ncep.noaa.gov/pub/raid2/wd20yx/nldas/ in the NCO_NLDAS sub-directory during this transition period. At the same time, the NASA/GFSC NLDAS team will convert the operational products from GRIB2 into GRIB1 using the NASA conventions, including near real-time updates, and will continue to make this data available at the NASA Hydrology DISC, including after the overlap period. However, operational users are highly encouraged to transition to the NCO NLDAS datasets in GRIB2 format, as the data will be available slightly earlier, and from a true operational environment: http://www.nco.ncep.noaa.gov/pmb/products/nldas/.

If you have any technical questions and concerns, please contact Youlong Xia: youlong.xia@noaa.gov & David Mocko: david.mocko@nasa.gov.

If you have any programmatic questions and concerns, please contact Michael Ek: Michael.ek@noaa.gov & Christa Peters-Lidard: christa.d.peters-lidard@nasa.gov.