

New and Improved GLDAS Data and Data Services at NASA GES DISC

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With the motivation of creating more climatologically consistent data sets, NASA GSFC's Hydrological Sciences Laboratory has generated more than 60 years (Jan. 1948 – Dec. 2008) of GLDAS Version 2 (GLDAS-2) data, by using the Princeton Forcing Data Set (Sheffield et al., 2006) and upgraded versions of Land Surface Models (LSMs). GLDAS-2 Noah Experiment-1 monthly and 3-hourly $1^{\circ} \times 1^{\circ}$ data sets have been released to the public by the NASA GES DISC. GLDAS-2 data sets from Noah ($0.25^{\circ} \times 0.25^{\circ}$ 3-hourly and monthly) and Catchment models ($1^{\circ} \times 1^{\circ}$ 3-hourly and monthly) will be released around 2012 summer. Other GLDAS-2 data sets from CLM and VIC models will also be forthcoming. While GLDAS-2 data are becoming available incrementally, more than 30 years (Jan. 1979 – present) of GLDAS Version 1 (GLDAS-1) data, simulated by CLM, Mosaic, NOAH, and VIC models, remain publicly accessible and are still growing. These long records of quality-controlled, spatially and temporally consistent terrestrial hydrological data could play an important role in characterizing the spatial and temporal variability of water and energy cycles and improve the ability to study climate change. This presentation describes the basic characteristics of GLDAS data, including data products and parameters, data access, data visualization and analysis tools. Improvements of GLDAS-2 input data (forcing data) and output data are also shown and discussed.

GLDAS is supported by the NASA Energy and Water cycle Study (NEWS). All GLDAS-1 and GLDAS-2 data are accessible at the NASA GES DISC Hydrology Data Information and Services Center (HDISC) Data Holdings Portal, <http://disc.sci.gsfc.nasa.gov/hydrology/data-holdings>. More than 30 years (Jan. 1979 ~ present) of North American Land Data Assimilation System (NLDAS) data sets, NLDAS hourly $0.125^{\circ} \times 0.125^{\circ}$ forcing data and Mosaic model output data, are also accessible via the data holdings portal. To better facilitate access and use of these data, NASA Giovanni portals provide a simple and intuitive way for GLDAS/NLDAS online visualization, analysis, and inter-comparison.

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