This dataset contains a series of land surface parameters simulated from the Noah 3.6.1 run at 1-km spatial resolution and one-half hour temporal resolution, using Global Data Assimilation System (GDAS) data as a primary forcing, and producing outputs once per day. The University of Maryland and GSFC provided several parameter datasets for the models. These parameter datasets include MOD44w landmask, vegetation, albedo, elevation, and soil information. The LIS software uses bilinear interpolation and temperature lapsing to downscale the GDAS data and parameter grids to 1-km resolution. It also includes a slope/aspect correction described in Kumar et al. (2013). Additional specifications are available at https://ldas.gsfc.nasa.gov/FLDAS/FLDASspecs.php.

Because very few surface observations are available in the Asia domain, snow data assimilation is not an element of the FEWS NET snow modeling system ("Asia-LIS" hereafter). Consequently, caution is needed when interpreting snow states produced by this system. However, when compared with satellite snow cover data, the Asia-LIS system has been shown to effectively describe the evolution of snow cover extent throughout the year. Therefore, it was decided that the best way to evaluate snow states produced by Asia-LIS is to compare real-time results with a retrospective analysis running from October 2000 to present.

First, a nine-year spin-up of the Asia-LIS system was performed to produce stable snow and soil conditions, and the resulting model states were compared with MODIS Maximum Snow Extent data for the spin-up period and adjusted to produce a climatological model state for 1 October. Next, the Asia-LIS model was run from 1 Oct 2000 - 30 Sep 2011, producing outputs once per day, and resetting the model states to the climatological state on 1 October of each year so that each hydrologic year begins with a consistent set of surface states. Using the resulting dataset, the real-time snow state for any grid cell can be compared with the mean, minimum, and maximum from the historical analysis.

References:

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