

## Gridded Analysis Product (GAP)

The external ancillary data product, Gridded Analysis Product (GAP), is input to the CERES Regrid Meteorological, Ozone, and Aerosol Data Subsystem. The GAP is made up of multiple files that contain vertical profiles of temperature, specific humidity, and wind speed profiles as a function of pressure, along with surface temperature and pressure. These data are primarily obtained from the European Centre for Medium Range Weather Forecasts (ECMWF) on a  $0.5^\circ$  latitude x  $0.5^\circ$  longitude grid. ECMWF's analysis data are available every six hours, while their forecast data are available every three hours. A secondary data set is also available from the Data Assimilation Office (DAO) on either a  $2.0^\circ$  latitude x  $2.5^\circ$  longitude grid (GEOS-2), or on a  $1.0^\circ$  latitude x  $1.0^\circ$  longitude grid (GEOS-3), depending on the data date desired. DAO/GEOS-2 data are available for the TRMM timeframe, while DAO/GEOS-3 data are available beginning with the TERRA launch. DAO's diagnostic products are available every three hours, while their prognostic products are available every six hours. The Regrid Meteorological, Ozone, and Aerosol Data Subsystem interpolates these data temporally and vertically to conform with CERES processing requirements. The ECMWF Input Products are shown in [Table 1](#). The DAO Input Products are shown in [Table 2](#) and [Table 3](#).

**Level:** 3

**Type:** Ancillary

**Frequency:** Every 3 or 6 hours

**Portion of Globe Covered**

**File:** Global

**Record:**  $0.5^\circ$  x  $0.5^\circ$ ,  $2^\circ$  x  $2.5^\circ$ , or  $1^\circ$  x  $1^\circ$  region

**Time Interval Covered**

**File:** Every 3 or 6 hours

**Record:** Every 3 or 6 hours

**Portion of Atmosphere Covered**

**File:** Surface to TOA

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GAP-1



Table 1. ECMWF Input Products

ECMWF File Name	ECMWF File Size (Daily)	Temporal Resolution	Products Used by CERES
ecmwf130.yyyymmdd	11 MB	Six hourly	Vertical profiles of temperature
ecmwf131.yyyymmdd	11 MB	Six hourly	Vertical profiles of U-component of wind
ecmwf132.yyyymmdd	11 MB	Six hourly	Vertical profiles of V-component of wind
ecmwf133.yyyymmdd	33 MB	Six hourly	Vertical profiles of specific humidity
ecmwf152.yyyymmdd	365 KB	Six hourly	Surface pressure
ecmwf235.yyyymmdd	2.1 MB	Three hourly	Forecast and current skin temperatures
<b>TOTAL SIZE</b>	<b>68.5 MB</b>		

Table 2. DAO/GEOS-2 Input Products

DAO File Name	DAO File Size (Daily)	Temporal Resolution	Products Used by CERES
ceres_geos2_trmm.pave.yyyymmdd	419 KB	Three hourly	Surface pressure
ceres_geos2_trmm.phis.yyyymmdd	209 KB	Six hourly	Surface height
ceres_geos2_trmm.ps.yyyymmdd	209 KB	Six hourly	Surface pressure
ceres_geos2_trmm.q10m.yyyymmdd	419 KB	Three hourly	Specific humidity at 10 meters
ceres_geos2_trmm.sphu.yyyymmdd	7.5 MB	Six hourly	Vertical profiles of specific humidity
ceres_geos2_trmm.t10m.yyyymmdd	419 KB	Three hourly	Temperature at 10 meters
ceres_geos2_trmm.tg.yyyymmdd	419 KB	Six hourly	Ground Temperature
ceres_geos2_trmm.tmpu.yyyymmdd	7.5 MB	Six hourly	Vertical profiles of temperature
ceres_geos2_trmm.tropp.yyyymmdd	209 KB	Six hourly	Tropopause height
ceres_geos2_trmm.u10m.yyyymmdd	419 KB	Three hourly	Wind speed u-vectors at 10 meters
ceres_geos2_trmm.uwnd.yyyymmdd	7.5 MB	Six hourly	Vertical profiles of wind speed u-vectors
ceres_geos2_trmm.v10m.yyyymmdd	419 KB	Three hourly	Wind speed v-vectors at 10 meters
ceres_geos2_trmm.vwnd.yyyymmdd	7.5 MB	Six hourly	Vertical profiles of wind speed v-vectors
<b>TOTAL SIZE</b>	<b>33.1 MB</b>		



Table 3. DAO/GEOS-3 Input Products

DAO File Name	DAO File Size (Daily)	Temporal Resolution	Products Used by CERES
DAS.llk.asm.tsyn2d_mis_x.AM100.yyyyymmdd00.yyyyymmdd21.V01	46 MB	Three hourly	Surface pressure, surface height, specific humidity at 10 meters, temperature at 10 meters, ground temperature, tropopause height, wind speed u-vectors at 10 meters, and wind speed v-vectors at 10 meters
DAS.llk.asm.tsyn2d_mis_x.AM100.yyyyymmnd00.yyyyymmnd21.V01	46 MB	Three hourly	Surface data for the next day
DAS.llk.asm.tsyn3d_mis_p.AM100.yyyyymmdd00.yyyyymmdd18.V01	300 MB	Six hourly	Vertical profiles of specific humidity, temperature, wind speed u-vectors, and wind speed v-vectors
DAS.llk.asm.tsyn3d_mis_p.AM100.yyyyymmnd00.yyyyymmnd18.V01	300 MB	Six hourly	Vertical profile data for the next day
<b>TOTAL SIZE</b>	<b>692 MB</b>		

Note: A combination of ECMWF and DAO/GEOS-3 files sizes are used in the Ancillary Products Summary [Table 5](#).



## GAP Revision Record

The product Revision Record contains information pertaining to approved section changes. The table lists the date the Software Configuration Change Request (SCCR) was approved, the Release and Version Number, the SCCR number, a short description of the revision, and the revised sections. The authors are listed on the document cover.

GAP Revision Record

SCCR Approval Date	Release/Version Number	SCCR Number	Description of Revision	Section(s) Affected
N/A	R3V1	N/A	<ul style="list-style-type: none"> <li>• Updated format to comply with standards.</li> <li>• The EOSDIS Product Code line was removed from the document. (6/17/2008)</li> <li>• Section numbering was changed due to insertion of the VIIRS DPC. (9/17/2008)</li> <li>• Some links were not working. They have now been modified. (12/09/2010)</li> <li>• The ASDC footer was added to the bottom of the document. (06/07/2013)</li> <li>• Eliminated section numbers from the Data Products Catalog. Specifically, in this document, section number 4.7 was removed. (12/18/2013)</li> <li>• Changed Table 1.0-5 to Table 5 and accessed the .pdf file instead of the .doc Introduction section. (06/20/2014)</li> </ul>	<p>All Sec. 4.7</p> <p>All</p> <p>All</p> <p>All</p> <p>All</p> <p>All</p>

