File: b02b14_stereo.tar

Product: GOES-16/GOES-18 FD stereo winds

Date and times: 16:00 – 21:50 UTC 15 October 2024, every 10 minutes

ABI bands: Band 2 (0.64um) and Band 14 (11.2um)

Coverage: Full Disk, overlap region between GOES-16 and GOES-18

Target Scene Size: Band 2: 15x15 pixels Band 14: 19x19 pixels

Image Triplet Time Interval: 10 minutes

Description of data

Example file: tdw_qc_GOES-16_2024289.160020.ch_02.nc

Variables in the final netCDF output file generated by the GEO-GEO stereo retrieval algorithm include:

Lat – Latitude of target scene center
Lon - Longitude of target scene center
V_3D – U and V wind components of stereo wind (n X 2 array)
H_3D – Height (m) of stereo wind
PARA_3D – Parallax at each site (m)
STDERR_3D - Standard errors at each site (m)
wgth_h_err_gnd - Weighted error for height for clear sky ground sites (m)
wgth_v1_err_gnd - Weighted error for V1 for clear sky ground sites (m)
wgth_v2_err_gnd - Weighted error for V2 for clear sky ground sites (m)
x_nwp – x-index of nearest forecast grid point
y_nwp – y-index of nearest forecast grid point
Element – ABI fixed grid element of target scene center
Line – ABI fixed grid line of target scene center
Altitude – GOES-R cloud height estimate (m)
OD_Min – minimum optical depth of target scene (from GOES-R cloud height algorithm)
OD_Max – maximum optical depth of target scene (from GOES-R cloud height algorithm)
OD_Med – median optical depth of target scene (from GOES-R cloud height algorithm)
Wind_Speed – wind speed generated from reference image triplet (different from V_3D value)
Wind_Dir – wind direction generated from reference image triplet (different from V_3D value)
InversionFlag – low level inversion flag (from GFS forecast, 1 = inversion, 0 = no inversion)
LandFlag – (1 = land, 0 = water)
CloudPhase – dominant cloud phase of target scene (from GOES-R cloud height algorithm)
CloudType – dominant cloud type of target scene (from GOES-R cloud height algorithm)
CloudyPixels - Number of cloudy pixels in target scene
qualityFlag – internal quality flag (0=good stereo wind)
MadFilterNumSigmas - Number of sigmas used in Median Absolute Deviation (MAD) filter
Residuals - residual disparities after Stereo 3D-Winds Retrieval (pixels)
zsfc – surface elevation (m) of target scene center pixel

Fcst_Spd – speed of GFS forecast wind (nearest grid point, interpolated to AMV pressure and time from 2 short-range (e.g., 3 and 6-hr) forecasts)
Fcst_Dir – direction of GFS forecast wind (nearest grid point, interpolated to AMV pressure and time from 2 short-range (e.g., 3 and 6-hr) forecasts)
pres – Pressure at stereo height
SatZen - satellite zenith angle of reference satellite (degrees)
QI - Quality Indicator (QI) of derived wind (0-100, with 100 being the best)
product_times – nominal times (seconds since noon 1 January 4713 BC) of 5 images used in tracking (user can divide values by 86400 to convert to Julian Date)
Wind_Speed_Stereo - Speed of stereo wind vector (m/s, computed from V_3D values)
Wind_Dir_Stereo - Direction of stereo wind vector (degrees, computed from V_3D values)

Note:
The stereo output datasets include both good (qualityFlag=0) and bad (qualityFlag >0) stereo winds as well as ground points. **Lower quality winds should be filtered out by the user.**

Variables in **bold** are the primary output variables