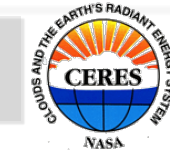




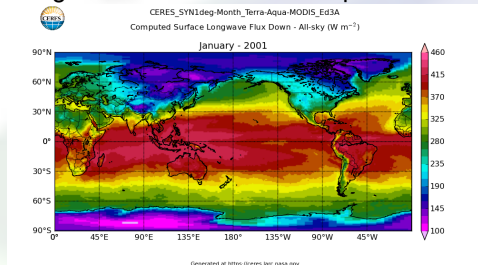
Distribution and Validation of CERES Irradiance Global Data Products Via Web Based Tools



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NASA's Clouds and the Earth's Radiant Energy System (CERES) project produces global, 1-degree gridded, 3 hourly estimates of TOA, atmospheric and surface radiative fluxes in the SYN1Deg and EBAF-surface data products.



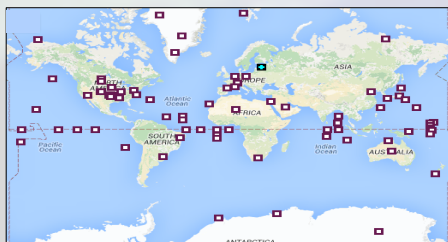
New web tools allow plotting, analyzing, and downloading single grid box values associated with surface validation sites:

SYN1Deg:

<https://ceres-tool.larc.nasa.gov/cave/jsp/CAVESelection.jsp>

EBAF-surface (Monthly Means)

<https://ceres-tool.larc.nasa.gov/cave/jsp/CAVESelection.jsp>



86 land and buoy sites available from the above web links.

Plot Style & Time Variables

Possible Parameters

Plot Type

Time Series
 Scatter Plots

Temporal Resolution

Monthly
 Daily
 3-Hourly
 Hourly (Time Series only)

Time Range

Available Time Range: 3/2000 to 6/2015.

From: 03 - 2000 (MM-YYYY) To: 09 - 2015 (MM-YYYY)

TSA Fluxes

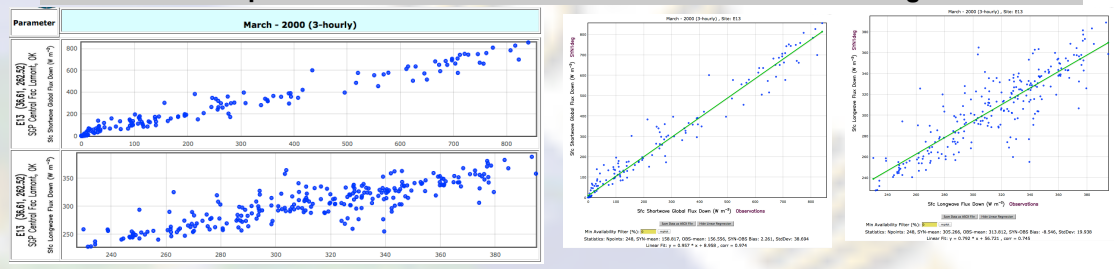
Shortwave Flux Up
 Longwave Flux Up
 Shortwave Global Flux Down
 Shortwave Direct Irradiance Flux
 Shortwave Diffuse Flux Down
 Total Shortwave Flux Down
 Longwave Global Flux Up
 Global Solar Zenith Angle
 10 m Temperature
 Surface Pressure

Surface Fluxes

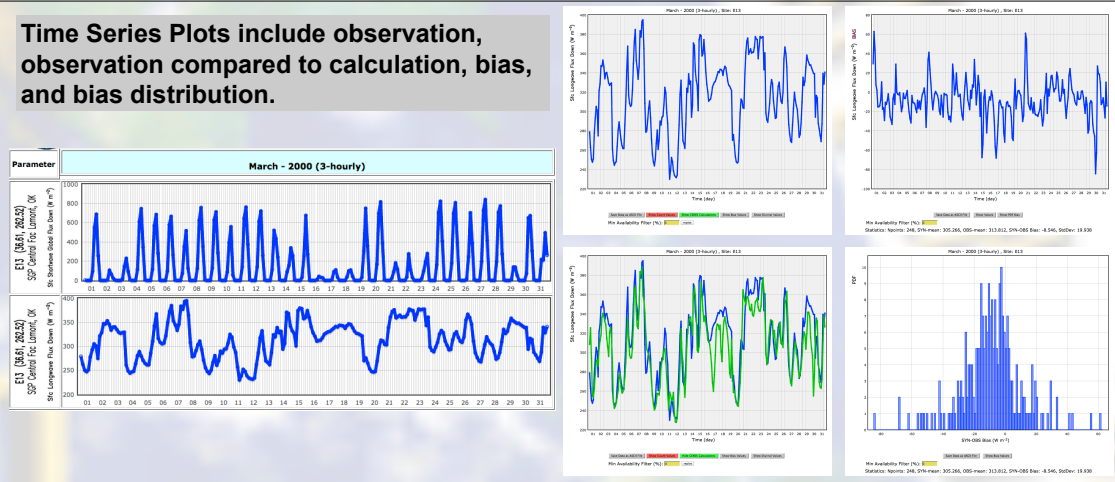
Surface Wind Speed
 Surface Wind Direction
 Surface Relative Humidity
 Cloud Fraction DATA Dev
 Aerosol Optical Depth (550nm)
 Precipitable Water

Auxiliary Data

Scatter Plot Comparisons of SW & LW Surface Flux E13 Obs vs SYN1deg Calculations

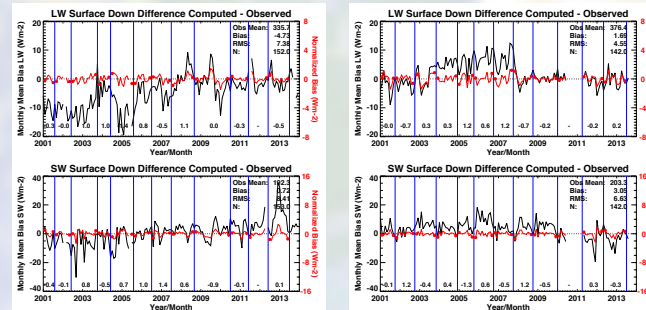


Time Series Plots include observation, observation compared to calculation, bias, and bias distribution.



Monthly Mean Error E13 & WHOI Stratus Buoy - Plotted With Instrument Swap Dates

Can one identify an error in model/ observation comparisons due to instrument swaps on land versus at sea? First, calculate monthly mean bias. Then normalize by series RMS and remove bias for each length of instrument set use. Finally difference first/last month. Results indicates no significant difference between land and buoy at monthly mean time scale.



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