October 11, 2023

Replacement of Outgoing Longwave Radiation (OLR) data used for El Niño Monitoring products

Due to the termination of the NOAA CPC AVHRR OLR, Tokyo Climate Center has replaced the OLR data used for figures 8 and 9 in El Niño Monitoring[1] with the new NOAA CPC Blended OLR from October 2023 update. Comparisons show that there is a systematic bias, while there is little difference in anomalies (deviations from 1991-2020 average) between the two OLR data.
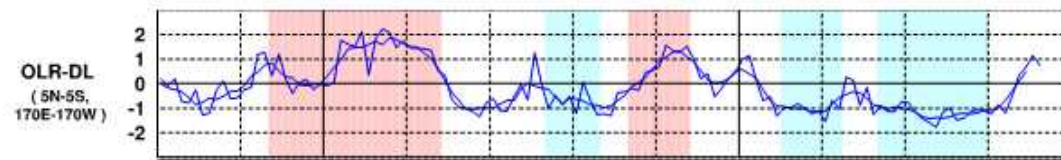
	NOAA CPC AVHRR OLR	NOAA CPC Blended OLR
Satellite products	● NESDIS AVHRR OLR	● NASA CERES Broadband OLR used as the backbone ● NESDIS Hyperspectral OLR and HIRS OLR also used by calibrating against the broadband OLR using overlapping data
Data period	1974/06/01 - 1978/03/16 1979/01/01 - 2023/09/30	1991/01/01 - present

Note: Based on the information from NOAA CPC.

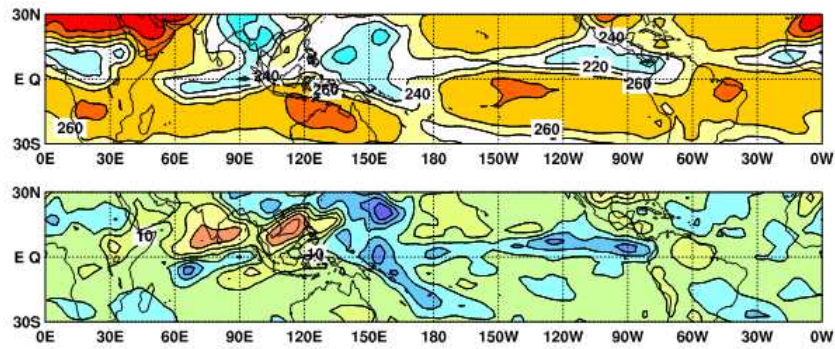**a** NOAA CPC AVHRR OLR
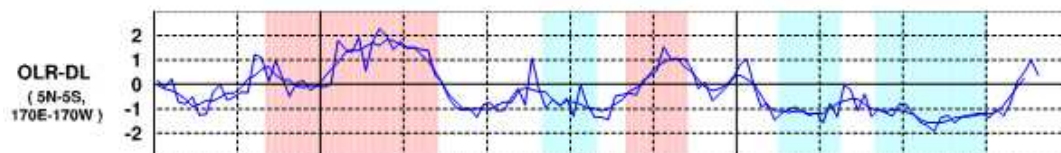
b NOAA CPC Blended OLR

Comparison of time series of OLR index around the International Date Line (OLR-DL) from the CPC AVHRR OLR (**a**) and the CPC Blended OLR (**b**) for the period from January 2013 to August 2023. OLR-DL is defined as area-averaged (5N-5S, 170E-170W) OLR anomalies with reverse sign, normalized by its standard deviation.
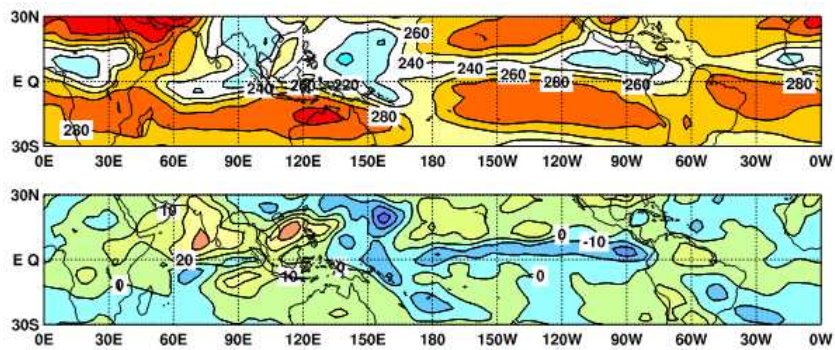Time series of OLR-DL is in the Figure 8 of El Niño Monitoring.
https://www.data.jma.go.jp/tcc/tcc/products/elnino/elmonout.html#fig8

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[1] https://www.data.jma.go.jp/tcc/tcc/products/elnino/elmonout.html

a NOAA CPC AVHRR OLR

b NOAA CPC Blended OLR

Comparison of monthly mean OLR and anomalies from the CPC AVHRR OLR (**a**) and the CPC Blended OLR (**b**) for August 2023.
Monthly mean OLR and anomalies are in the Figure 9 of El Niño Monitoring.
https://www.data.jma.go.jp/tcc/tcc/products/elnino/elmonout.html#fig9