

Climate Timeseries

AMO (Atlantic Multidecadal Oscillation) Index

The AMO is currently not updated due to the source dataset (Kaplan SST) not being updated. We apologize for the inconvenience. NOAA/NCEI has a time-series of the AMO (<https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/index/ersst.v5.amo.dat>) based on the NOAA ERSSTV5. NCAR has AMO code (https://www.ncl.ucar.edu/Applications/Scripts/index_amo_1.ncl). Note their definition removes the global mean.

Description:

The timeseries are calculated from the Kaplan SST dataset (/data/gridded/data.kaplan_sst.html) which is updated monthly. It is basically an index of the N Atlantic temperatures. Time series are created; a smoothed version and an unsmoothed version. In addition, two files starting at 1948 are produced to be used in the Correlation (</data/correlation/>) webpages.

Time Interval: Monthly

Time Coverage: 1856 to Jan 2023

Update Status: updated monthly

Get Data:

AMO unsmooth, long: Standard PSL Format (</data/correlation/amon.us.long.data>) (*What is standard format? (/gcos_wgsp/Timeseries/standard/)*)

AMO smoothed, long. (</data/correlation/amon.sm.long.data>)

AMO unsmoothed, short (1948 to Jan 2023) (</data/correlation/amon.us.data>).

AMO smoothed, short (1948 to Jan 2023) (</data/correlation/amon.sm.data>).

Source:

- Timeseries is calculated at **NOAA PSL**.

Method:

1. Use the Kaplan SST dataset (5x5) (/data/gridded/data.kaplan_sst.html).
 2. Compute the area weighted average over the N Atlantic, basically 0 to 70N.
 3. Detrend that time series
 4. Optionally smooth it with a 121 month smoother.
- For those who require unaltered data, the following is an "not detrended" version of the N. Atlantic monthly averages with the 1951-1980 NOAA ERSST (</data/gridded/data.noaa.ersst.html>) climatology added back in.
 - N. Atlantic SST averages, unsmoothed & not detrended (1856 to Jan 2023) (</data/correlation/amon.us.long.mean.data>) and the climatology used (</data/correlation/amon.climo.data>) (from the NOAA ERSST V2 SST, interpolated to a 5x5 grid).

References and Citation:

1. Enfield, D.B., A.M. Mestas-Nunez, and P.J. Trimble, 2001: The Atlantic Multidecadal Oscillation and its relationship to rainfall and river flows in the continental U.S., *Geophys. Res. Lett.*, 28: 2077-2080.

Related Links:

- AMO: Frequently asked questions from NOAA/AOML
(http://www.aoml.noaa.gov/phod/amo_faq.php)
- Wikipedia: Atlantic Multidecadal Oscillation
(http://en.wikipedia.org/wiki/Atlantic_Multidecadal_Oscillation).

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