

The following information describes the data format for the surface ozone mixing ratio data available on this directory. If you have questions please contact Irina Petropavlovskikh at the following email address: irina.petro@noaa.gov. Please consult the following article in Atmospheric Environment for information on the stations and for referencing the data: Oltmans, SJ and Levy II, H, Surface ozone measurements from a global network, Atmos. Environ., 28, 9-24, 1994.

Data Format

The data are one-minute, five-minute, or hourly averaged files and are in UTC times (GMT). The data files have names that begin with a three-letter station identifier followed by the constituent, inlet height, averaging time (one and five minute are both designated by "min"), month, and year.

(Example: `wkt_o3_6m_min_01_2011.dat`).

The station identifiers are:

Code	Station Number	Location		Code	Station Number	Location
ARH	324	Arrival Heights, Antarctica		NWR	337	Niwot Ridge C-1, Mountain Research Station, Colorado
PCO	371	Azores, Portugal		SMO	191	Cape Matatula, Samoa
BAR	334	Ragged Pt., Barbados		SPO	111	South Pole, Antarctica
BAO*	350	Erie, Colorado		SUM	344	Summit, Greenland
BER	333	Tudor Hill, Bermuda		THD	345	Trinidad Head, California
BRW	199	Barrow, Alaska		TIK	351	Tiksi, Russia
ICE	339	Storhofdi, Iceland		TUN	347	Tundra Lab at Niwot Ridge, Mountain Research Station, Colorado
LDR	256	Lauder, New Zealand		WKT*	348	WKT tower, Texas
MLO	031	Mauna Loa, Hawaii		WVR	362	Weaverville, California

*tall-tower data exists for this station; see <ftp://ftp.cmdl.noaa.gov/ozwv/towers/>

The hour data files have the format of:

Station number, year, month, day, hour, constituent concentration

The minute data files have the format of:

Station number, year, month, day, hour, min, constituent concentration

Local Standard Time Files

Local Standard Time (LST) files were created for user convenience and are zipped together for each year. The LST files have names that begin with "lst_", the three letter station identifier, constituent, inlet height, and year. (Example: `lst_wkt_o3_6m_2011.zip`). The user can use 7Zip or a similar program to unzip the files. Once unzipped, the files have data formats as above. The file names are also similar as above, except with an "lst_" prefix.

Older File Formats

The data are hourly averages and the times are UTC (GMT). The hourly averages are for the full hour (for example hour 1 is for the time 00 to 01 UTC). The data files have names that begin with a two letter station identifier followed by a designator for the instrument type. No letter designator for the instrument type refers to data obtained with a Dasibi ozone monitor. A "t" indicates a TEI analyzer, either a Model 49 or 49C. If both models have been used the "t" refers to a TEI 49 and "tc" to a TEI 49C. There are three different formats in use. A file easily viewed on a computer screen with a "mx" with two line of data per day.

The station identifiers are:

Code	Station Number	Location		Code	Station Number	Location
ml	031	Mauna Loa, Hawaii		vm	339	Westman Islands, Iceland
sp	111	South Pole		mm		McMurdo, Antarctica
sm	191	American Samoa		ah	324	Arrival Heights, Antarctica
br	199	Barrow, Alaska		su	334	Summit, Greenland
be	333	Bermuda		th		Trinidad Head, California
ba	334	Barbados		wk	348	WKT Tower, Texas
nw	337	Niwot Ridge, Mountain Research Station, Colorado		vm	339	Westman, Iceland
tl	347	Tundra Lab on Niwot Ridge, Mountain Research Station, Colorado		la	256	Lauder, New Zealand

For the older two line format.

On line 1:

1,3 Station number
 4,5 Day (for monthly mean this is MN)
 6,7 Month
 8,9 Year (last 2 digits, e.g. 76)
 10 Instrument type (1 for ECC, 7 for Dasibi, 8 for other, 9 for TEI 49 and 49C)
 11-70 Ozone mixing ratio in ppbv for 1-12 UT in the format XXX.X. Missing data are coded 999.9
 71-73 Station number
 74,75 Day (for monthly mean this is MN)
 76,77 Month
 78,79 Year
 80 Line number (1)

On Line 2:

1-60 Ozone mixing ratio in ppbv for hours
 13-24
 61-65 Daily mean ozone
 66-70 Daily maximum ozone
 71-73 Station number
 74,75 Day (for monthly mean this is MN)
 76,77 Month
 78,79 Year

80 Line number (2)

The data files are in the form ??sfo3mx or ??mxsoz where ?? refers to the two letter indicator for the station name. If the data are for a single year they have the form ??mxyy where yy is the two digit year (e.g. brmx98 for 1998 ozone mixing ratios for Barrow). For a single month the form of the file is ??mxmmyy where mm is the month (e.g. bromx0598).