Stephen R. Springston (srs@bnl.gov)

Started: 4/28/2014

Last Update: 12/11/2015

Data Acknowledgement:

See www.arm.gov/publications/procedures

All instruments and the platform were provided with funds from the American Recovery and Reinvestment Act.

Program: GoAmazon IOP which for MAOS was conducted at the T3 site near Manacapuru, Amazonia, Brazil beginning ~2/1/2014

Platform: The MAOS-C (Mobile Aerosol Observing System-Chemistry).

Instrument: These files contain the ozone measurements made with a Thermo Fisher Model 49i Ozone Analyzer.

Air is sampled at 10-m AGL through a fast flow (~10 LPM) ½” o.d. PFA inlet. In MAOS C for GoAmazon, the fast-flow manifold was sleeved in a 2” flexible tube with a counterflow of warmer ambient air to prevent any condensation inside the structure. The inlet to the instrument is a ¼” PFA tube off a tee in the inlet manifold. There is a 47-mm diam. Teflon filter in-line with the sample (Millipore LSWP04700, 5µm LS) downstream of the calibration point.

An automatic calibration of ozone is normally done at 00:00 each day. This consists of a zero period (through a charcoal filter) and 5 different ozone concentrations (in charcoal filtered air, NOT a standard addition). The calibration is definitely less stable than the instrument response, but provides an excellent confirmation of the instrument response.

Data are reported at 1-s resolution. (Note that the unit internally filters to ~4s.) All zero, calibration and non-operational periods have been removed (empty field or NAN).

File Structure:

As follows convention, data are reported as tab-delimited ASCII files. Files are formatted such that they are self documenting. For each data row:

Row 1: Filename

Row 4 (col 1 only): ARM Climate Research Facility

Row 5: SitePlatform

Row 7: Last revised date

Row 9: Instrument

Row 13: Instrument Mentor/Affiliation

Rows 14-19: Comments (operational conditions, calibrations, etc.)

Rows 21-24: Constants (usually defined in Comments)

Row 35: Column title

Row 36: Column units line 1

Row 37: Column units line 2

Row 40: First row of data

Time - Time is reported in UTC as set by an NTP server. Following convention, the time is the beginning of the period. The parameter reported at this time is the average of all points >= the time and < the next time. Data are reported at 1- s resolution. All non-operational periods have been removed (empty field or NAN).

Accuracy and Precision:

Ozone – Units: ppbv (uncorrected for water vapor), Precision: ±2 ppbv (2 sigma @ 4s). Accuracy: greater of 2 ppbv or ~5% (Mentor estimate from data)

Posting History

4/28/2014 Posting to: c1.xdc.arm.gov /incoming/AOS\_QC/GoAmazon/ozone

mao\_ReadMe\_ozone.txt (This file in ASCII)

mao\_ReadMe\_ozone.docx (This file in Word)

Files of 1-Hz data and associated processing log files.

maomaoscs1.ozone.01s.00.20140101.000000.m02.tsv

maomaoscs1.ozone.01s.00.20140101.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20140101.000000.m02.tsv.plots.pdf

maomaoscs1.ozone.01s.00.20140201.000000.m02.tsv

maomaoscs1.ozone.01s.00.20140201.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20140201.000000.m02.tsv.plots.pdf

maomaoscs1.ozone.01s.00.20140301.000000.m02.tsv

maomaoscs1.ozone.01s.00.20140301.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20140301.000000.m02.tsv.plots.pdf

7/10/2014 Posting to: c1.xdc.arm.gov /incoming/AOS\_QC/GoAmazon/ozone

mao\_ReadMe\_ozone.txt (This file in ASCII)

mao\_ReadMe\_ozone.docx (This file in Word)

Files of 1-Hz data and associated processing log files.

maomaoscs1.ozone.01s.00.20140401.000000.m02.tsv

maomaoscs1.ozone.01s.00.20140401.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20140401.000000.m02.tsv.plots.pdf

maomaoscs1.ozone.01s.00.20140501.000000.m02.tsv

maomaoscs1.ozone.01s.00.20140501.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20140501.000000.m02.tsv.plots.pdf

maomaoscs1.ozone.01s.00.20140601.000000.m02.tsv

maomaoscs1.ozone.01s.00.20140601.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20140601.000000.m02.tsv.plots.pdf

10/19/2014 Posting to: c1.xdc.arm.gov /incoming/AOS\_QC/mao/ozone

mao\_ReadMe\_ozone\_20141019.txt (This file in ASCII)

mao\_ReadMe\_ozone\_20141019.docx (This file in Word)

Files of 1-Hz data and associated processing log files.

maomaoscs1.ozone.01s.00.20140701.000000.m02.tsv

maomaoscs1.ozone.01s.00.20140701.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20140701.000000.m02.tsv.plots.pdf

maomaoscs1.ozone.01s.00.20140801.000000.m02.tsv

maomaoscs1.ozone.01s.00.20140801.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20140801.000000.m02.tsv.plots.pdf

maomaoscs1.ozone.01s.00.20140901.000000.m02.tsv

maomaoscs1.ozone.01s.00.20140901.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20140901.000000.m02.tsv.plots.pdf

11/13/2014 Posting to: c1.xdc.arm.gov /incoming/AOS\_QC/mao/ozone

mao\_ReadMe\_ozone\_20141113.txt (This file in ASCII)

mao\_ReadMe\_ozone\_20141113.docx (This file in Word)

Files of 1-Hz data and associated processing log files.

maomaoscs1.ozone.01s.00.20141001.000000.m02.tsv

maomaoscs1.ozone.01s.00.20141001.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20141001.000000.m02.tsv.plots.pdf

1/18/2015 Posting to: c1.xdc.arm.gov /incoming/AOS\_QC/mao/ozone

mao\_ReadMe\_ozone\_20150118.docx (This file in Word)

mao\_ReadMe\_ozone\_20150118.txt (This file in ASCII)

Monthly files of 1-Hz data as a tab-delimited text file, text processing log file(s) and associated pdf time series plots.

maomaoscs1.ozone.01s.00.20141101.000000.m02.tsv

maomaoscs1.ozone.01s.00.20141101.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20141101.000000.m02.tsv.plots.pdf

maomaoscs1.ozone.01s.00.20141201.000000.m02.tsv

maomaoscs1.ozone.01s.00.20141201.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20141201.000000.m02.tsv.plots.pdf

3/2/2015 Posting to: c1.xdc.arm.gov /incoming/AOS\_QC/mao/ozone

mao\_ReadMe\_ozone\_20150302.docx (This file in Word)

mao\_ReadMe\_ozone\_20150302.txt (This file in ASCII)

Monthly files of 1-Hz data as a tab-delimited text file, text processing log file(s) and associated pdf time series plots.

maomaoscs1.ozone.01s.00.20150101.000000.m02.tsv

maomaoscs1.ozone.01s.00.20150101.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20150101.000000.m02.tsv.plots.pdf

maomaoscs1.ozone.01s.00.20150201.000000.m02.tsv

maomaoscs1.ozone.01s.00.20150201.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20150201.000000.m02.tsv.plots.pdf

4/21/2015 Posting to: c1.xdc.arm.gov /incoming/AOS\_QC/mao/ozone

mao\_ReadMe\_ozone\_20150421.docx (This file in Word)

mao\_ReadMe\_ozone\_20150421.txt (This file in ASCII)

Monthly files of 1-Hz data as a tab-delimited text file, text processing log file(s) and associated pdf time series plots.

maomaoscs1.ozone.01s.00.20150301.000000.m02.tsv

maomaoscs1.ozone.01s.00.20150301.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20150301.000000.m02.tsv.plots.pdf

5/29/2015 Posting to: c1.xdc.arm.gov /incoming/AOS\_QC/mao/ozone

mao\_ReadMe\_ozone\_20150421.docx (This file in Word)

mao\_ReadMe\_ozone\_20150421.txt (This file in ASCII)

Monthly files of 1-Hz data as a tab-delimited text file, text processing log file(s) and associated pdf time series plots.

maomaoscs1.ozone.01s.00.20150401.000000.m02.tsv

maomaoscs1.ozone.01s.00.20150401.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20150401.000000.m02.tsv.plots.pdf

6/15/2015 Posting to: c1.xdc.arm.gov /incoming/AOS\_QC/mao/ozone

mao\_ReadMe\_ozone\_20150615.docx (This file in Word)

mao\_ReadMe\_ozone\_20150615.txt (This file in ASCII)

Monthly files of 1-Hz data as a tab-delimited text file, text processing log file(s) and associated pdf time series plots.

maomaoscs1.ozone.01s.00.20150501.000000.m02.tsv

maomaoscs1.ozone.01s.00.20150501.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20150501.000000.m02.tsv.plots.pdf

7/31/2015 Posting to: c1.xdc.arm.gov /incoming/AOS\_QC/mao/ozone

mao\_ReadMe\_ozone\_20150731.docx (This file in Word)

mao\_ReadMe\_ozone\_20150731.txt (This file in ASCII)

Monthly files of 1-Hz data as a tab-delimited text file, text processing log file(s) and associated pdf time series plots.

maomaoscs1.ozone.01s.00.20150601.000000.m02.tsv

maomaoscs1.ozone.01s.00.20150601.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20150601.000000.m02.tsv.plots.pdf

8/20/2015 Posting to: c1.xdc.arm.gov /incoming/AOS\_QC/mao/ozone

mao\_ReadMe\_ozone\_20150820.docx (This file in Word)

mao\_ReadMe\_ozone\_20150820.txt (This file in ASCII)

Monthly files of 1-Hz data as a tab-delimited text file, text processing log file(s) and associated pdf time series plots.

maomaoscs1.ozone.01s.00.20150701.000000.m02.tsv

maomaoscs1.ozone.01s.00.20150701.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20150701.000000.m02.tsv.plots.pdf

10/07/2015 Posting to: c1.xdc.arm.gov /incoming/AOS\_QC/mao/ozone

mao\_ReadMe\_ozone\_20151007.docx (This file in Word)

mao\_ReadMe\_ozone\_20151007.txt (This file in ASCII)

Note that instrument pump failed in 2015-08 and part of 2015-09

Monthly files of 1-Hz data as a tab-delimited text file, text processing log file(s) and associated pdf time series plots.

maomaoscs1.ozone.01s.00.20150801.000000.m02.tsv

maomaoscs1.ozone.01s.00.20150801.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20150801.000000.m02.tsv.plots.pdf

maomaoscs1.ozone.01s.00.20150901.000000.m02.tsv

maomaoscs1.ozone.01s.00.20150901.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20150901.000000.m02.tsv.plots.pdf

12/11/2015 Posting to: c1.xdc.arm.gov /incoming/AOS\_QC/mao/ozone

mao\_ReadMe\_ozone\_20151211.docx (This file in Word)

mao\_ReadMe\_ozone\_20151211.txt (This file in ASCII)

Monthly files of 1-Hz data as a tab-delimited text file, text processing log file(s) and associated pdf time series plots.

maomaoscs1.ozone.01s.00.20151001.000000.m02.tsv

maomaoscs1.ozone.01s.00.20151001.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20151001.000000.m02.tsv.plots.pdf

maomaoscs1.ozone.01s.00.20151101.000000.m02.tsv

maomaoscs1.ozone.01s.00.20151101.000000.m02.tsv.log.txt

maomaoscs1.ozone.01s.00.20151101.000000.m02.tsv.plots.pdf

This concludes data for the GoAmazon IOP at the mao site