New GMI Model Support Files for 1985-2018 for NDACC FTIR, Lidar, Sonde, and Dobson stations

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New output for 2018 is available for all (FTIR) stations: 1985-2018. Model simulation: MR2V2
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http://www.ndaccdemo.org/news/2019/04/new-gmi-model-support-files-1985-2018-ftir-lidar-sonde-and-dobson-stations

The files are generated from a GMI chemistry transport model simulation (Rotman et al., 2001) integrated with MERRA2 reanalysis meteorology (Gelaro et al., 2017)

Rotman, D.A., J.R. Tannahill, D.E. Kinnison, P.S. Connell, D. Bergmann, D. Proctor, J.M. Rodriguez, S.J. Lin, R.B. Rood, M.J. Prather, P.J. Rasch, D.B. Considine, R. Ramaroson, S.R. Kawa (2001), The Global Modeling Initiative assessment model: Model description, integration and testing of the transport shell, J. Geophys. Res., 106, 1669-1691

Gelaro, R., et al. (2017), The Modern-Era Retrospective Analysis for Research and Applications, Version 2 (MERRA-2). J. Climate, 0, doi: 10.1175/JCLI-D-16-0758.1.

Further information at: https://gmi.gsfc.nasa.gov/ and http://www.ndacc-theory.org/24.php

Model simulation data available at: ftp://ftp.cpc.ncep.noaa.gov/ndacc/gmi_model_data/ftir/
        Station specific data, ie 'Lauder', 'Arrival Heights' (no need to download then filter on global fields)
        *If data for your site is not present, then contact Susan.

**Readme file: ftp://ftp.cpc.ncep.noaa.gov/ndacc/gmi_model_data/readme_MR2V2_general.pdf

FTIR MR2V2 File contents:

Site specific yearly files, NetCDF format
i.e.: GMIFTIR_MR2V2_Lauder_2017.nc

Daily data: 365 days in a year + leap years (366 days).

72 Pressure levels: Site surface (hPa) to 0.015 (hPa)

Several species are now reported daily at local time of 1-2 pm rather than 12z. This may be especially helpful for species with diel variations measured at stations where 12z occurs in darkness. Temperature, pressure, and tropopause pressures are reported at both the 1-2 pm overpass time and 12z. The simulated species reported at 1-2 pm are O3, CO, CH2O, NO, and NO2; all other daily species are still reported at 12z. Formaldehyde (CH2O), now reported at 1-2 pm local.

Daily data, profiles and columns:
N_2O, CH_4, HCl, $ClONO_2$, HNO_3, CFC-11, CFC-12, O_3, NO, NO_2, CH_2O, Tropopause pressure (1-d)

Daily data, profiles only:
H_2O, Temperature, Potential Vorticity (site), PV @ Vortex Edge (SH or NH: site dependent), Vortex Edge pressure
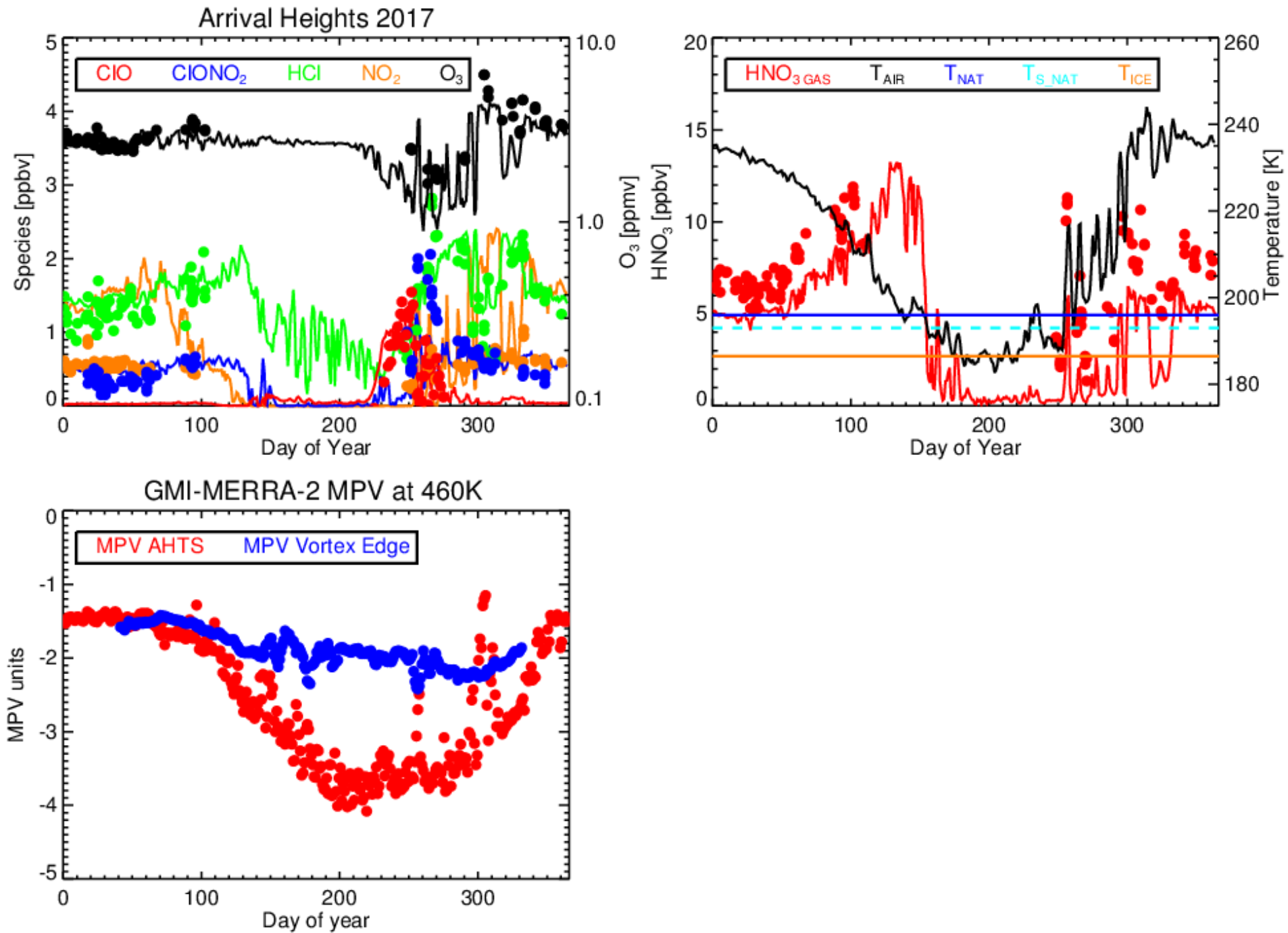
Monthly data, profiles and columns:
C_2H_6, HCFC-22, CCl_4, BrO

Requested additional fields in next version: Altitude (geometric/geopotential) & airmass (per level/layer)
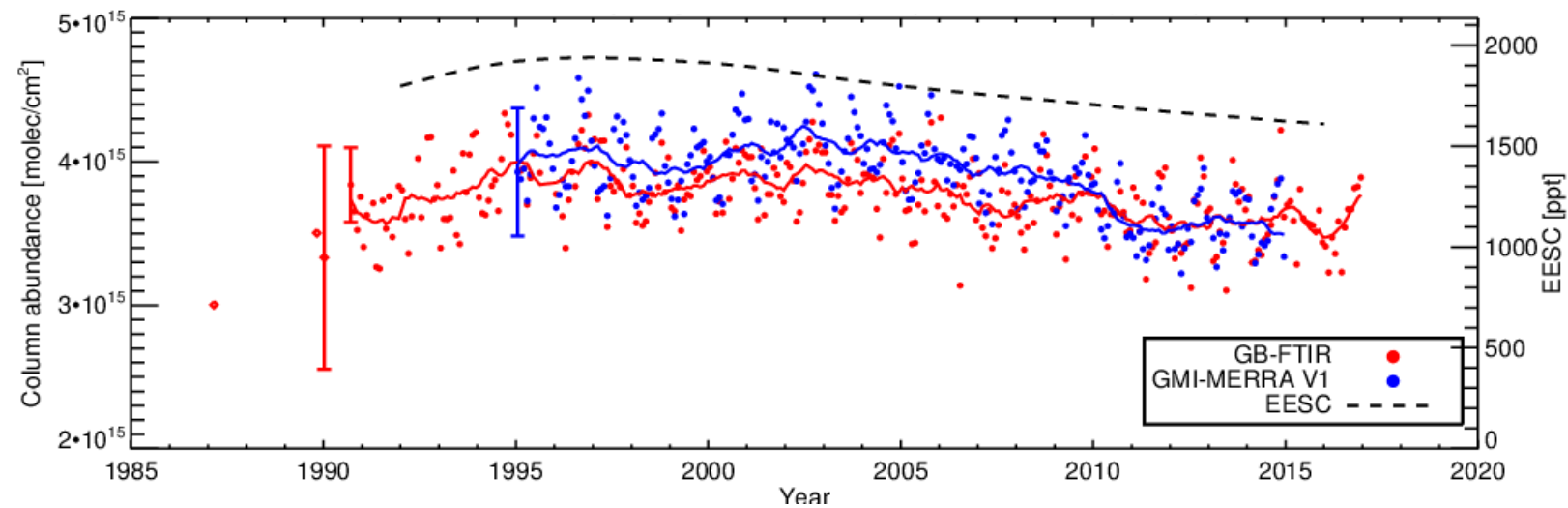Any other fields? Contact Susan

Arrival Heights 2017
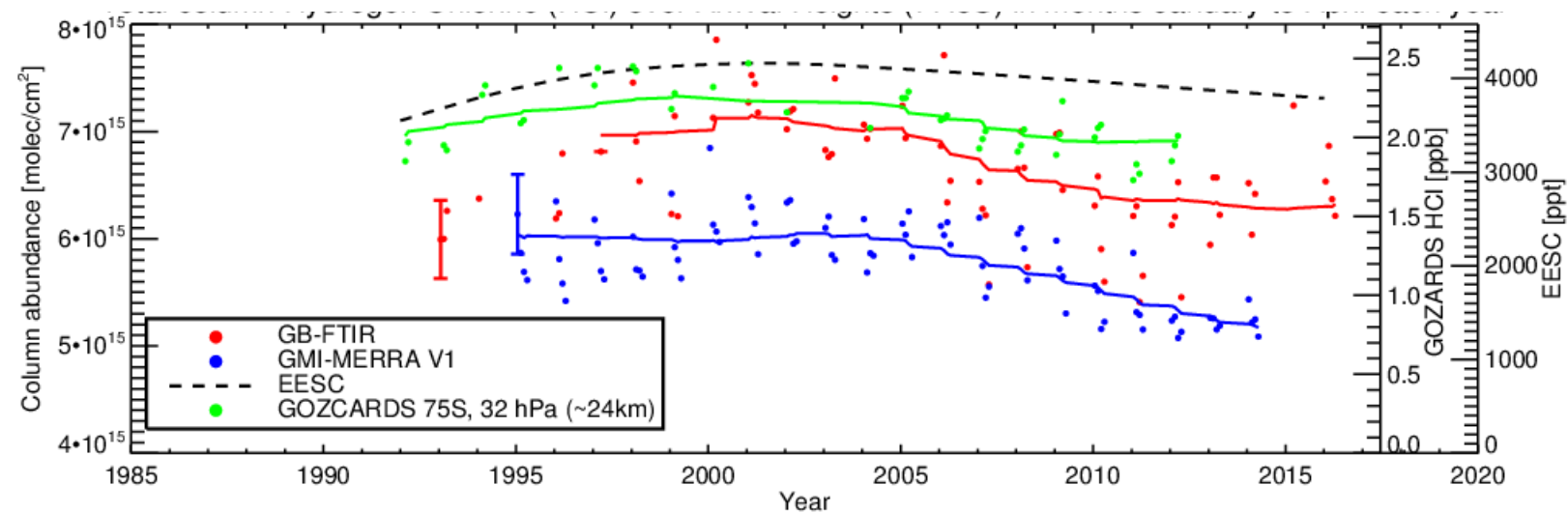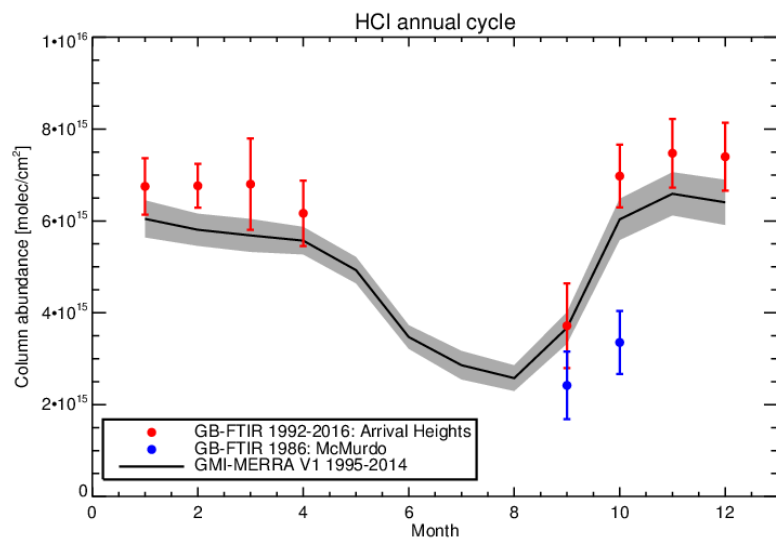
Example 2 : Long term time series
*GMI MR1V1

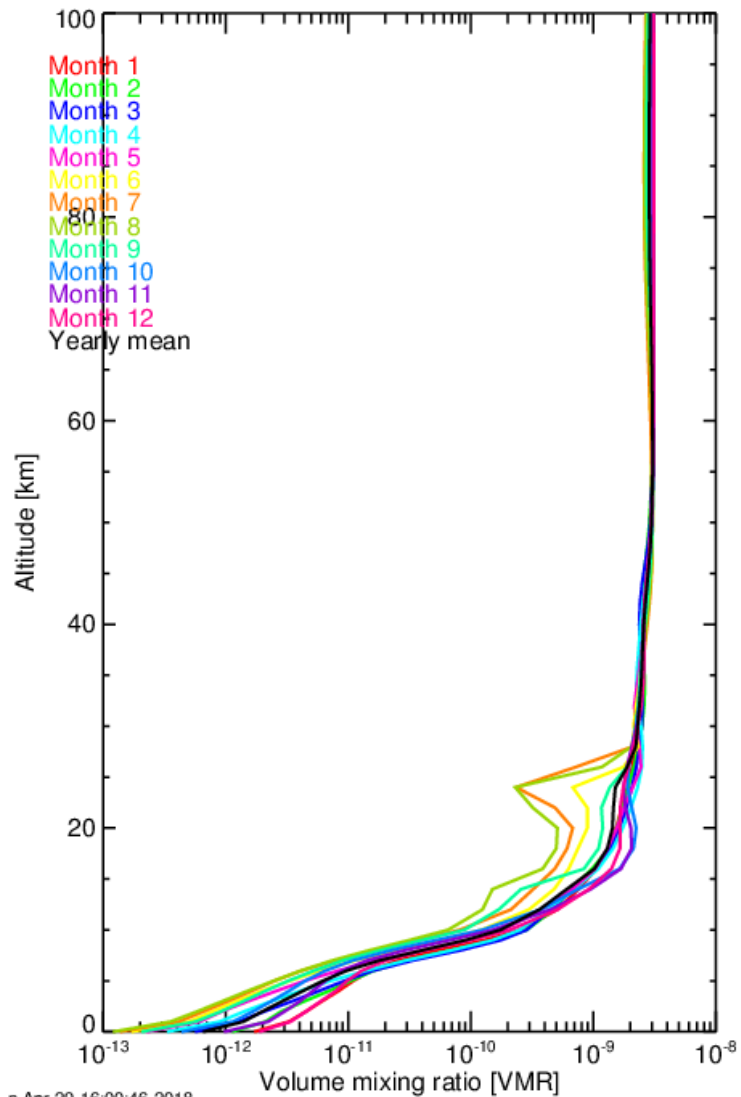HCl total column: Lauder monthly average

HCl total column: Arrival Heights (Jan to April) monthly average

Last Example #3 : Apriori climatology

Arrival Heights

HCl

GMI-MR2V1

WACCM-V4