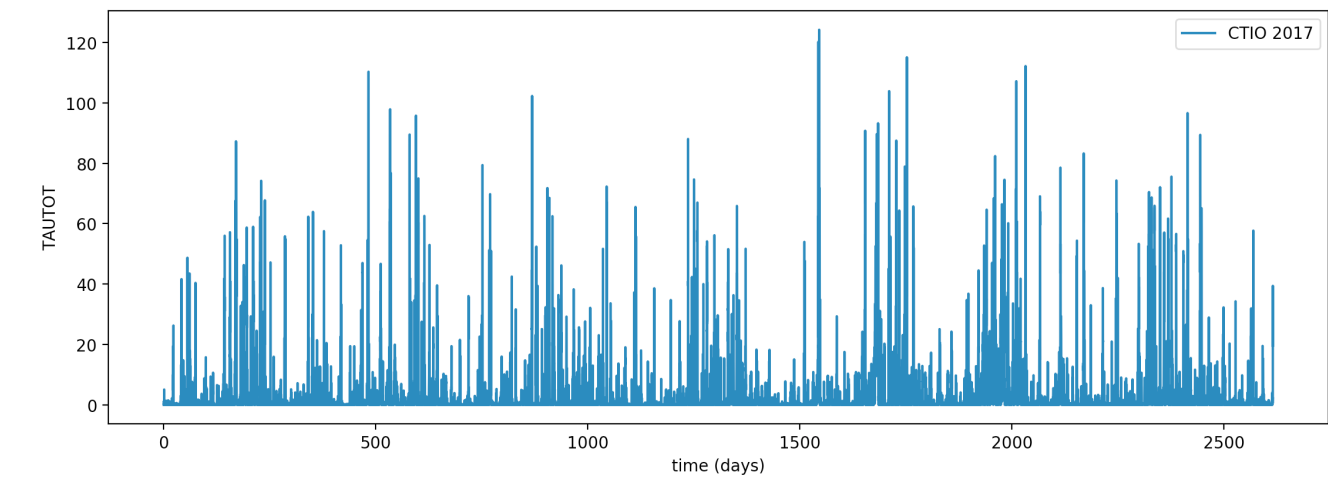
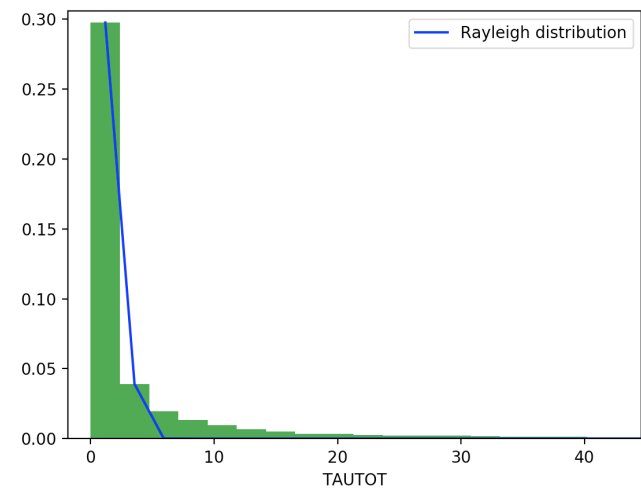
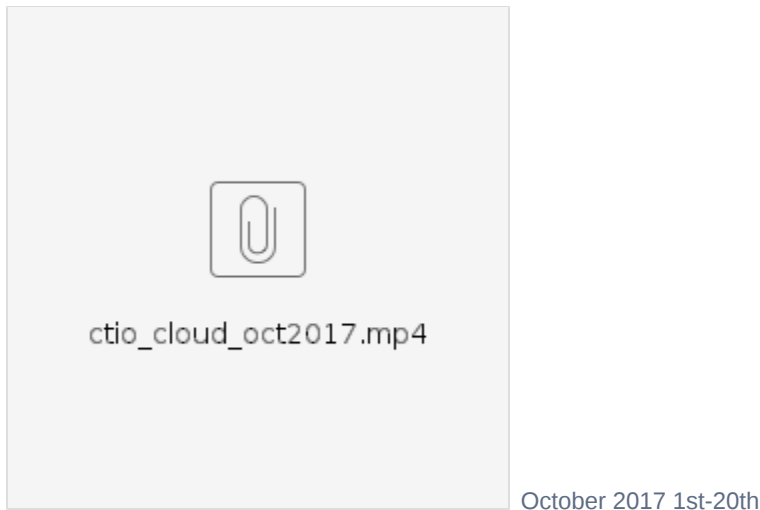
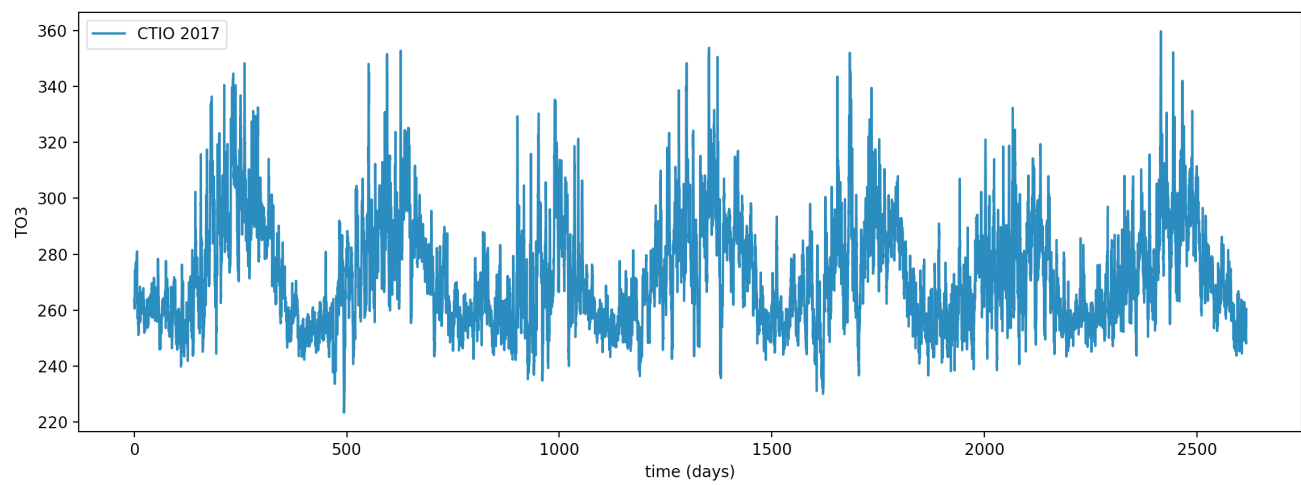
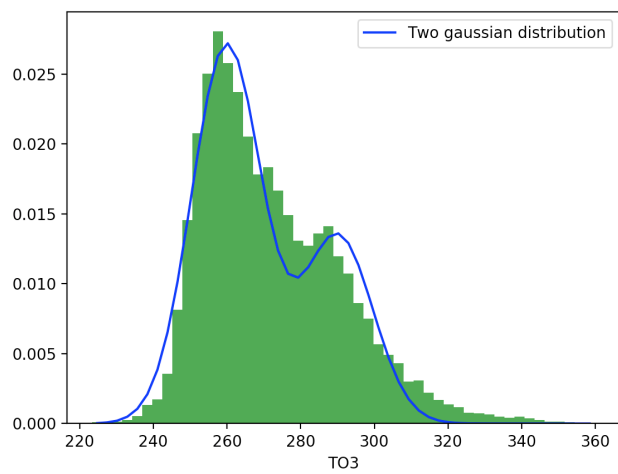


Merra-2 Movies October 2017

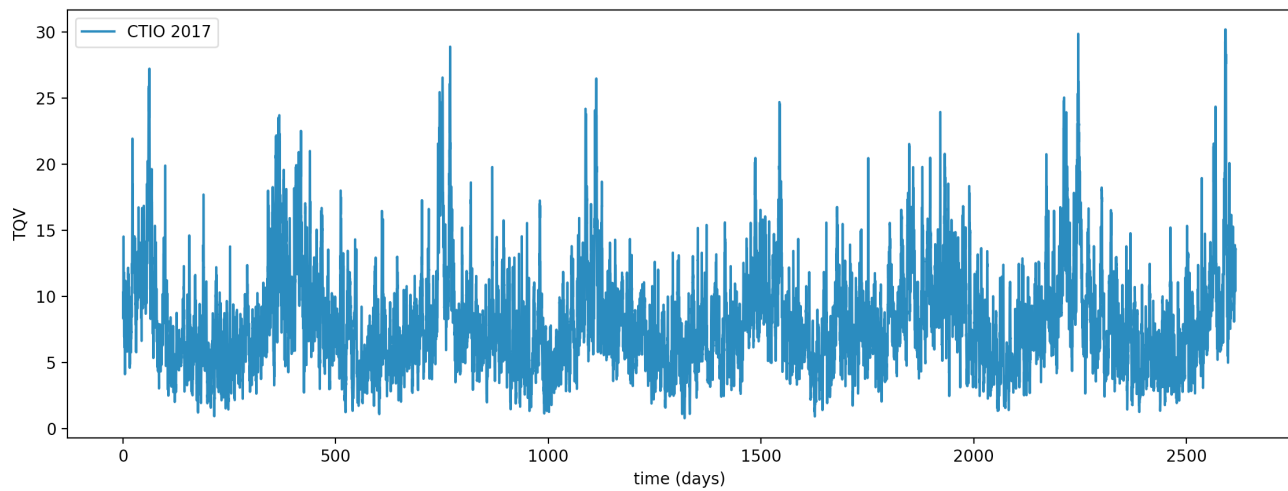
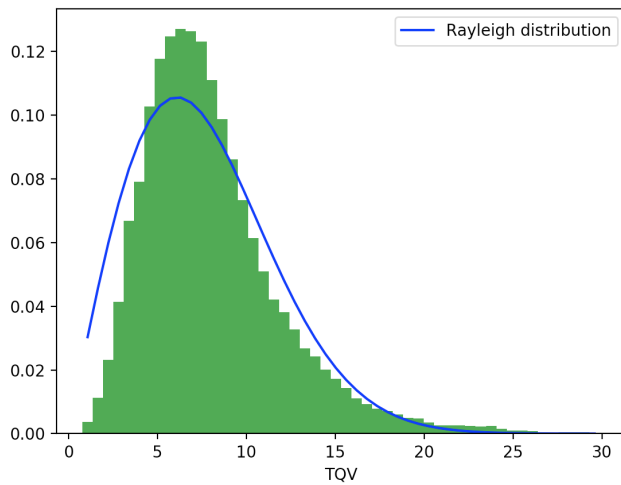
Clouds



Ozone 2010-2018



PWV, last 8 years



☐ On an annual basis, looking at 8 years of data, Ozone and PWV are anti-correlated

Aerosol Optical Depth

AOD from Oct. 1st to 20th, 3hour steps.

The AOD above CTIO varies between 0.01 and .10 from within a few hours time scale.

The Cordillera is a north-south axis of lower AOD with respect to the ocean on the west, and Argentina on the East.



20171020_AODANA.mp4

Ozone



20171020_TO3.mp4

From watching the Ozone movie :

- Level is always higher in the south
- Changes usually come from a steady direction during several days (west, south and north mostly)

West during nights 16 17 18 19
stable map night 10, 11, 12

- Gradient around 50 dobsons on a 200km square,

Usually few tens of dobsons variation with hour time.

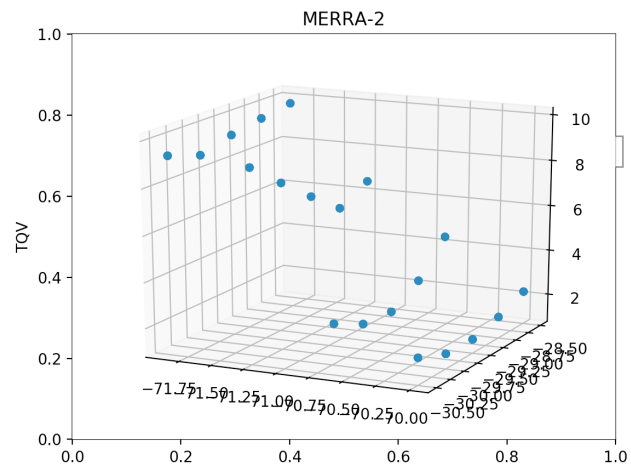
PWV



20171020_TQV.mp4

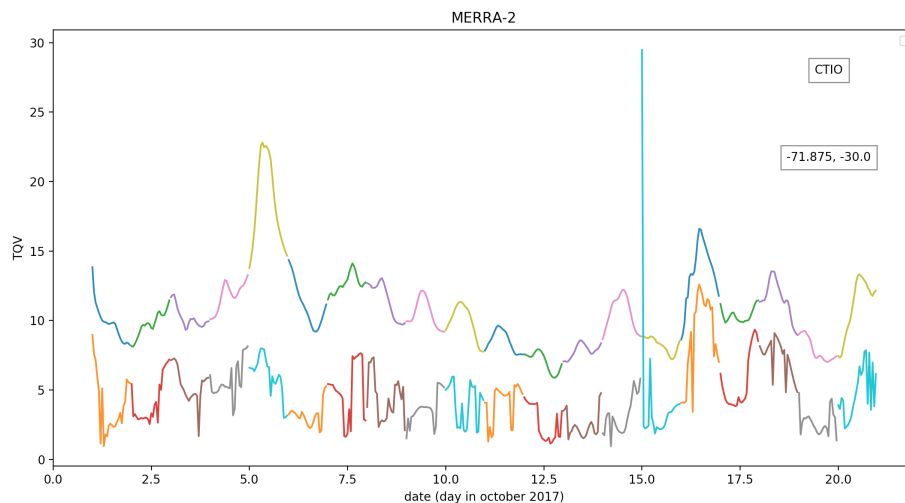
From watching the PWV movie:

- Clean North-South axis above CTIO with low PWV
- High level (>20 often coming from the west, stopping next to CTIO)



PWV varies by ~10mm in 1 degree of longitude (~100km)

Interpolating PWV above CTIO Oct. 1st to Oct 20th 2017

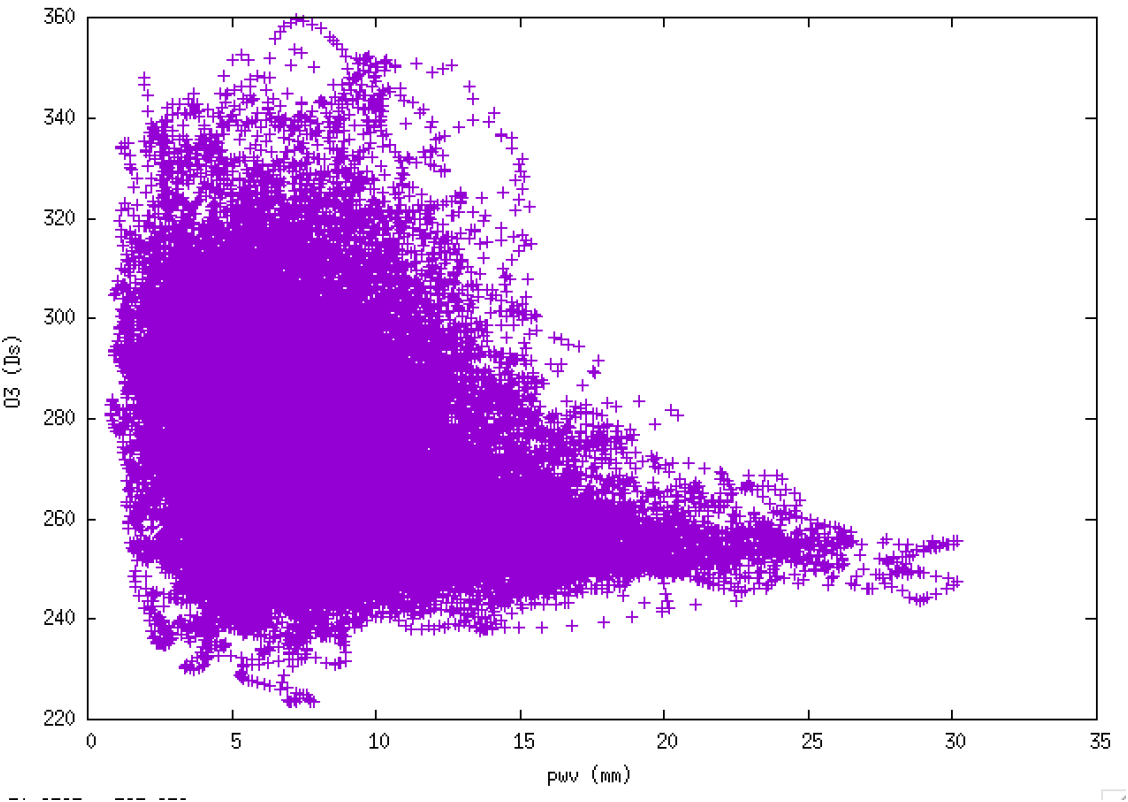


The variation can be high within a few hours time scale.

The interpolation is chopped because their are not enough node on the grid. This might be improved with using point from a larger map.

PWV Vs O3

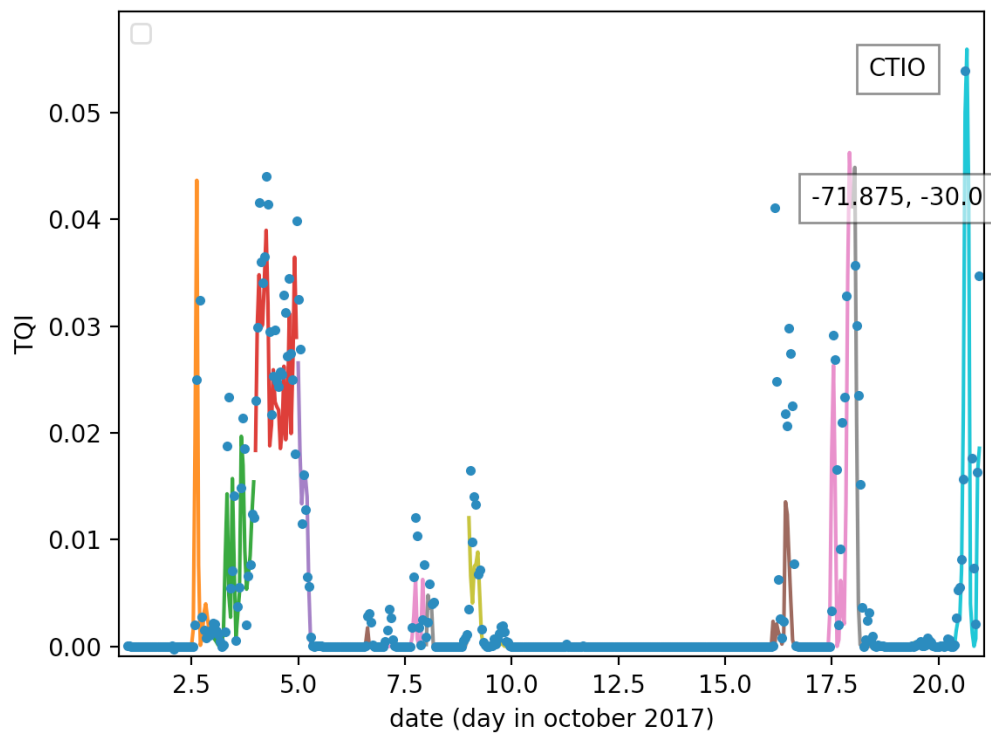
Higher level of PWV corresponds to low O3 levels.



Investigating for priors on a grey term...

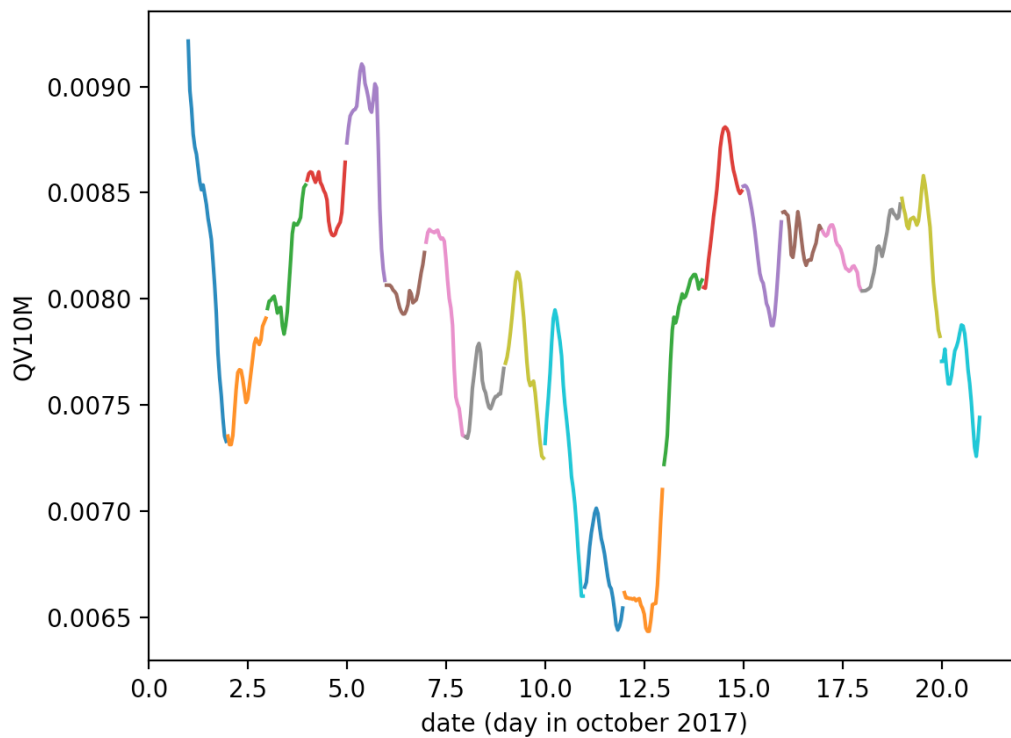
Ice Water

MERRA-2



10 meter specific Humidity

CTIO



Precipitable liquid vapor

