

Routine Evaluation of TEMPO Tropospheric Column NO₂ Product at NOAA

Zigang Wei, IM Systems Group at NOAA Shobha Kondragunta (NOAA), James J. Szykman (EPA), Lukas Valin (EPA)





In preparation for GeoXO atmospheric composition capability which includes a planned TEMPO-like instrument, NOAA is preparing to work with TEMPO L1B and L2 products. Prior to the products becoming ready for regular use in air quality models, NESDIS and OAR would like to develop routine cal/val activities of key TEMPO products.

ACX Instrument Team Lead: Joanna Joiner

ACX Product Team Lead: Shobha Kondragunta ACX User Team Lead: Gregory Frost



Regular NASA-

NOAA field

campaigns

targeting

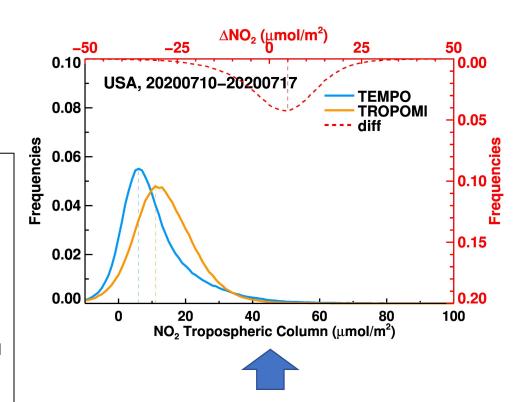
multiple L2

products are

planned

EPA, obtain Pandora NO₂ observations for routine evaluation of TEMPO tropospheric NO₂ column

- Compare TEMPO tropospheric NO₂ column with TROPOMI and OMPS
- Prior to TEMPO launch, work with proxy data to develop cal/val tools and model applications (e.g., NO_x emissions updates)



- TEMPO proxy NO₂ retrievals for July 10-17, 2020 obtained from the science team (POC: Aaron Nager)
- Comparisons with TROPOMI show a mean bias of 5 μmoles/m²