

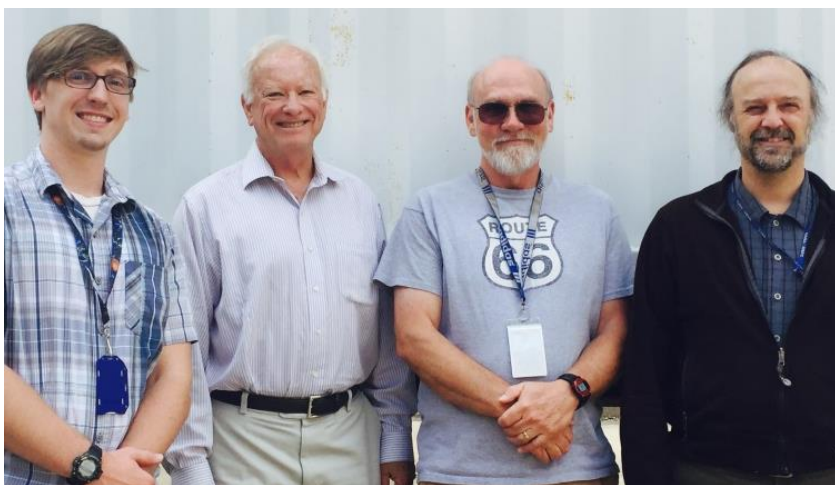
GSFC Ground-Based Tropospheric Ozone Lidar

• Instrument Description

- Differential Absorption Lidar; 289, 299 nm
- Analog + Photon Counting detection
- 15 m raw vertical resolution - 0.015 – 1.5 km retrieved vert. res.
- 20 sec raw temporal resolution – 5 minute minimum retrieved temporal resolution
- Up to 12 hour O₃ Curtain plots
 - 0.1 km(AGL) – 8-10 km (daytime)(ASL)
 - 0.1 km(AGL)– 12-15 km (night)(ASL)
- Calibrated Surface O₃ 24hr

More info: Sullivan, J. T., et al. "A mobile differential absorption lidar to measure sub-hourly fluctuation of tropospheric ozone profiles in the Baltimore–Washington, DC region." AMT7.10 (2014): 3529-3548.

• People



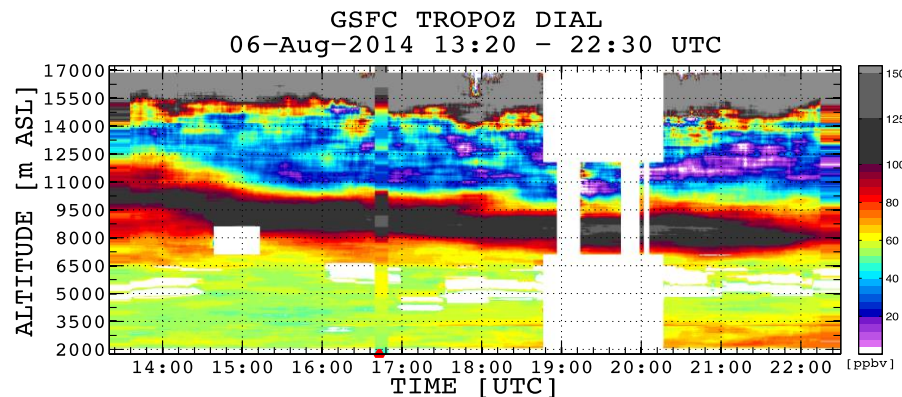
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• Instrument Deployed – Discover AQ Ft. Collins, CO, Summer 2014



NASA P-3 flyover of the TropOz Lidar instrument at Ft. Collins, CO

• Example of STE Observation at Ft. Collins.



Vertical profiles of ozone during stratospheric intrusion at Ft. Collins, CO. Ozonesonde observations are overlaid and match well with lidar. The intrusion of ozone is between 100-150 ppbv. The TropOz also indicates a very low ozone region (<40 ppbv) above the high ozone region