The Micro Pulse Lidar Network (MPLNET): 2000 - current

- Objective: Long term, global lidar network to profile aerosol and cloud vertical distribution and properties
  - Provide both NRT and Quality Assured data in support of various NASA missions, programs, and modeling
  - Support other domestic and international aerosol & cloud research activities
  - Develop capability to support aerosol modeling (Aerocom) and operational forecasting (ICAP, WMO SDS-WAS)

- MPLNET is a federated network built on the AERONET model: utilize standard instruments, calibrations, operations, and processing
- MPLNET is a member of the WMO Global Atmospheric Watch (GAW) Aerosol Lidar Observation Network (GALION): Welton co-chair

MPLNET Stats: 2000 – current
- Staff: 612: Welton, Stewart and Belcher (SSAI), Lewis (JCET). Offsite: Campbell (NRL), Lolli (CNR), and numerous site PIs worldwide
- 50+ sites, some no longer active
- Currently: 18 long term sites (17 upgraded with polarized lidars)
- Nearing completion of our new Version 3 system with polarized MPL, and enhanced data products.
  - NRT data available on website (<1.5 hrs) including some with QA. Interactive data browsing.
  - NETCDF 4, CF compliant formats. Subsets available (including custom as requested, Aerocom?).
  - Automated, hourly FTP product staging for ICAP/SDS-WAS applications
- http://mplnet.gsfc.nasa.gov

Polarized Micro Pulse Lidar

Windpoort, Namibia (borders Etosha Nat Park)
Photo: Seb Stewart
**The Micro Pulse Lidar Network (MPLNET): Sites 2000 - current**

- **High Lat & Arctic**
- **Tropics & Mid-Latitudes**

**Active**
**Planned**
(Former site)
**Inactive**
**Proposed**
* revive Ragged Point and Cape Verde
* add Suriname

**Antarctic**
MPLNET V3 Data Samples: Level 1 Cloud Product (L1_CLD)

Vol Depol Ratio

Thin Cloud Optical Depth (new)

Cloud Phase (new)
Conclusion: V3 Status

New V3 Website active: August 2016
- Metadata, Data discovery, Data images/browsing
  - including enhanced interactive/dynamic plotting
- New online data ordering tool: V3 data not available yet
  - V2 data will be available through tool, repackaged into V3 formats

L1 Data
- NRB: signal product finished, forward processing since Jan 2016
  - Will soon apply new calibration protocol to all polarized data (then downloadable)
- CLD: Cloud product in final stages of beta test
- AER: Aerosol product in beta test
- PBL: Boundary layer product in alpha test, beta version of algorithm in dev

L15 Data
- Testing to begin shortly
- QA Algorithm Status: NRB and CLD done, AER and PBL in development
- L15 will be much faster than L1 to implement, test, and convert to ops

L2 Data: ? (after retirement perhaps)