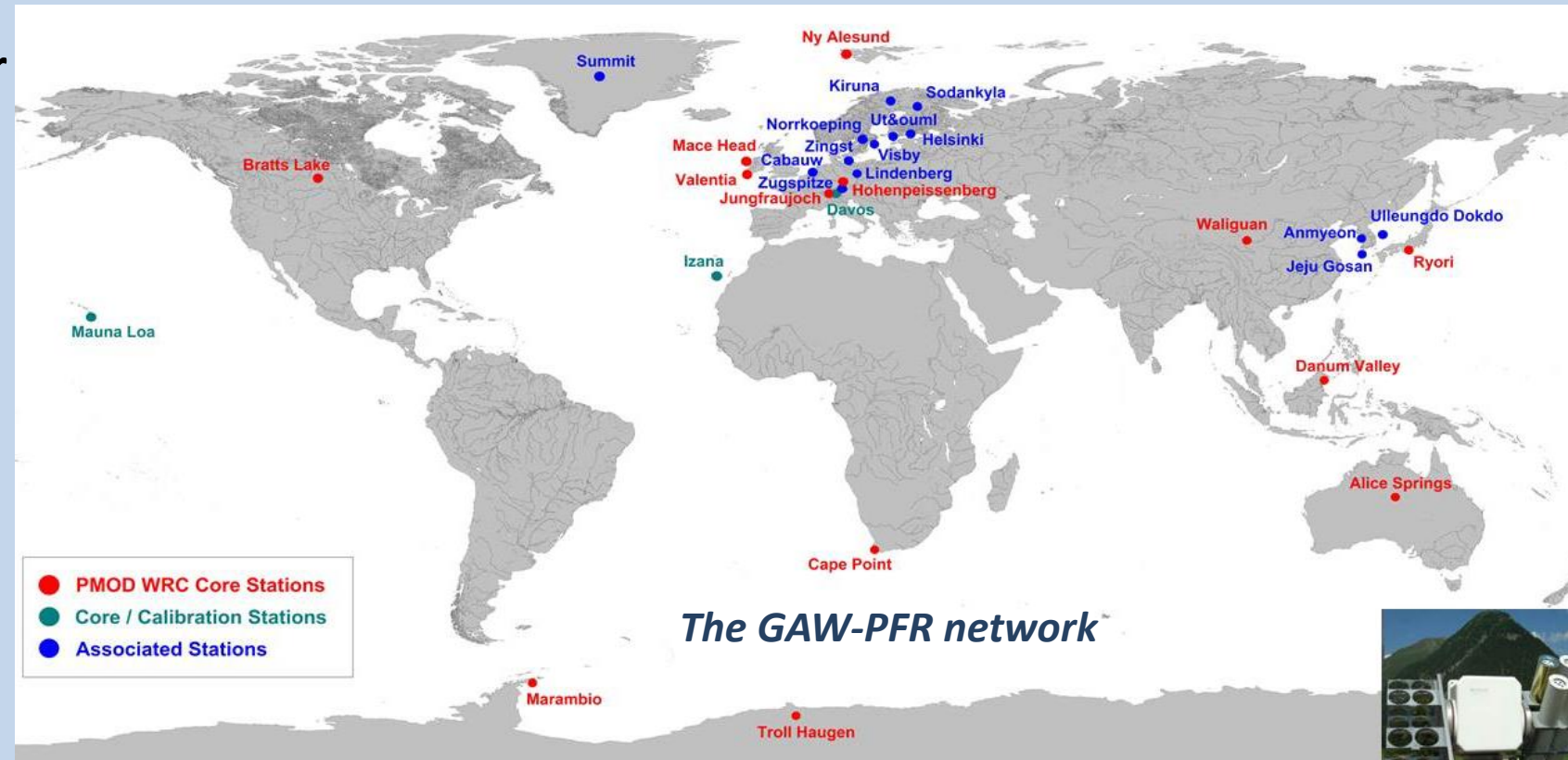


# Aerosol Optical Depth Measurements at high altitude and polar WMO Global Atmospheric Watch - PFR Network Stations

S. Kazadzis, N. Kouremeti, J. Gröbner

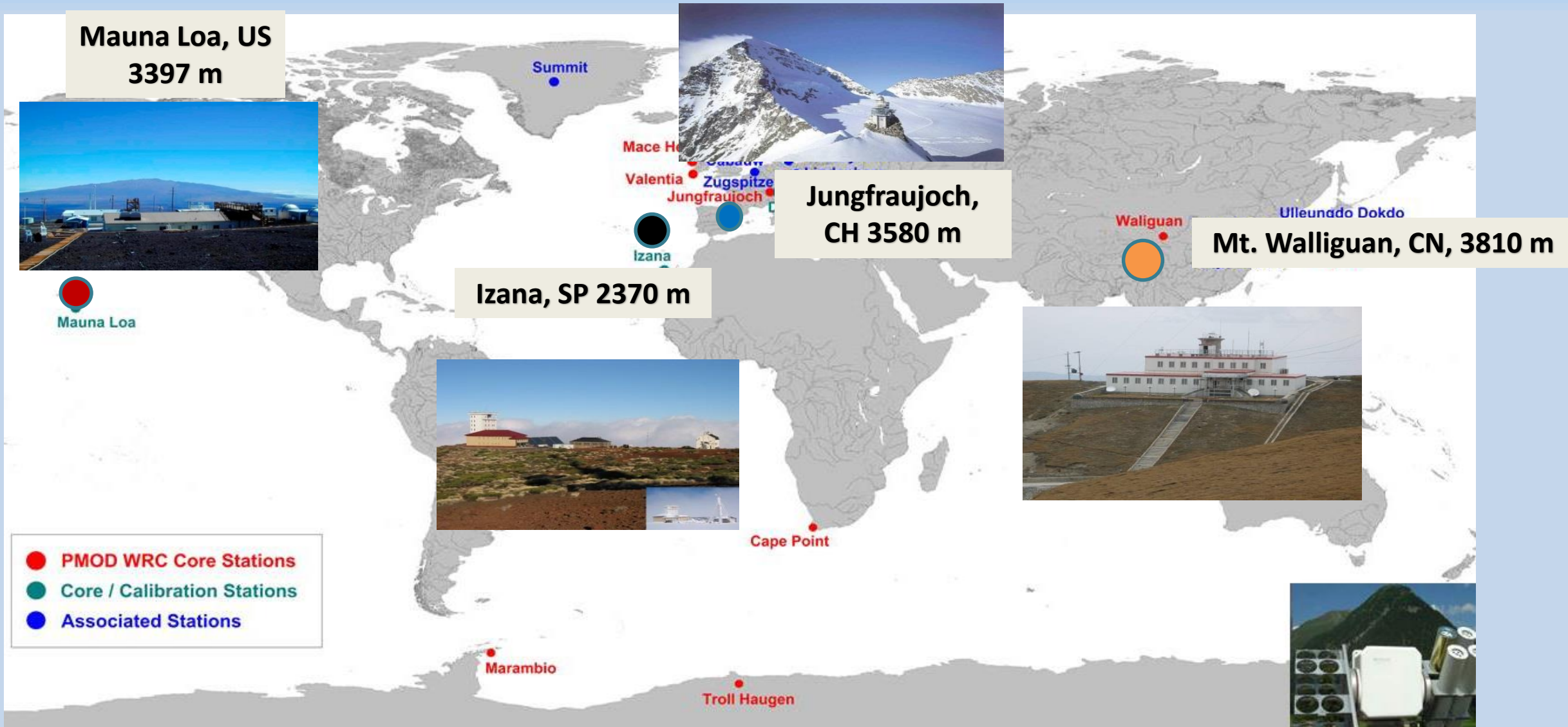
Phys. Meteorol. Observatorium Davos,  
World Radiation Center, Switzerland



## Objectives:

- The harmonization of the GAW-PFR network long term measurements
- The re-evaluation of the long term series of Aerosol optical depth
- Report on the GAW-PFR network AOD measurements including AOD trend analysis

# GAW-PFR Network / High altitude background stations





**Mauna Loa, US**  
**3397 m**



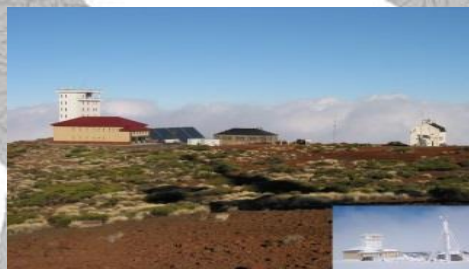
Stat.	AOD <sub>500nm</sub>	Ang. Exp.	trend per dec.	% trend per dec.	Start
MLO	0.019	1.31	-0.003	15.1	2000



**JFJ, CH 3580 m**

Station	AOD <sub>500nm</sub>	Ang. Exp.	trend per dec.	% trend per dec.	Start
JFJ	0.034	1.28	0.004	11.7	1999

**Izana, SP 2370 m**



Stat.	AOD <sub>500nm</sub>	Ang. Exp.	trend per dec.	% trend per dec.	Start
IZO	0.047	1.11	-0.009	-19.1	2002

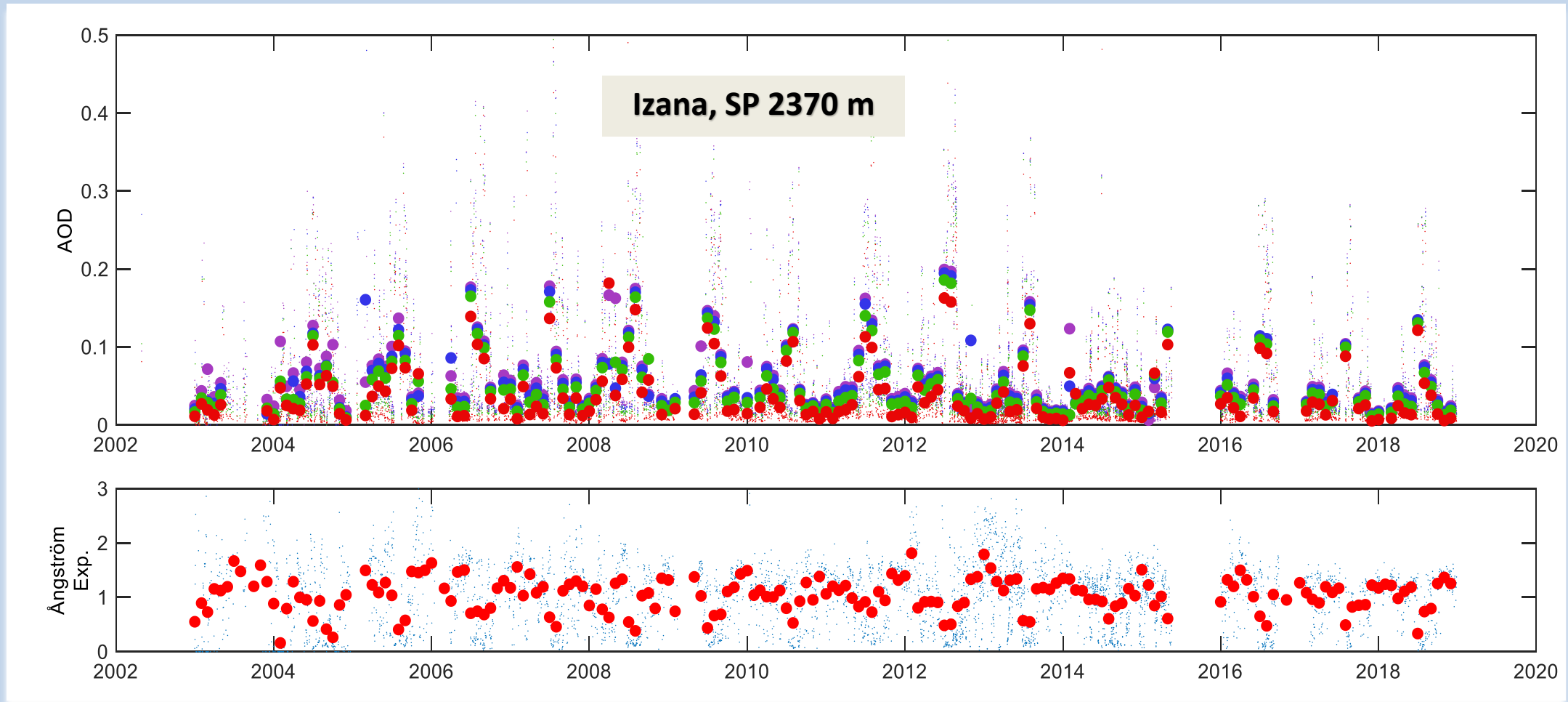
**Mt. Walliguan, CN, 3810 m**

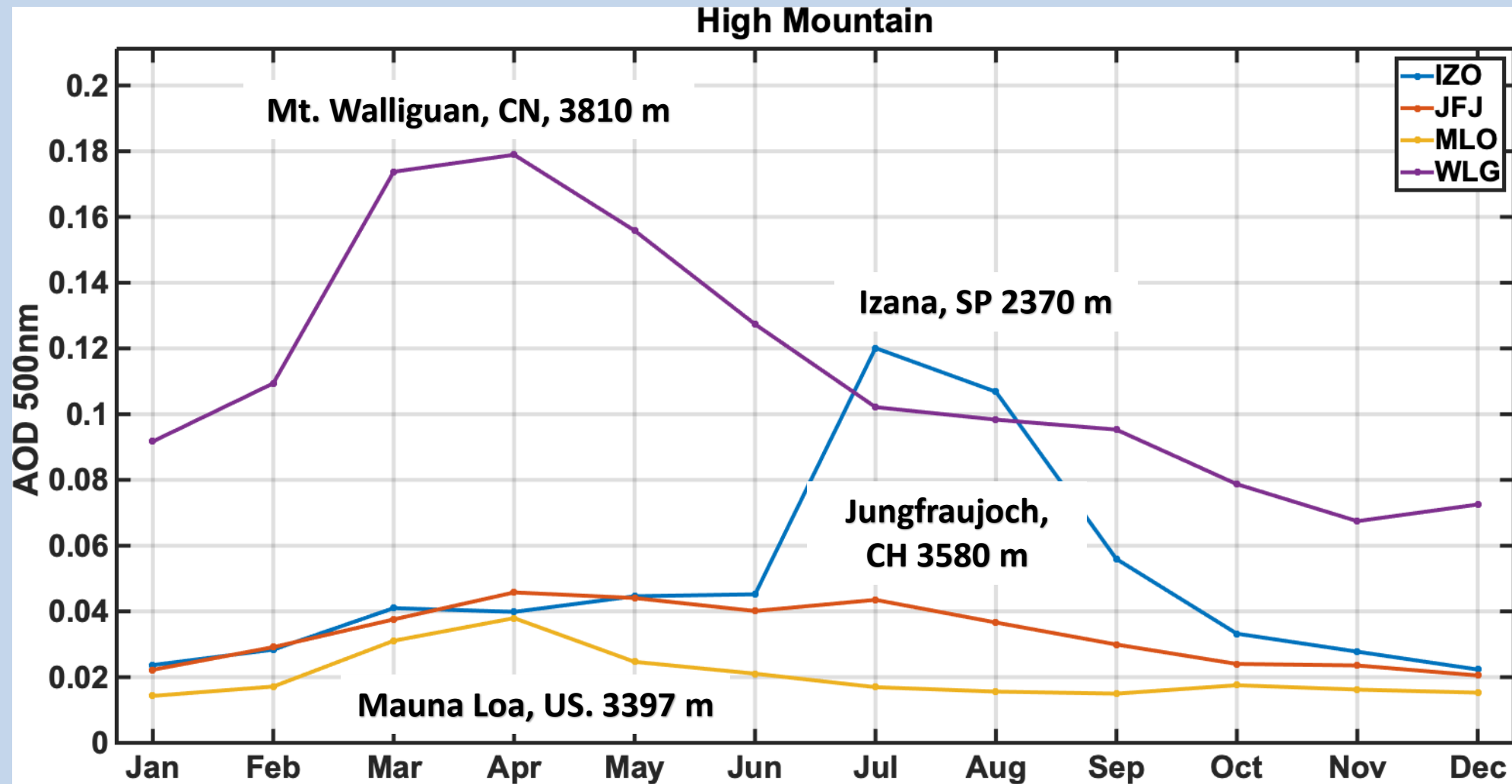


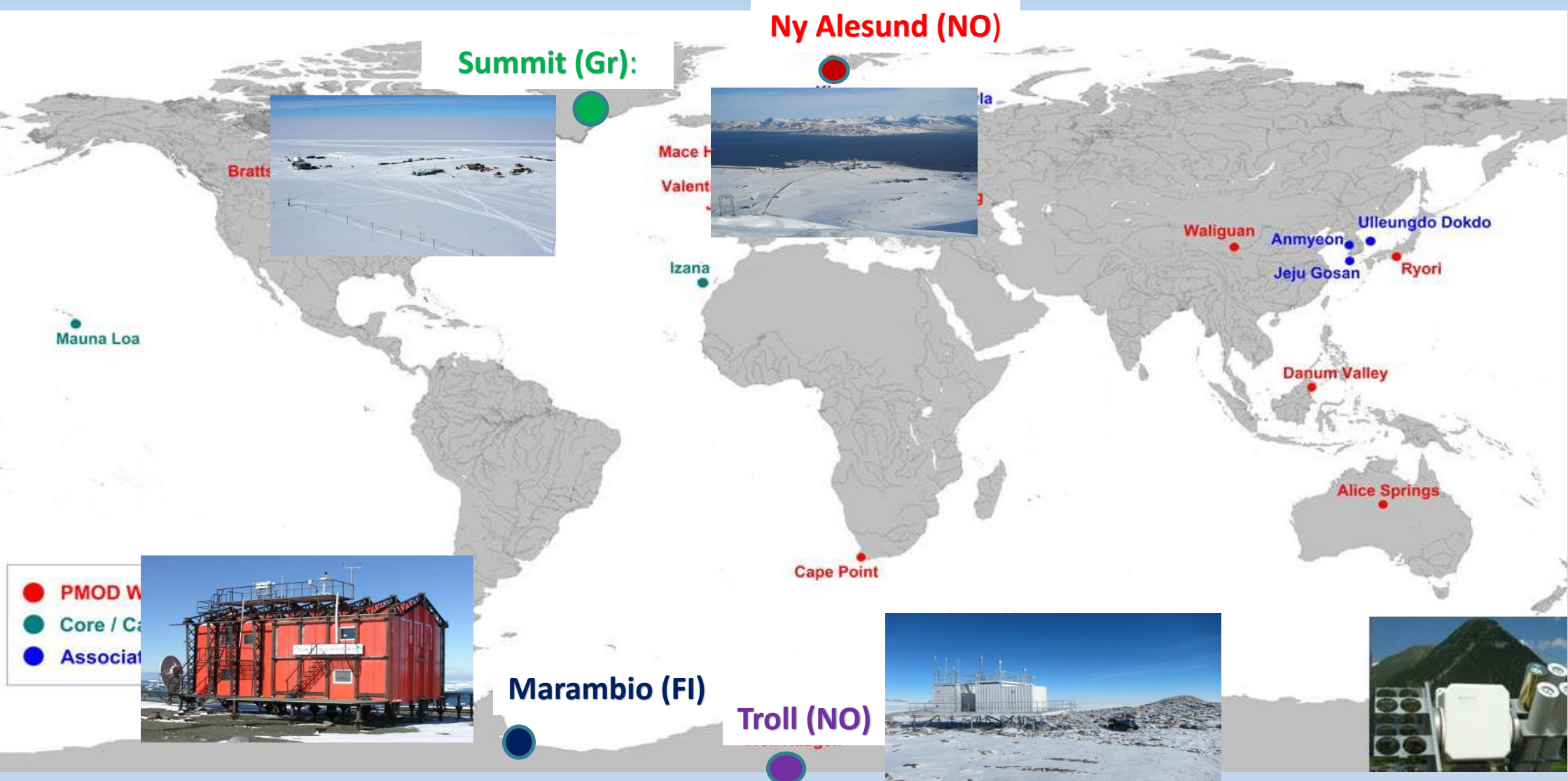
Stat.	AOD <sub>500nm</sub>	Ang. Exp.	trend per dec.	% trend per dec.	Start
WLG	0.111	0.82	-0.001	-0.9	2008

- PMOD WRC Core Stations
- Core / Calibration Stations
- Associated Stations

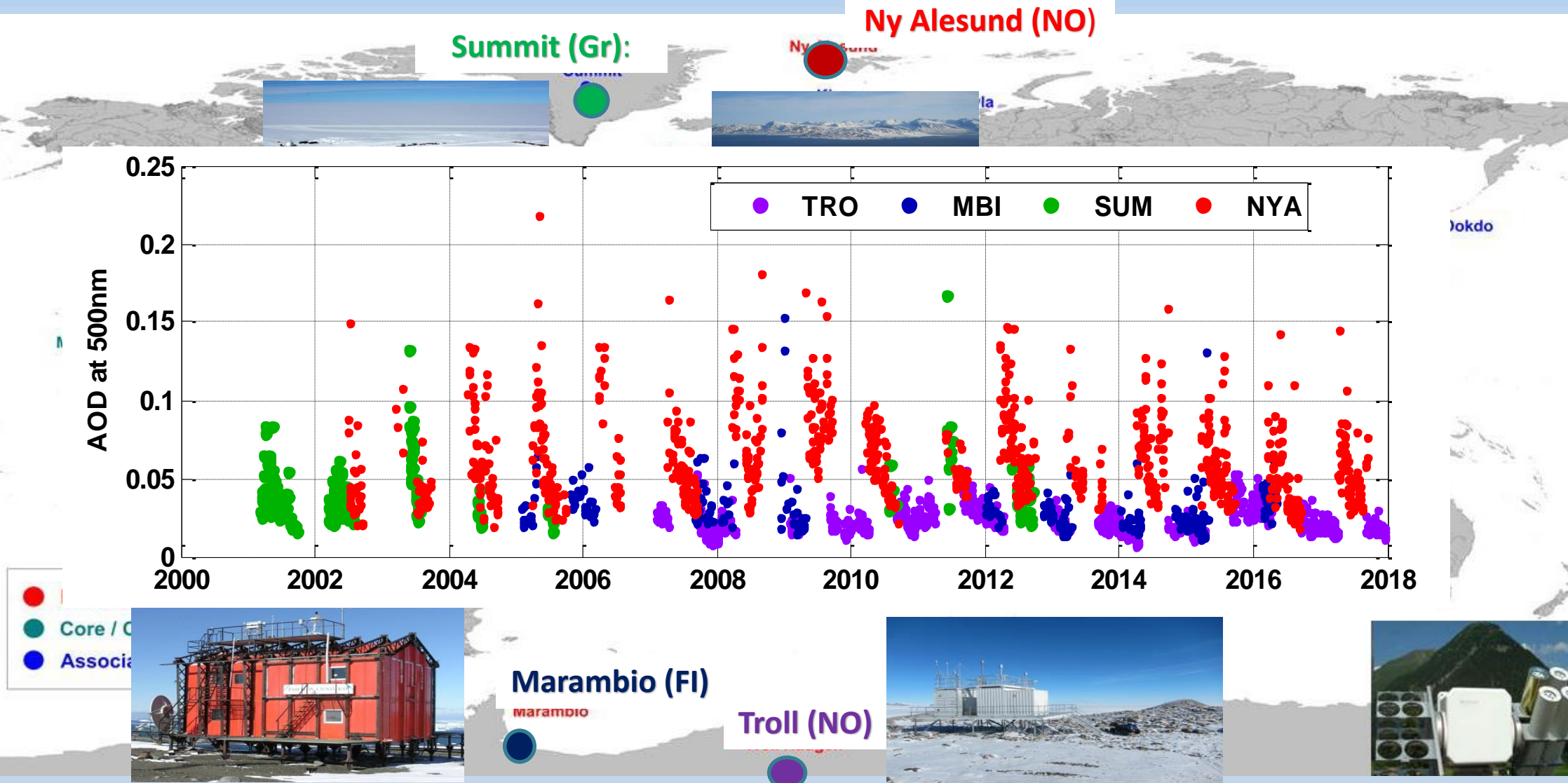
**“Detection of small AOD changes during the past 15-20 years requires maximum effort on minimizing measurement uncertainties.”**

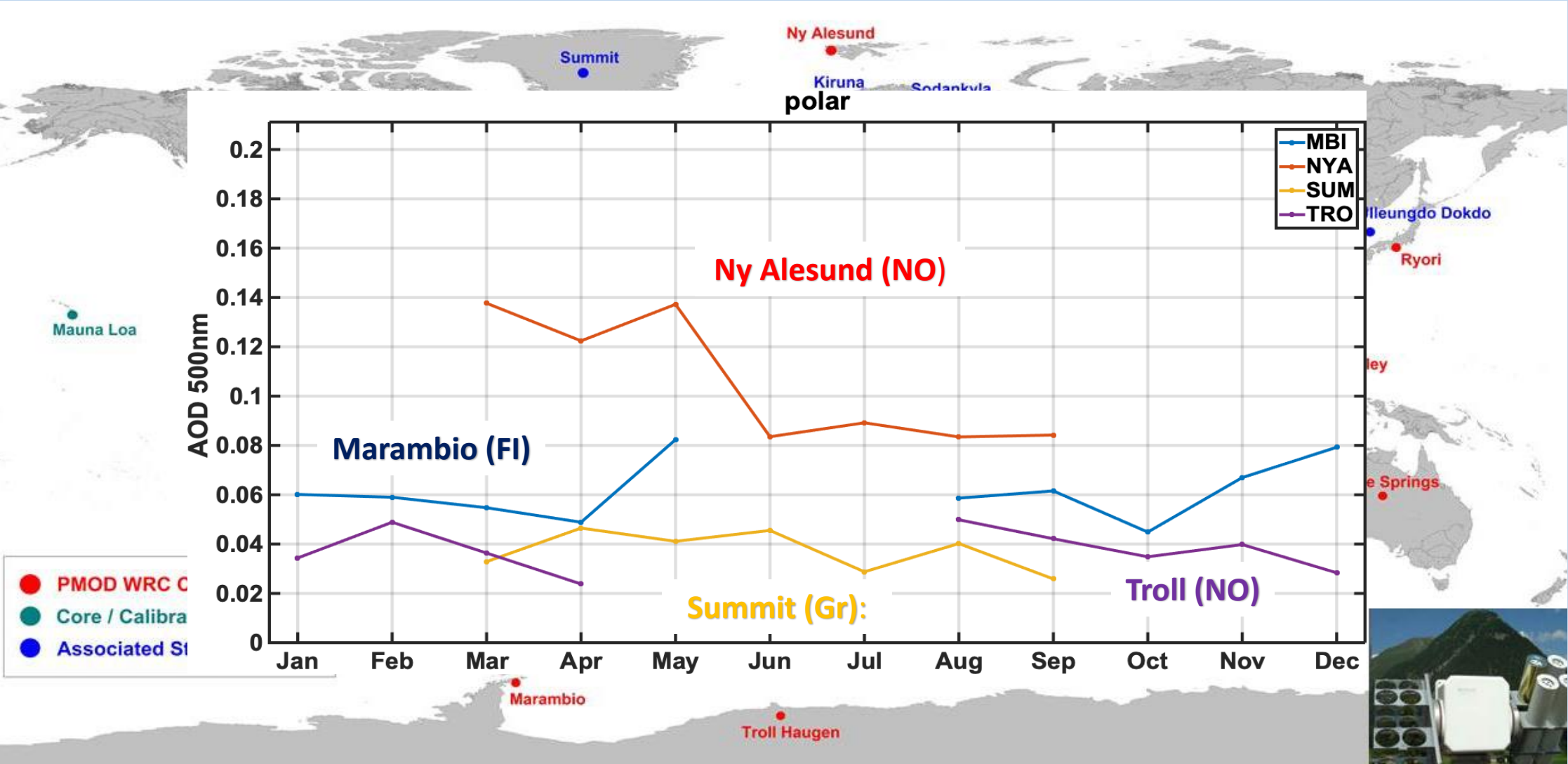










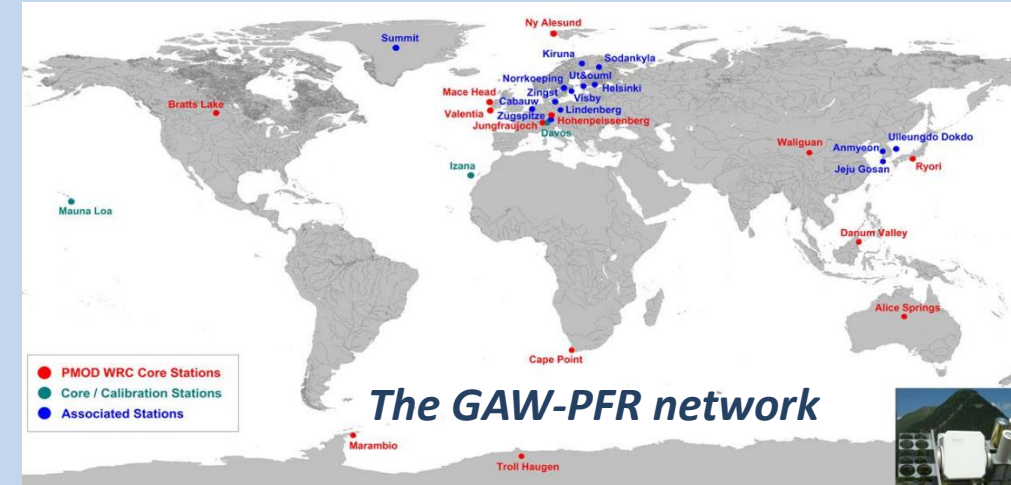




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## Conclusions:

- Small absolute changes in AODs for high mountain areas and polar stations
- Intra-annual variations
- Differences in absolute AODs and AOD changes among ground based and satellite instruments

# Thank you