The Morning Plan

- AERONET overview-Holben
- Advanced retrievals synergism-Dubovik
- BAMGOMAS-Giles
- Advanced Atmospheric Correction-Lyapustin
- LBA-ECO-Brazilian Investigations-Schafer
- Proposed Proposals-Holben
- AERONET Roof Tour, Calibration Facility

Aerosol Robotic Network

Overview

HQ Experts Site Review

on a Global Surface - Based Network for Long Term Observations of Column Aerosol Optical Properties

March 17, 2004, GSFC

AERONET-An Internationally Federated Network

- Aerosol Research & Enabling Project
  - Program of long term aerosol measurements
  - Homepage access http://aeronet.gsfc.nasa.gov/
- Mission Objectives
  - Validation of Satellite Aerosol Retrievals
  - Characterization of aerosol optical properties
  - Synergism with Satellite obs., Climate Models

Many thanks to contributors and collaborators

AERONET + AEROCAN + PHOTON

Brent Holben, Tom Eck,
Oleg Dubovik, Ilya Slutsker,
Joel Schaffer, David Giles,
Anne Vermeulen,
Alexander Siniuk,
Wayne Newcomb, An Ho,
Mikhail Sorokin

Norm O'Neill,
Alain Royer,
Bruce McArthur,
Jim Freemantle,
David Halliwell,
Patrick Cliche

Didier Tanre,
Philippe Goloub,
Bernadette Chatenet,
Francois Lavenu,
Luc Blarel,
Damiri Bahaiddin
Thierry Podvin

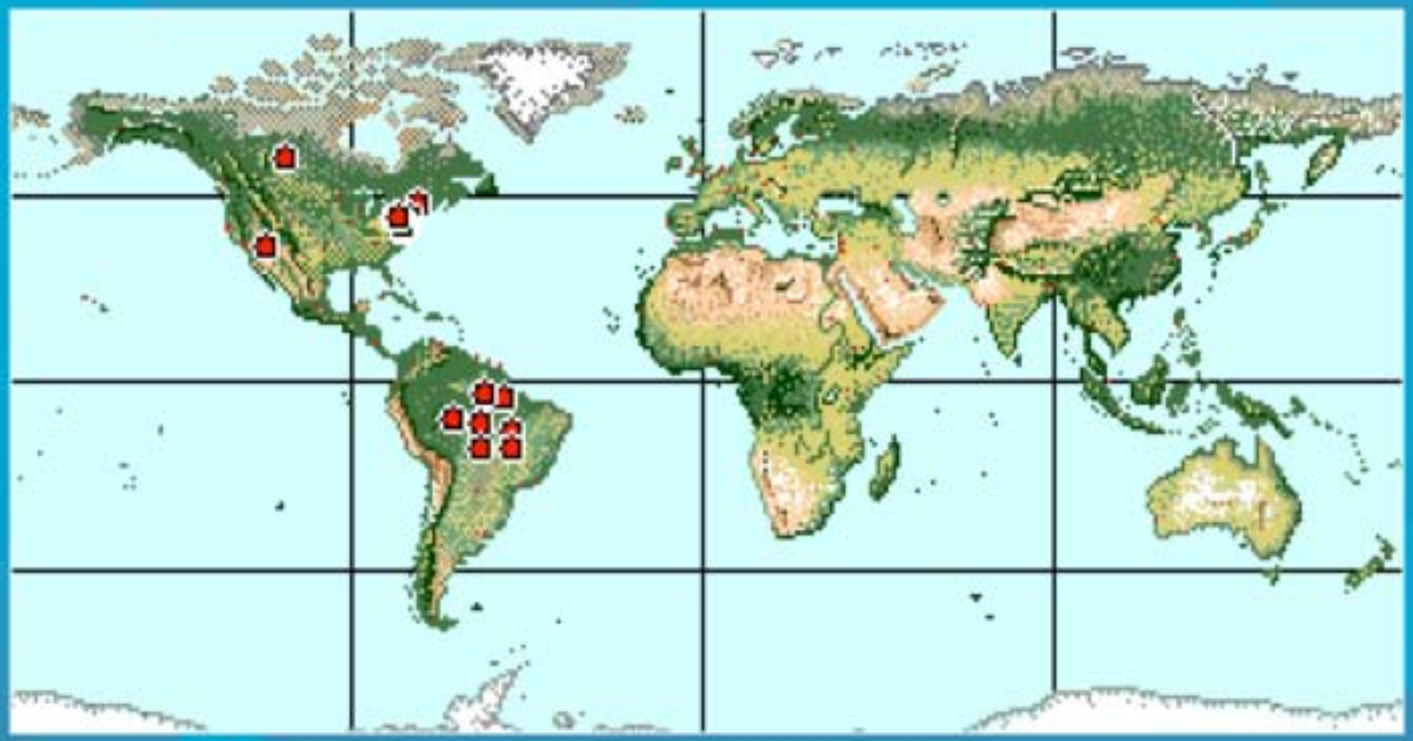
+ CIMEL

Jean-Pierre Buis,
Marius Canini

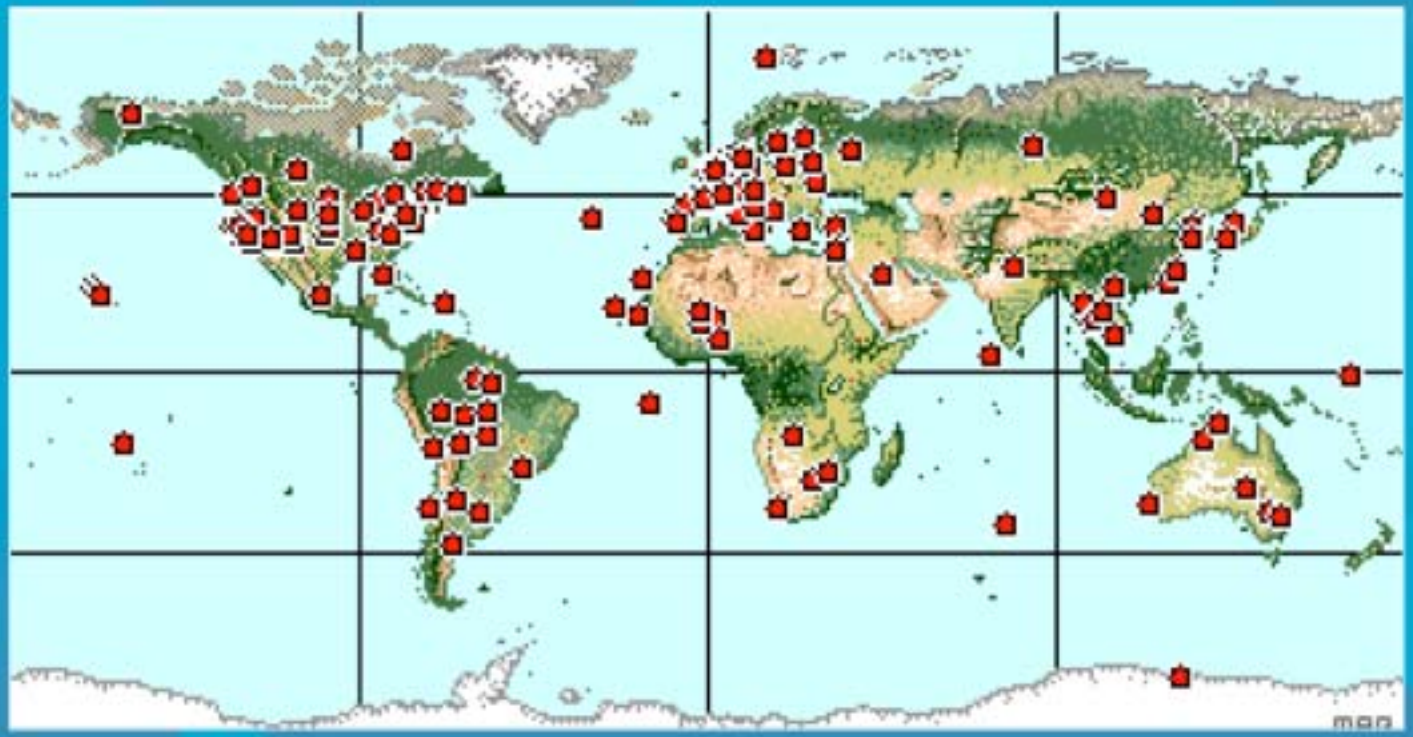
= AERONET

+ INSPIRATION TEAM: Michael King, Yoram Kaufman, Teruyuki Nakajima

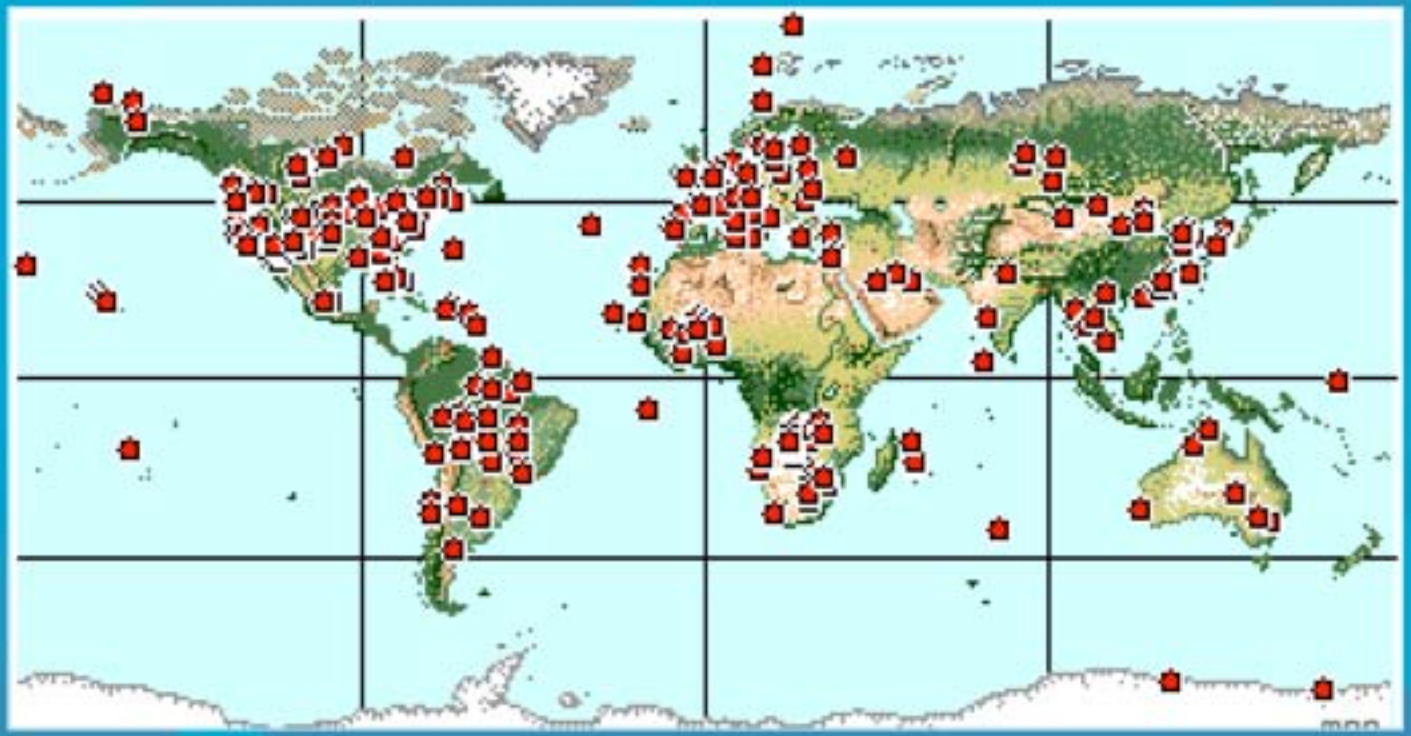
1993



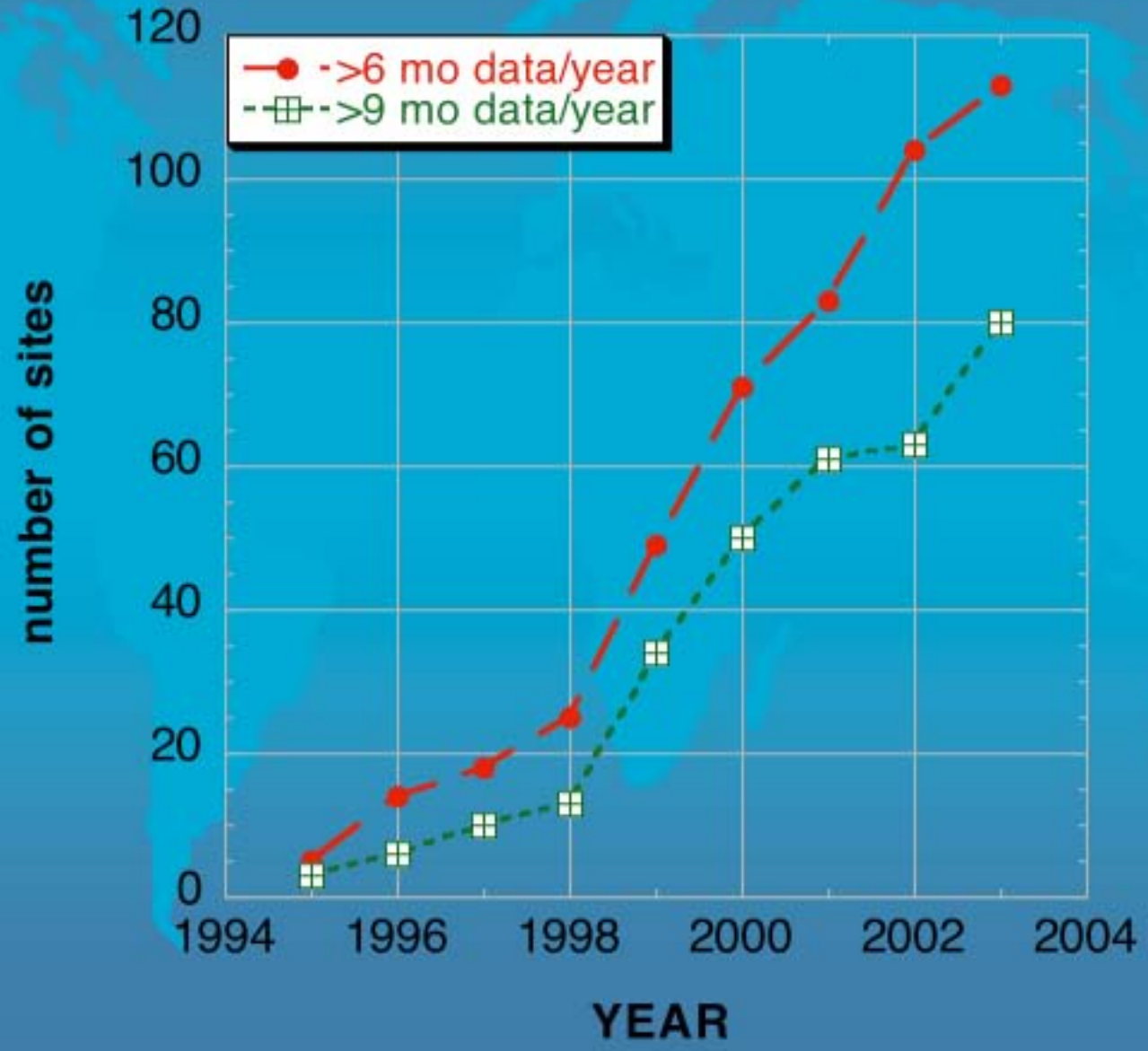
2003



1993-2003



AERONET


->6 mo data/year
->9 mo data/year
number of sites
0
20
40
60
80
100
120
1994
1996
1998
2000
2002
2004
YEAR

Walker Branch, Tennessee

AERONET GSFC Calibration Facility

New SunPhotometer CE-318N

Schedule

Identifier building

Standard SunPhotometers

Old Name	New Name
SunPh. 318-1	CE 318N VBS5
SunPh. 318-2	CE 318N VPS8

Example : **CE 318N V B S 8**

Application	Options	Filter type	Filters ref.
V Visible - Visible **E** Visible - Infrared **U** Visible - Ultraviolet	**B** None (Base) **P** Polarized	**S** Standard **X** Other filters	**1** filtre to **9** filters

Filters ref. : Table of the standard filters (Application and Options)

VBS Filters

5	1020-870-675-440-936
6	**Lot5**-500
7	**Lot5**-340-380
8	**Lot5**-500-340-380

EBS Filters

9	1020-870-675-440-936-500-340-380-1610

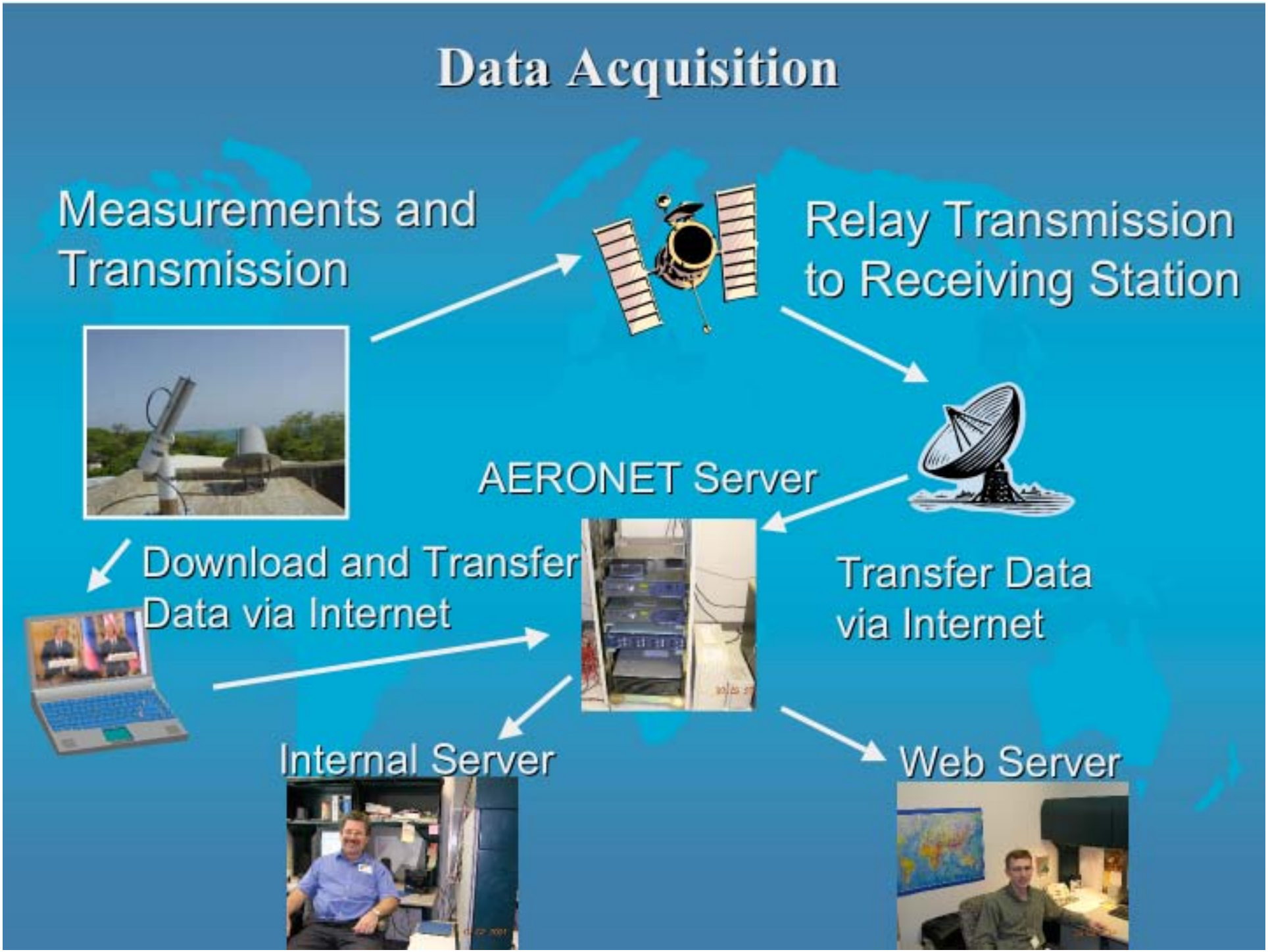
VPS Filters

8	1020-870P1-675-440-870P2-870-936-870P3
9	1020-870P1-675-440-870P2-870-936-870P3-500

EPS Filters

9	1020-870P1-675-440-870P2-870-936-870P3-1610

Data Acquisition



AERONET Data Flows

http://aeronet.gsfc.nasa.gov

Holben et al. *RSE*, 1998
Holben et al. *JGR*, 2001

Flux measurements

Direct - λ=340, 380, 440, 500, 670, 870, 940, 1020 nm
Diffuse - λ=440, 670, 870, 1020 nm (alm, pp, pol)

Calibration and processing information

Eck et al. *JGR*, 1999

Aerosol optical depth and precipitable water computations

Smirnov et al. *RSE*, 2000

Cloud screening and quality control

Dubovik and King *JGR*, 2000
Dubovik et al. *JGR*, 2000

Inversion products

Volume size distribution (0.05<R<15 mm), refractive index, single scattering albedo (l=440, 670, 870, 1020 nm)