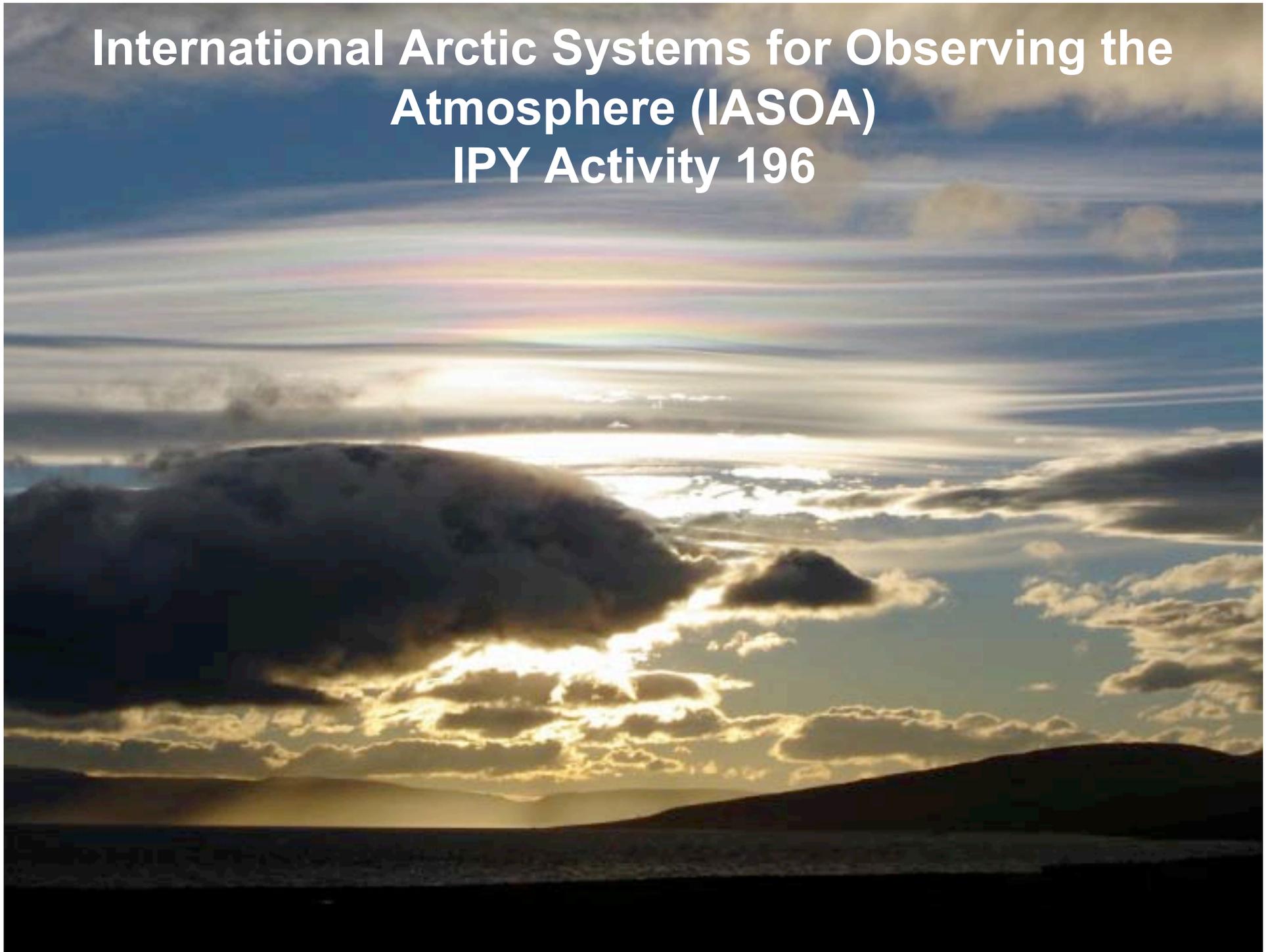


**International Arctic Systems for Observing the  
Atmosphere (IASOA)  
IPY Activity 196**





- ABOUT IPY
- ORGANISATIO
- DEVELOPMEN
- NATIONAL
- NEWS
- CONTACT

home | contact



# IPY 2007-2008

- IPY Development
- Rationale
- History of Polar Years
- IPY Themes
- Objectives
- Priorities
- Ideas for IPY
- IPY Framework documents
- Expressions of Intent

Updated on 17/7/05

## Full Proposals for IPY 2007-2008 Activities

### Proposed IPY Activity Details



### 1.0 PROPOSER INFORMATION

(Activity ID No: 196)

#### 1.1 Title of Activity

International Arctic Systems for Observing the Atmosphere

#### 1.2 Short Form Title of Proposed Activity

IASOA

#### 1.3 Activity Leader Details

Taneil Uttal  
U.S. National Oceanic and Atmospheric Administration  
United States

<http://classic.ipy.org/development/eoi/proposal-details.php?id=196>

# Rational for Intensive Atmospheric Observatories

**Large number of slides demonstrating climate change, especially in the Arctic, go here!!**

**Key references to IPCC report, ACIA report, etc., etc.**

# Rational for Intensive Atmospheric Observatories

There is an emphasis on **HOW** the climate is changing

- Long term monitoring
- International programs (GAW, NDACC, etc.)
- Quality Control
- Satellite validation

**BUT**

Also need an emphasis on **WHY** the climate is changing

- Process Studies
- Model Support

**ALSO**

Need to respond to the **NOW** issues

- Sudden events

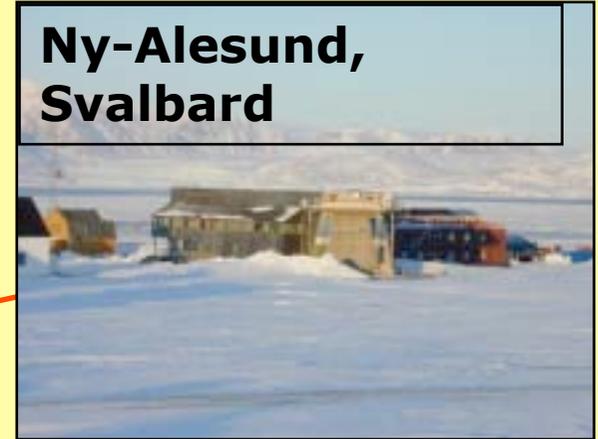
**Barrow, Alaska**



**Tiksi, Russia**



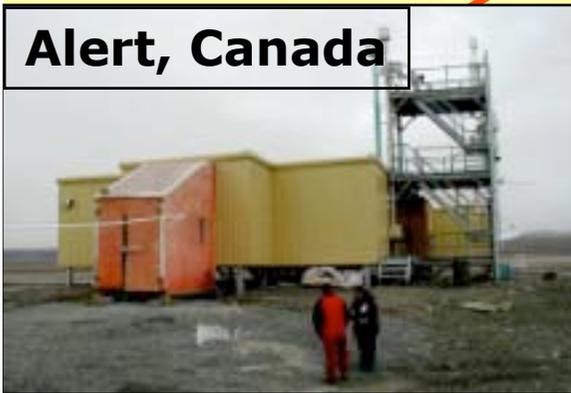
**Ny-Alesund, Svalbard**



**Eureka, Canada**



**Alert, Canada**

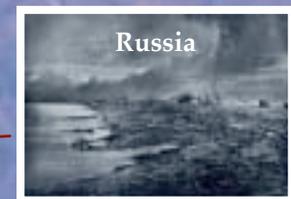
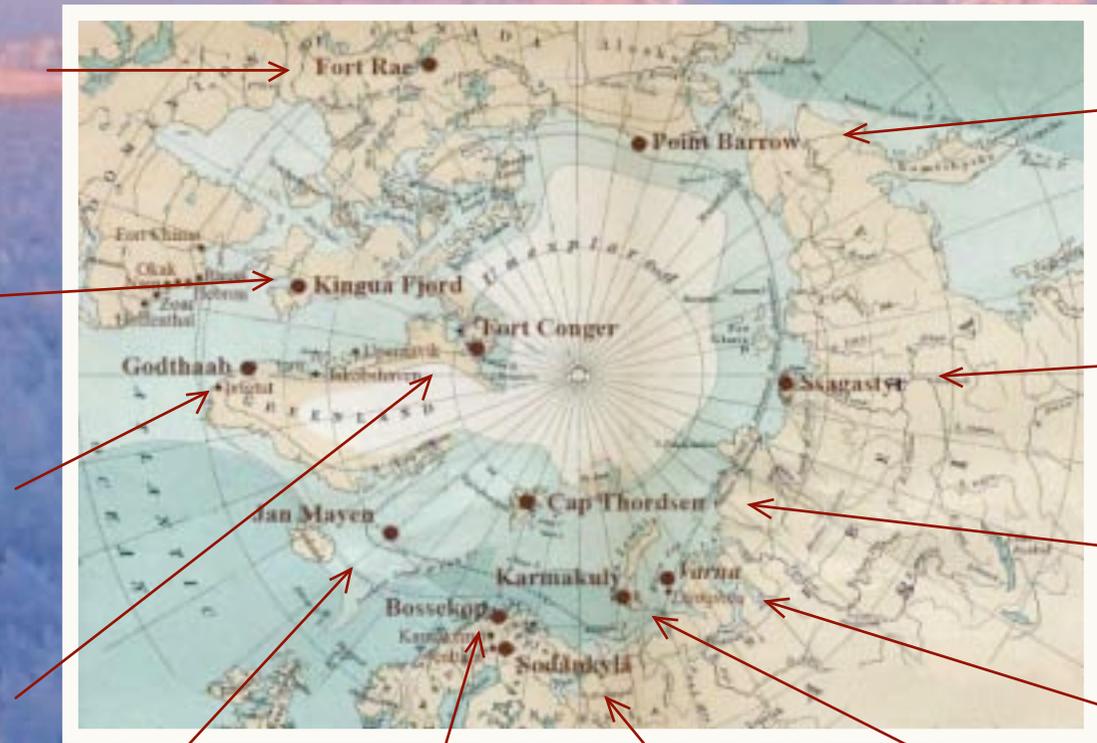
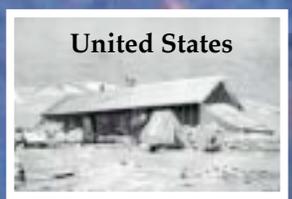
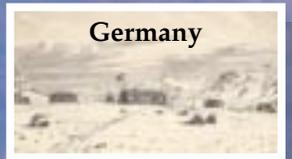


**Summit, Greenland**



**The "Arctic Ring" of laboratories**  
Note: This is not an exclusive list

# The same measurement plan as the first IPY!



12 primary stations  
12+ auxiliary

# Barrow, Alaska

## Scientific studies integrating NOAA and DOE/ARM measurements

- U.S. National Weather Surface (since 1920)
- National Oceanic and Atmospheric Administration Baseline Observatory – Radiation, Aerosols, Gases (since 1972)
- Department of Energy Atmospheric Radiation Measurement site – Clouds and Radiation (since 1998)

# Alert and Eureka Canada



- ALERT:
  - Global Atmosphere Watch Station – Chemistry (since 1983)
  - Meteorological Services Canada Weather Station (since 1947)
- EUREKA:
  - CANDAC Polar Environmental Atmospheric Research Laboratory (PEARL)
  - built in 1993 for stratosphere studies
  - Part of NDACC Arctic station

# Summit, Greenland

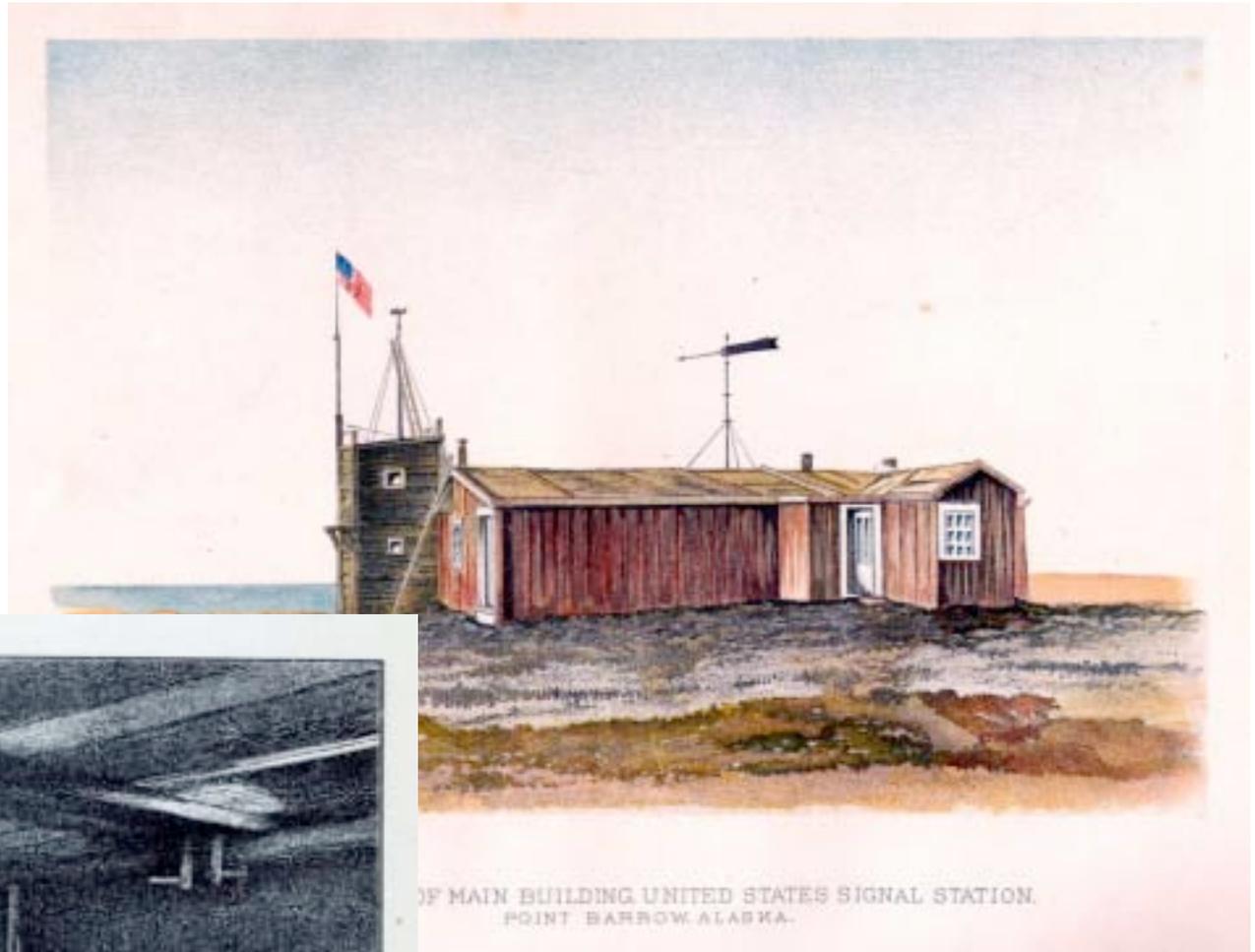


# Ny-Alesund

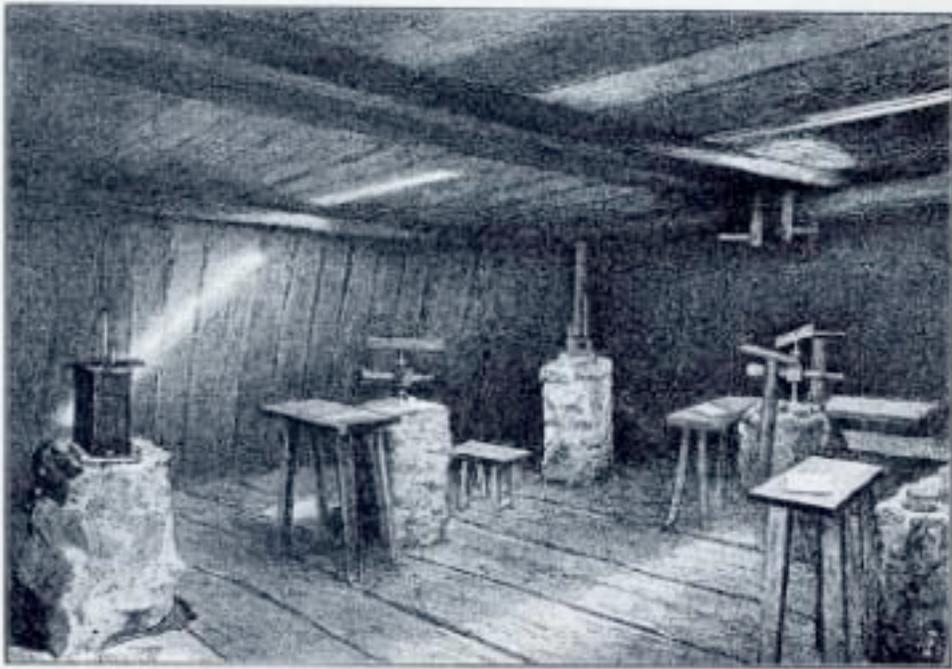


# Tiksi, Russia





OF MAIN BUILDING UNITED STATES SIGNAL STATION.  
POINT BARROW, ALASKA.



Починение съ приборами Кунфера. — Jurte mit den Kupferschen Instrumenten.

**Working Conditions have improved Since 1882!**

# Instruments

P-AERI



Radiometer



Cloud Radar  
HSRL (Lidar)



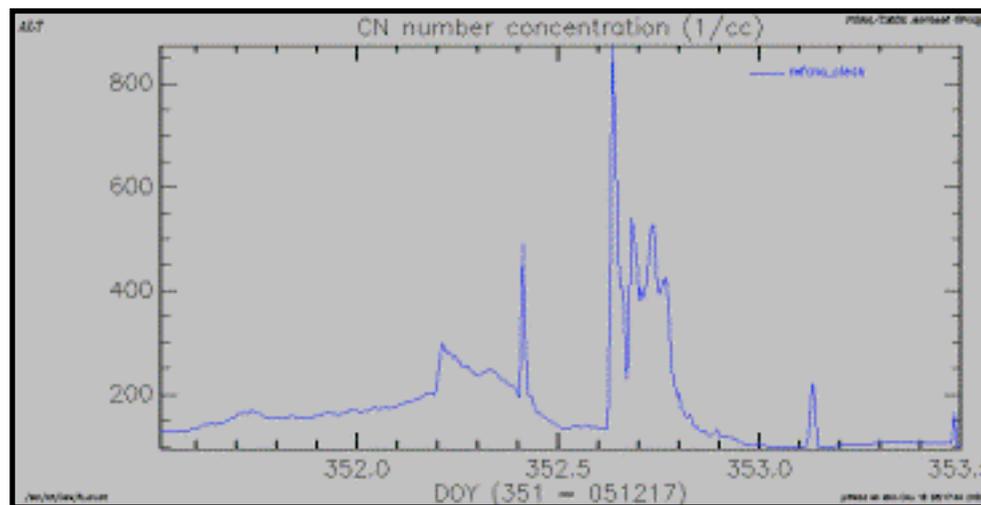
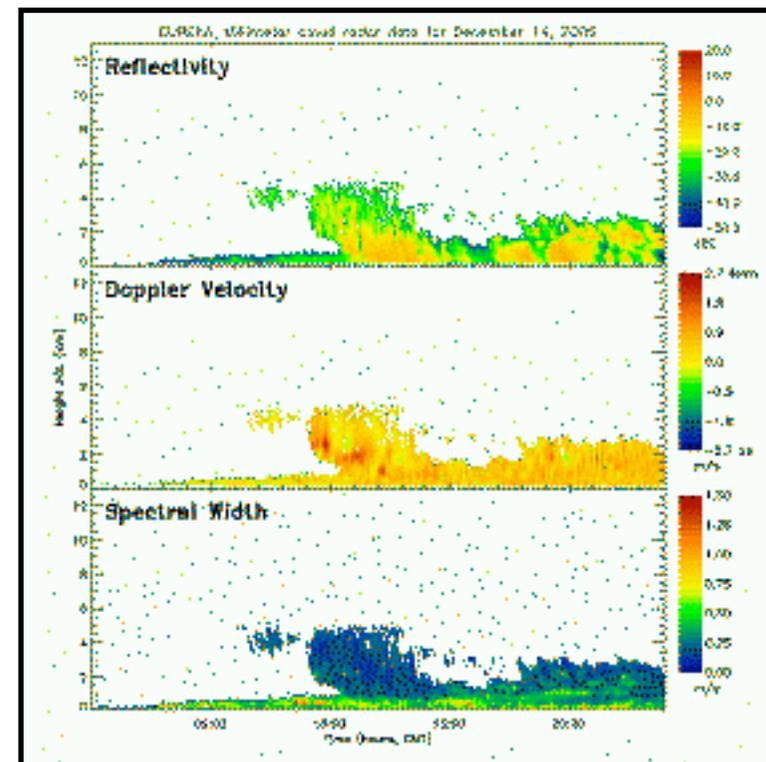
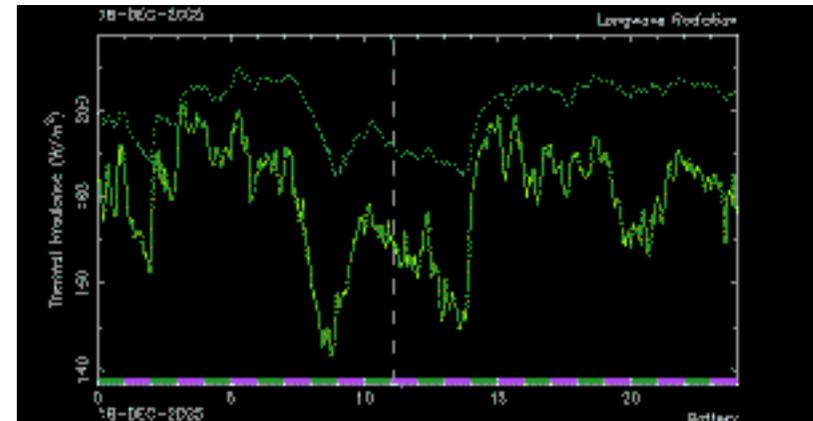
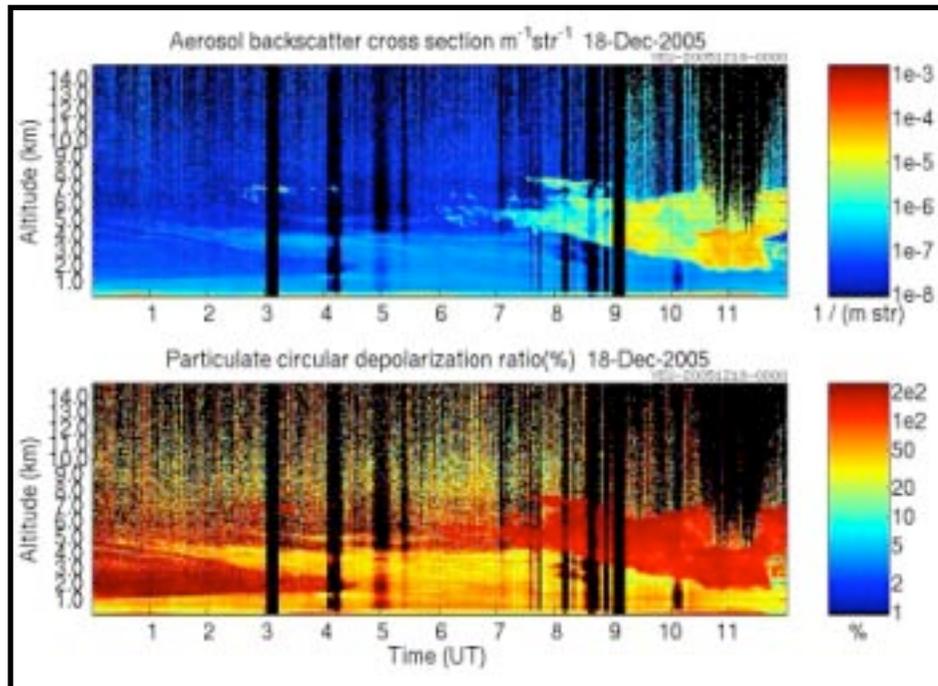


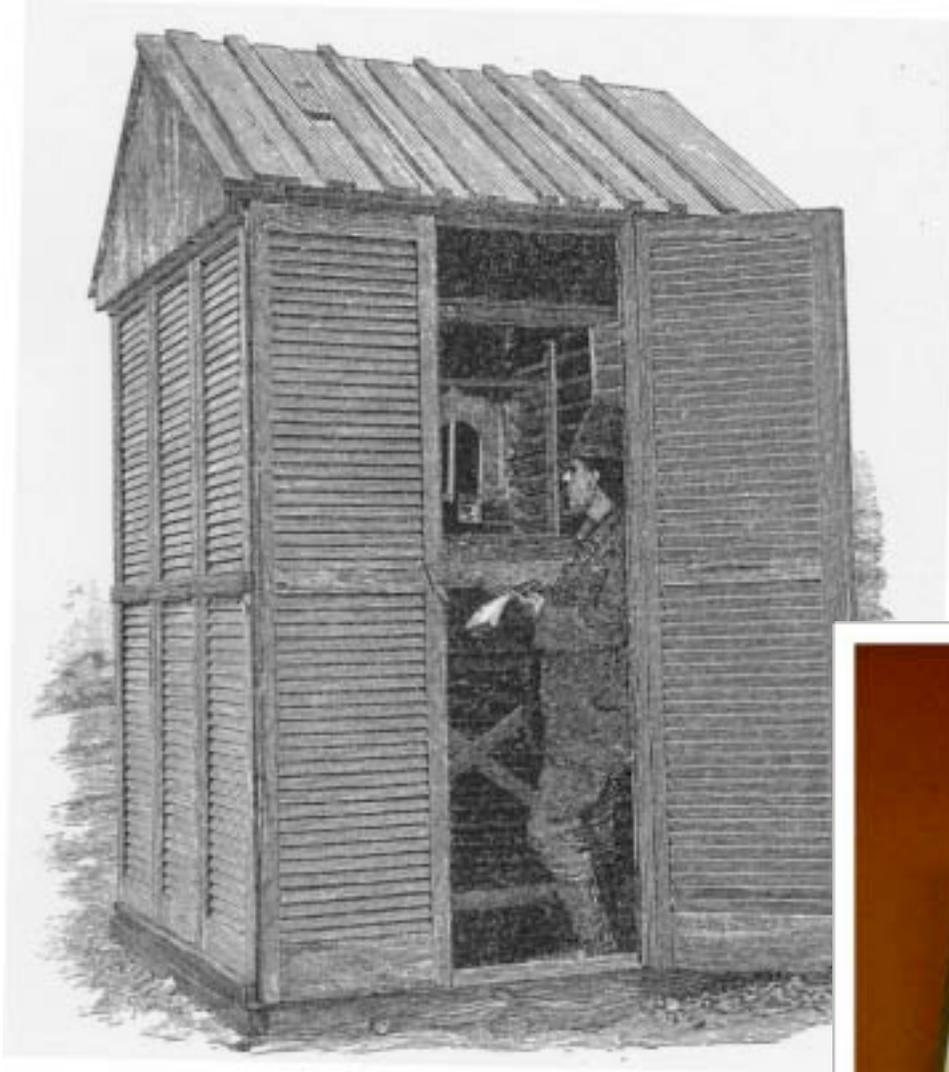
PSAP  
CNC  
Laptop  
Nephelometer  
Modem

- Absorption
- Light scattering
- Particle # concentration

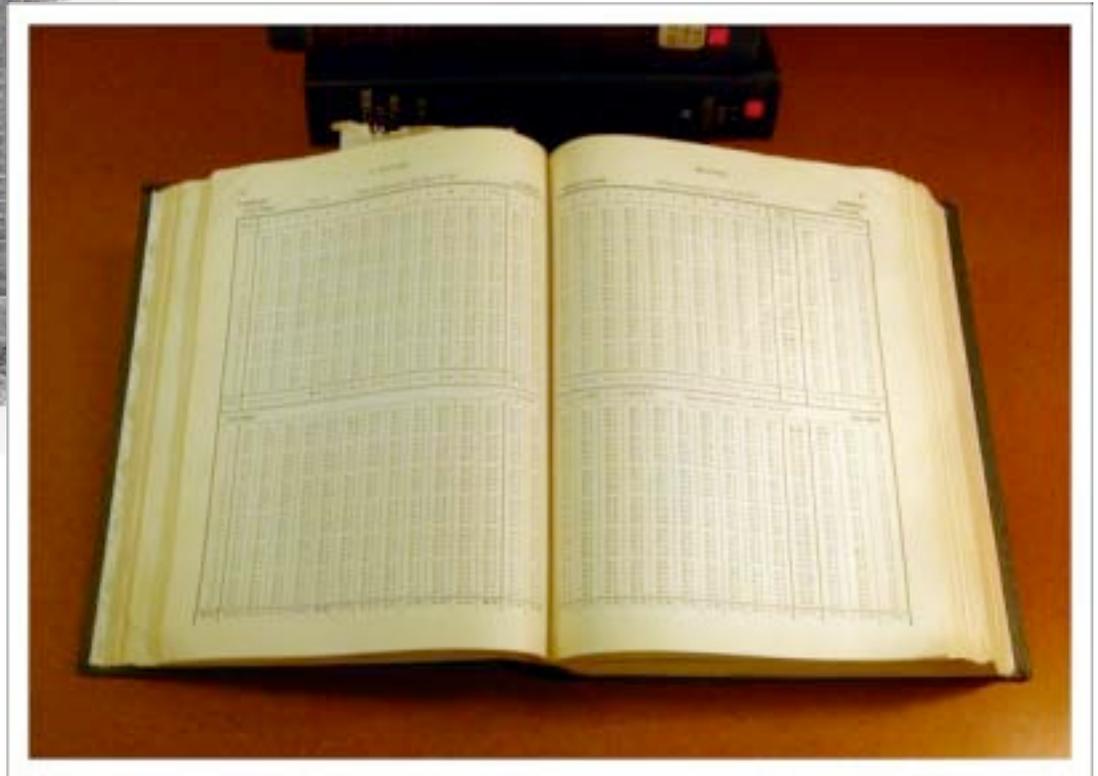
J. Owen 3/13/2004

# DATA





**Now we have better  
Instruments and methods  
For data archival**



# Observatory Challenges

- Each observatory is autonomous
  - Separate funding
  - Separate objectives
  - Separate management
  - Unique circumstances
    - Alert is a military base
    - Tiksi is still being planned
  - The operation of each observatory is a daily challenge
- IASOA has to be an “integrating” function, not a “controlling” function

# What Is IASOA Going to do?

- Facilitate a stronger “bond” between “Arctic Ring” observatories through
  - Facilitating information sharing
  - Creating a common portal to access the “Arctic Ring”
  - Guiding users to data repositories
  - Facilitating data archiving
  - Developing a common interest among the “Arctic Ring” laboratories
  - Adding to the “ring”
  - Facilitating “match making” between process study projects and the observatories
  - Not treading on everyone’s toes!!
  - [www.iasoa.org](http://www.iasoa.org)

# What have we Done?

- Held two meetings
  - Toronto 19-20 June 2006
  - St John's 2007 (during CMOS conference)
- Supported a number of national IPY initiatives
  - E.g. CANDAC IPY proposal
- Begun collecting information

# Challenges

- Funding is still being finalised and so allocation of tasks is difficult
- All laboratories are already “stretched” by internal pressures
  - “Just keeping going is a full-time activity”

# Actions

- Site managers meeting to be held
  - Winter 2007-2008 time frame
- Significant update to web-site capability
  - Fall 2007

**IASOA Mission:  
Integrate Arctic  
atmospheric observations  
within the interdisciplinary  
context of the Arctic  
Observing Network, (AON)  
, GCOS, GEOSS**

**We are the Match Makers  
and Facilitators**





Thank you.....

