

# Live from IPY!

## With Betsy Wilkening

*and the OASIS Team  
in Barrow, Alaska*



2 April 2009, 1:35 pm Alaska Daylight Time (11:35 pm HST,  
2:35 pm PDT, 3:35 pm MDT, 4:45 pm CDT, 5:45 pm EDT)



# Welcome to HorizonWimba



Arctic Research Consortium of the United States

List of all participants

Raise your hand to ask a question

Return to the lobby or exit

Slides will be shown here

If using VOIP, press here to talk

'Chat' with one person or the entire group

The screenshot shows a Wimba webinar interface. At the top, a slide displays the text 'Welcome to HorizonWimba' and the ARCUS logo. Below the slide is a control bar with a 'TALK' button circled in red. To the left is a chat window with a text input field circled in red. To the right is a 'People (3)' list with a dropdown arrow circled in red. At the bottom right, a menu with 'Exit - Lobby - Help' is circled in red. Arrows from external text labels point to these elements: 'Slides will be shown here' points to the slide; 'If using VOIP, press here to talk' points to the 'TALK' button; 'Chat with one person or the entire group' points to the chat input field; 'List of all participants' points to the participant list; 'Raise your hand to ask a question' points to the dropdown arrow; and 'Return to the lobby or exit' points to the 'Exit - Lobby - Help' menu.

**Please note:** Today's event will be recorded and archived at [www.polartrec.com](http://www.polartrec.com).

# Roll Call



- **When called, please state your:**
  - Name
  - School / Classroom
  - The number of students participating from your classroom today





## ***International Polar Year (IPY)***

The International Polar Year (2007-2009) is an exciting scientific campaign focusing on the world's polar regions!

IPY is a time for discovery, science, learning, and awareness about the polar regions with activities for youth, scientists, and the public.

***[www.ipy.org](http://www.ipy.org)***

# What is PolarTREC?



PolarTREC is a professional development experience in which K-12 teachers are paired with researchers in authentic polar research experiences.

In the next three years over 40 teachers from around the United States will join scientists in the Arctic and Antarctica in celebration of the International Polar Year!

***[www.polartrec.com](http://www.polartrec.com)***



# OASIS & PolarTREC

Barrow, AK

April 2, 2009





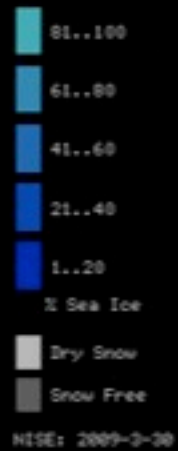


**Betsy Wilkening**  
PolarTREC Teacher

**Dr. Harry Beine**  
University of California,  
Davis



# Where is Barrow, AK?



Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
Image © 2009 TerraMetrics  
Image © 2009 DigitalGlobe

©2009 Google



# Barrow, Alaska

BARC Facility



OASIS Field Sites

71° 19' N 156° 39' W

Point Barrow



# BARC *Barrow Arctic Research Center*





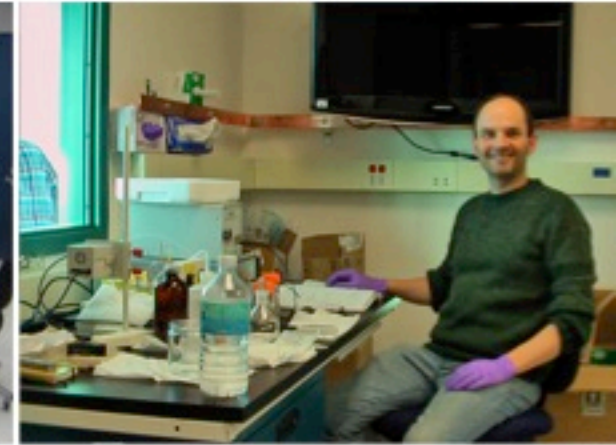
# BASC

*Barrow Arctic Science Consortium*





# Our Snow Lab





# Images of Barrow



**N0T in Barrow!!!**



**There are no penguins in the Arctic!!!**



# What is OASIS?



## International Network

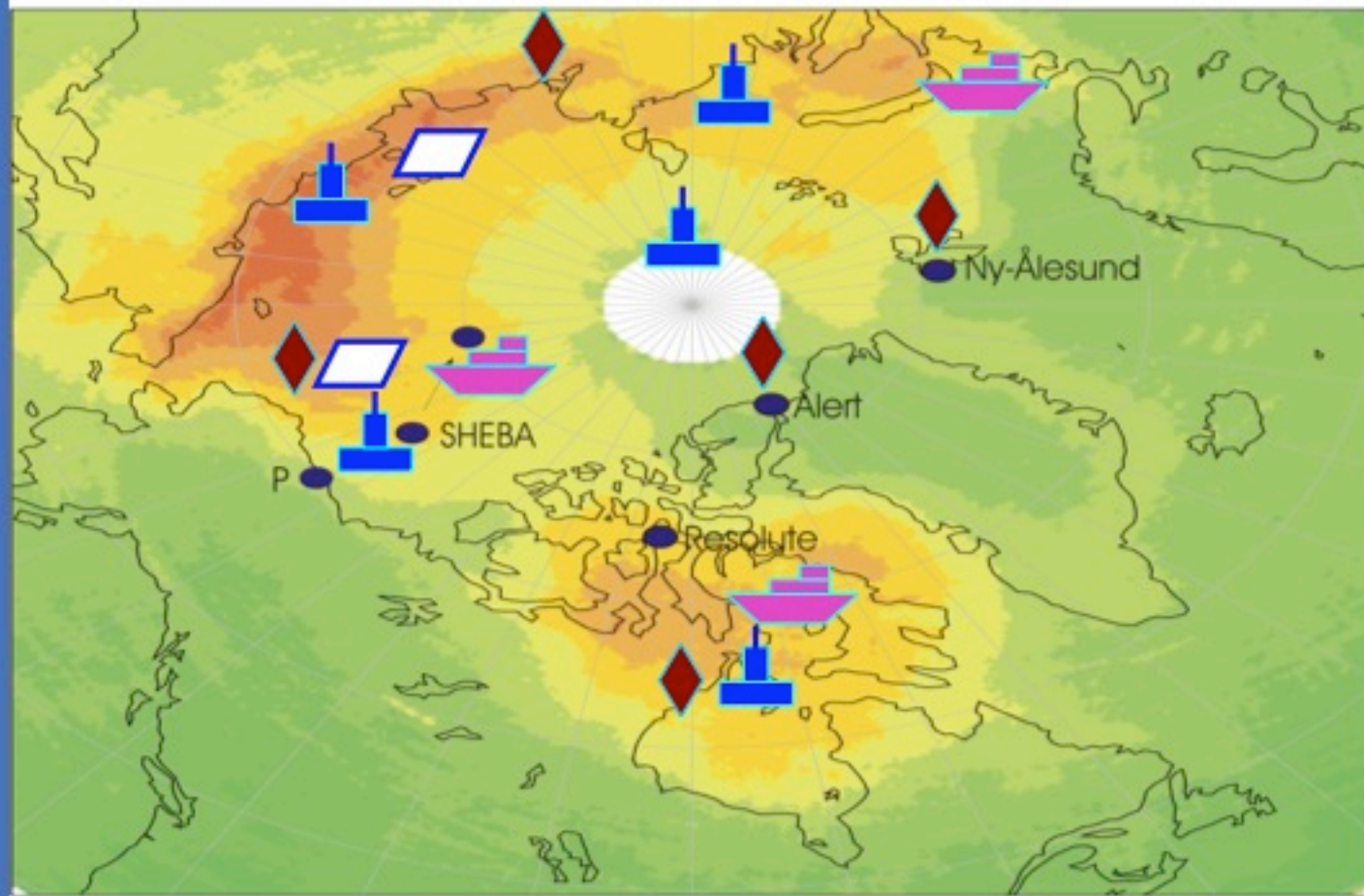
- **200 scientists**

- From **22 countries** (Belgium, Brazil, Canada, Switzerland, China, Czech Republic, Denmark, Finland, France, Germany, Greece, Italy, Japan, Netherlands, New Zealand, Norway, Poland, Russia, Sweden, Switzerland, UK, US)

- To date ca. **70 individual projects**

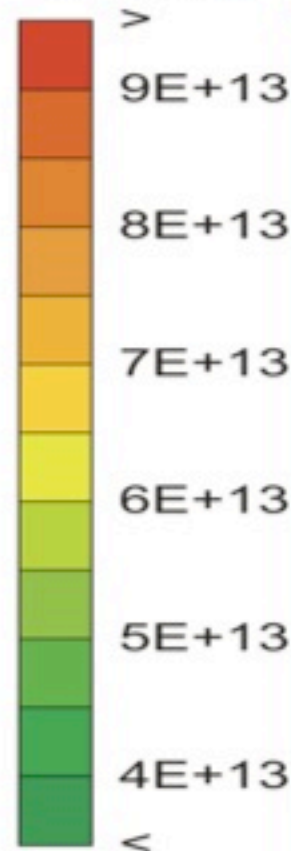


### IPY Field Experiments with OASIS contribution



**GOME BrO**

VC BrO  
[molec cm<sup>-2</sup>]



OASIS O-buoy



Ice-camp



Land site



Ice-breaker




# OASIS



- Largest atmospheric research campaign in the Arctic.
- Chemical and Physical processes between:
  - Ocean
  - Atmosphere
  - Sea Ice
  - Snow





**A**tmosphere

**O**cean

**S**now

**S**ea  
**I**ce



# Science Research



- Snow (Chemical & Physical)
- Ozone/Halogens
- Volatile Organic Compounds
- Mercury
- Persistent Organic Pollutants (POPs)
- Boundary Layers
- Meteorological Data



# SNOW



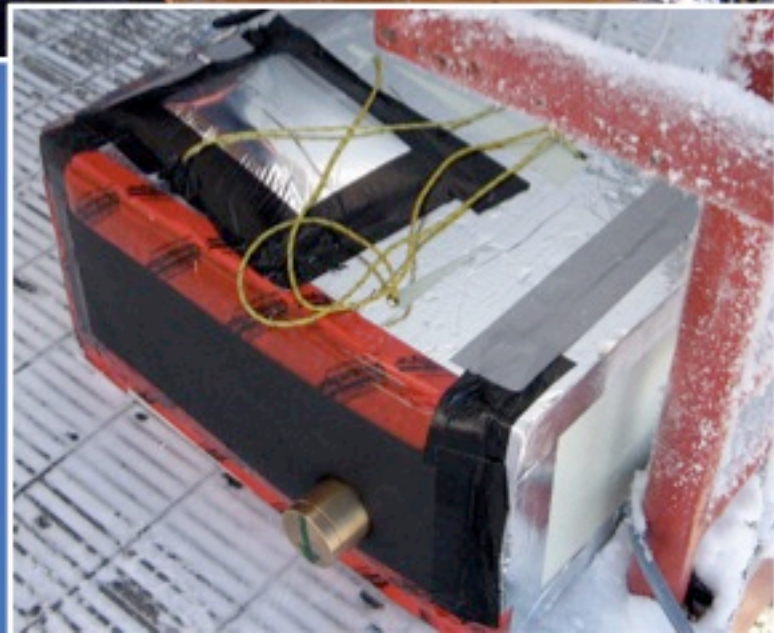
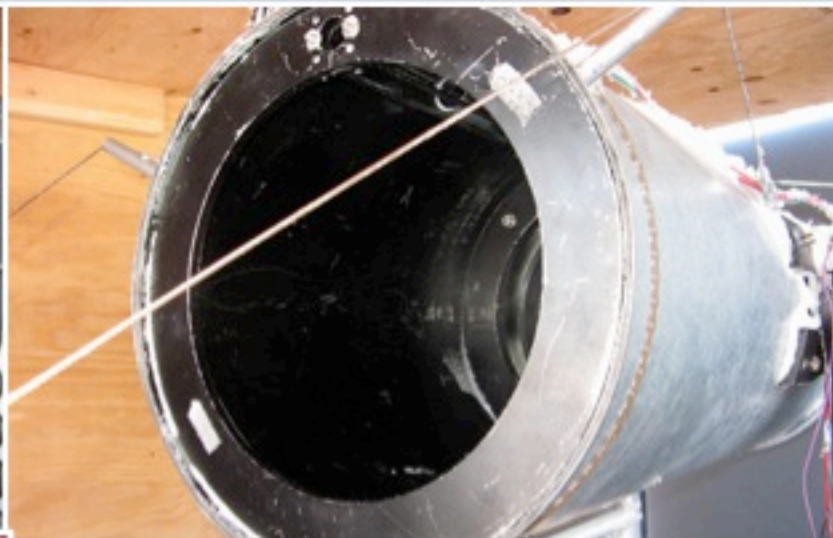
- Composed of
  - Air, Frozen Water
- Lots of Surface Area for
  - Chemicals
  - Reactions
- Dynamic/Changing
  - Sunlight
  - Temperatures





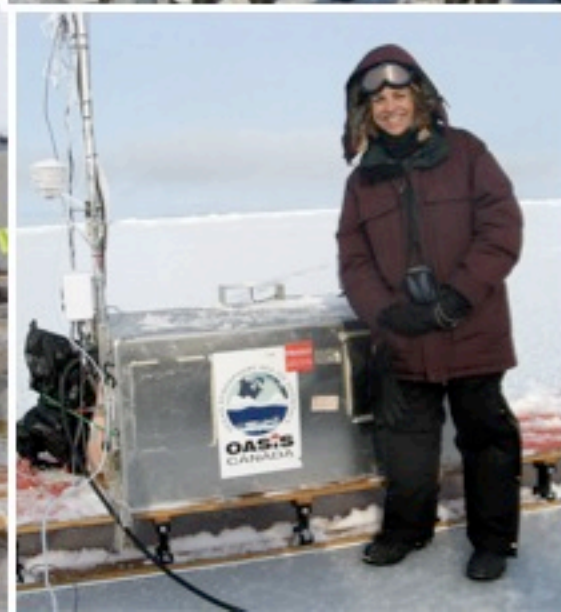
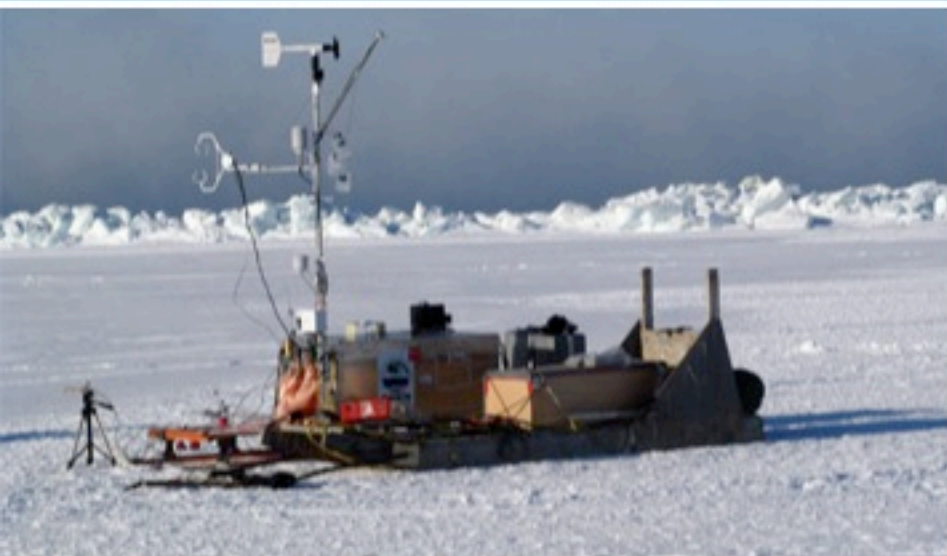
# DOAS

*Differential Optical Absorption Spectroscopy*



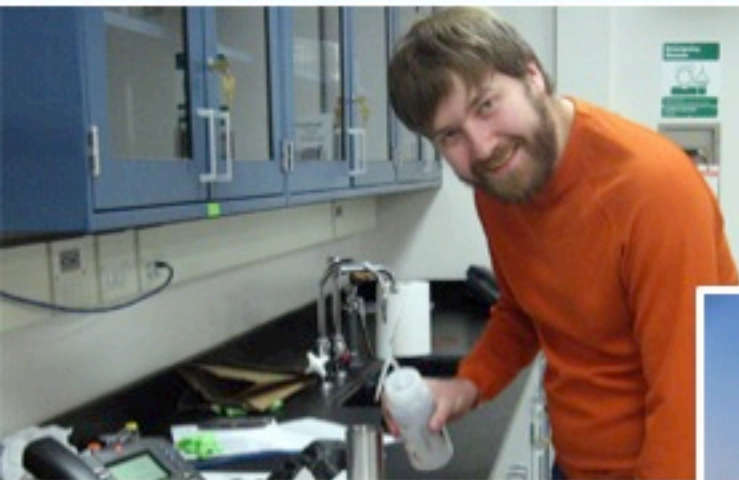


# OOTI *Out on the Ice*





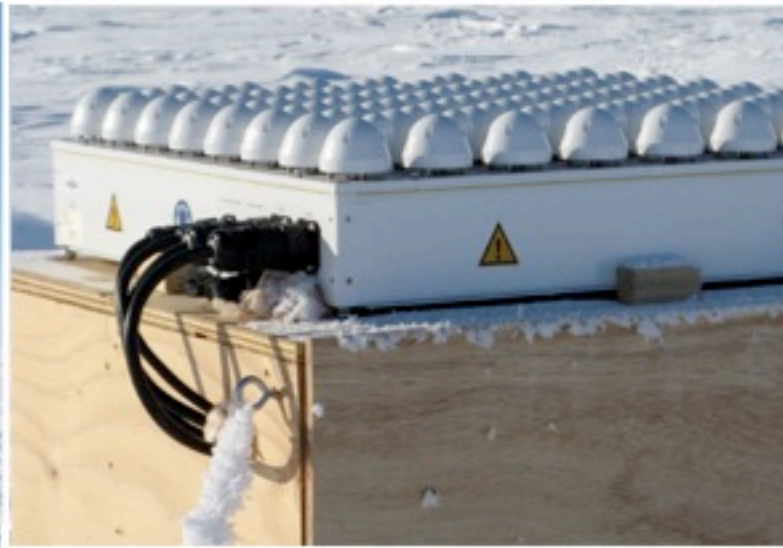
# Atmospheric Chemistry





# SODAR

*SO*nic *D*etection *A*nd *R*anging





# BALLOON



# Why IS All This Important?



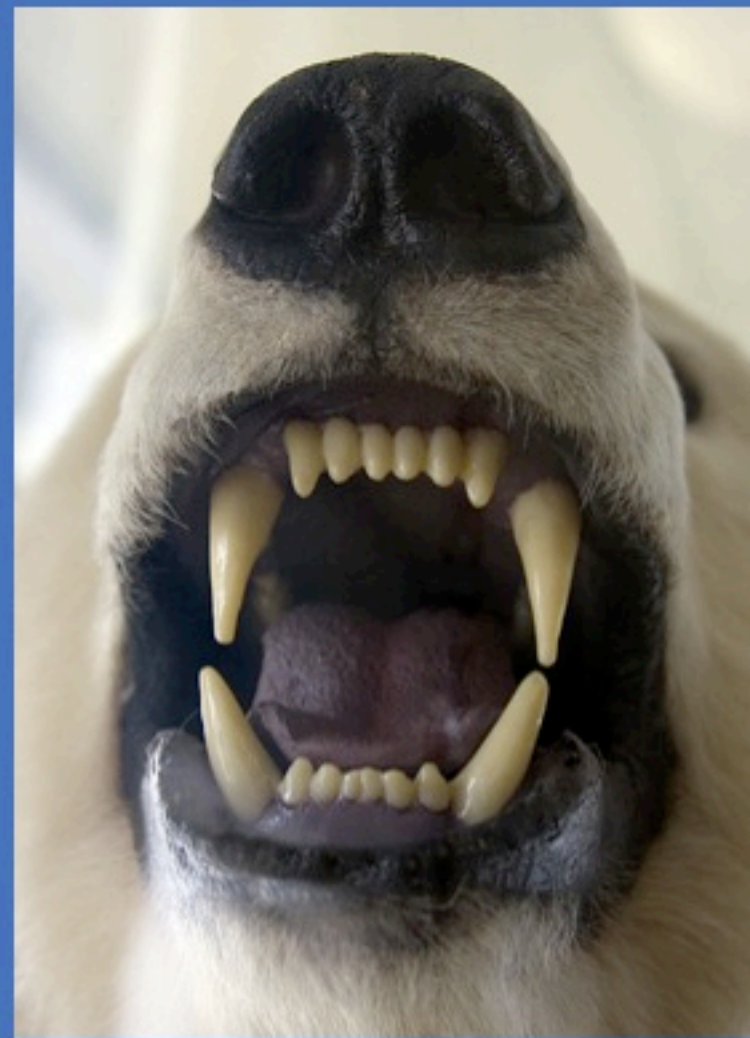
- Climate Change IS happening!
- OASIS Interface IS reactive.
- We Don't Know HOW This Works.
- Implications are unknown...
  - What is the role of feedback mechanisms?
  - What is the role for radiative forcing?
  - What is the impact for the biosphere?
  - ...???



# Arctic Challenges



- Polar Bears
- Accessibility
- Cold Temperatures
- Wind
- Equipment
  - Failure
  - What can you bring?
- Clean Testing Site



# TEAMWORK







*Thanks to UCAR and Carlye Calvin for  
use of some of her photographs*

# ***Questions?***

When asking a question, speak slow, loud, and clear and say your:

- Name
- School
- Question







**Register for Upcoming Live Events at :**  
**[www.polartrec.com!](http://www.polartrec.com)**



# Thank You!

*The archive of this event will be available shortly at:  
[www.polartrec.com](http://www.polartrec.com)!*

*If you have further questions, please contact us at: [info@polartrec.com](mailto:info@polartrec.com)  
or call 1-907-474-1600*

