

Welcome to **PolarConnect**

With Jim Pottinger and the *Solar Radiation on the Greenland Ice Sheet* Team in Summit, Greenland

Thursday, 19 August 2010

10 am AKDT (11 am PDT, 12 pm MDT, 1 pm CDT, 2 pm EDT)



WELCOME TO WIMBA



ARCTIC RESEARCH CONSORTIUM OF THE UNITED STATES

Raise your hand to ask a question

List of all participants


Return to the lobby or exit

Slides will be shown here

If using VOIP, press and hold here to talk

Your connection strength

'Chat' with one person or the entire group



TALK

Options

You have entered the lobby.

You have entered 'Arctic Research Consortium of the United States (ARCUS)'.

Your media format is WimbaMedia.

You say, "I'm going to change the slide momentarily- to show the one I need for my new screen shot"

To: Main Room

People (3)

Kristin_Timm	⊖ ⊕
kristina_creek	⊖ ⊕
Kristin_Timm	⊖ ⊕

Exit - Lobby Help

Please note:

- Participant using the telephone can mute/unmute by pressing *6 on the phone.
- Today's event will be recorded and archived.

Roll Call

When called, please state your:

- ✓ Name
- ✓ School / Institution
- ✓ The number of students and adults participating with you in the same location

What is PolarTREC?

PolarTREC is a professional development experience in which K-12 teachers are paired with researchers for 2-6 week research experiences in the polar regions.

From 2010-2013, nearly 50 teachers from around the United States will join scientists in the Arctic and Antarctica to learn about science, the polar regions, and to share what they have learned with their students and communities.

SOLAR RADIATION ON THE
GREENLAND ICE SHEET
SUMMIT STATION, GREENLAND
2010 POLAR TREC TEACHER
JIM POTTINGER





WHO ARE WE TALKING WITH TODAY?



JIM POTTINGER – POLAR TREC TEACHER
GATEWAY HIGH SCHOOL,
MONROEVILLE PA



NICOLAS BAYOU – PHD CANDIDATE –
COOPERATIVE INSTITUTE FOR
ENVIRONMENTAL SCIENCES (CIRES)
UNIVERSITY OF COLORADO, BOULDER



KATRINE GORHAM
SCIENCE PROJECT MANAGER
POLAR FIELD SERVICES



JOHN AUGUSTINE
NOAA



KEN JENSEN – SUMMIT STATION
MANAGER CH2M HILL

www.polar-trec.com

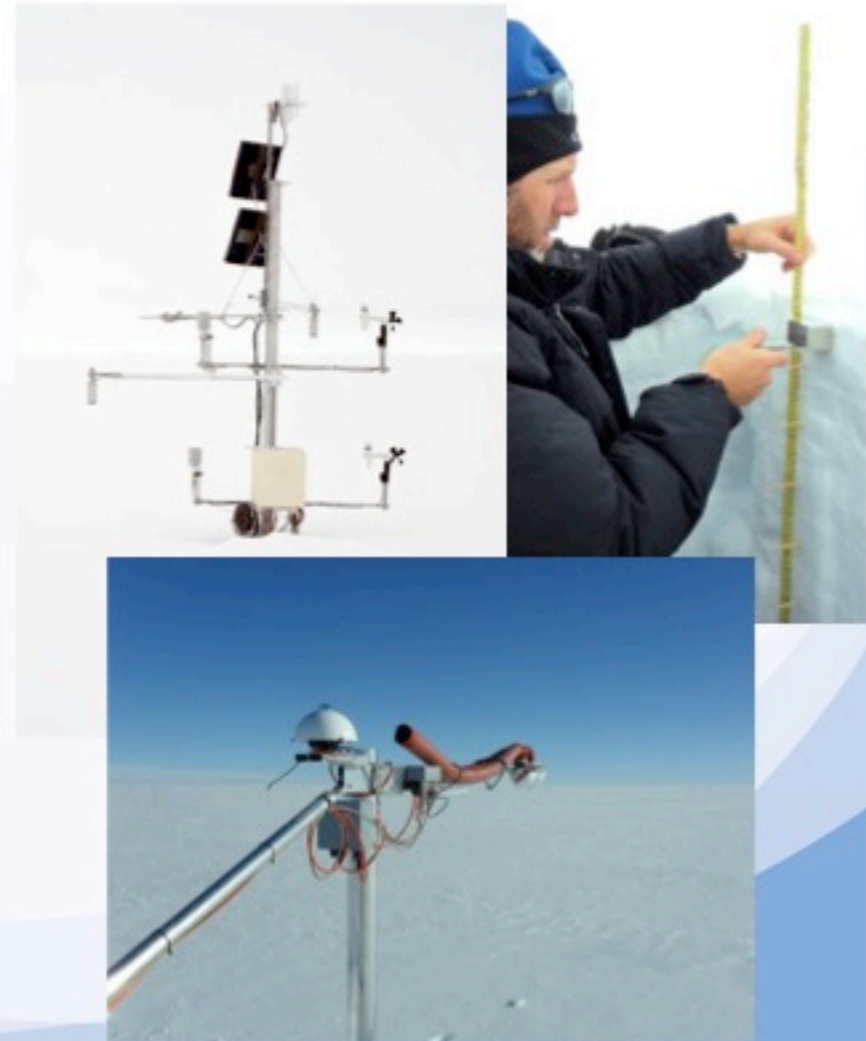


SOLAR RADIATION ON THE GREENLAND ICE SHEET

GOAL OF THE PROJECT:

SOLAR RADIATION IS THE MAJOR ENERGY SOURCE THAT DRIVES OUR CLIMATE AND SUPPORTS LIFE ON EARTH. IN THIS PROJECT, THE RESEARCH TEAM HOPES TO GAIN A BETTER UNDERSTANDING OF THE SOLAR RADIATION REFLECTED BACK INTO SPACE AND ABSORBED BY OUR PLANET, ALSO KNOWN AS THE EARTH'S HEAT BALANCE.

THE TEAM WILL COLLECT DATA RELATED TO THIS BALANCE USING WEATHER OBSERVING INSTRUMENTS. THE TEAM WILL ALSO WORK ON THE GC-NET AUTOMATED WEATHER STATION. THE DATA COLLECTED WILL BE USED TO FURTHER STUDY THE GREENLAND ICE SHEET AND IT'S PROCESSES SUCH AS MELTING AND GAS EXCHANGE WITH THE ATMOSPHERE.



SUMMIT STATION, GREENLAND



SOLAR RADIATION ON THE GREENLAND ICE SHEET
AUGUST 12 – AUGUST 22, 2010



WHERE ARE WE?

SUMMIT STATION, GREENLAND
PEAK OF GREENLAND'S ICE SHEET
ELEV. 3,207 METERS (10,660 FT)





North America

Greenland

Summit Station

Kangerlussuaq

Goose Bay

Schenectady, NY

Pittsburgh, PA

Total = 2,814 mi

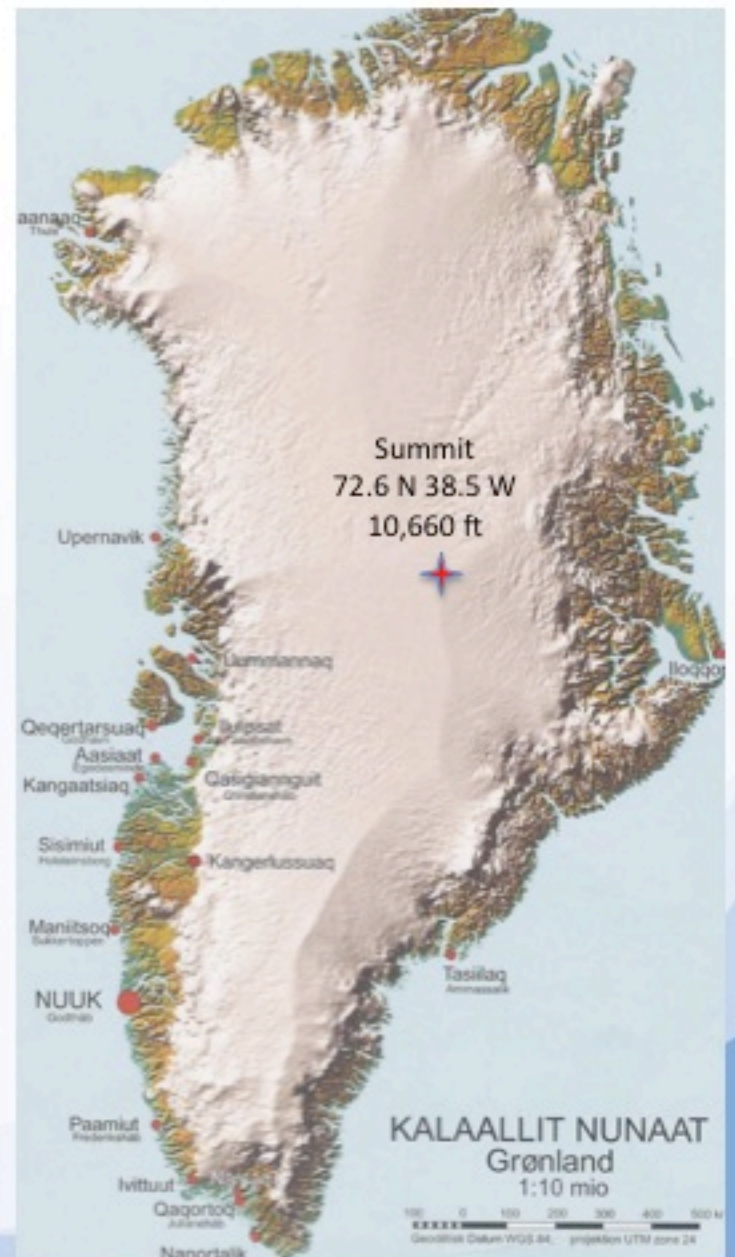
© 2010 Google
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image IBCAO
© 2010 INEGI

56°37'37.45" N 74°42'56.63" W elev. 255 m

©2009 Google

Eye alt. 8117.18 km

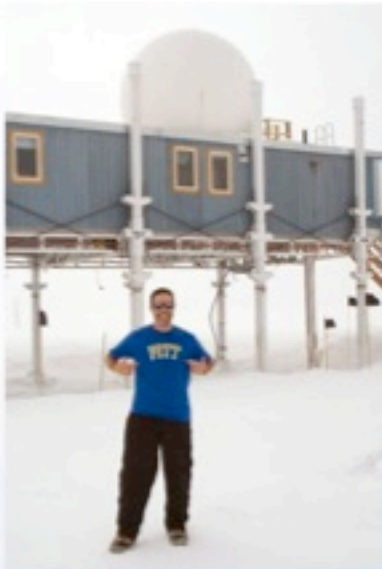
SUMMIT STATION



HOW DID WE GET HERE?



WHAT IS IT LIKE?



SUMMIT STATION:

- WEEK OF AUG. 16TH
- TEMPS: -15F TO 24F
- WINDS: 0 TO 30 MPH
- WIND-CHILL: -30

AFFECTS OF ALTITUDE?





WHERE DO WE EAT?



BIG HOUSE

- KITCHEN
- DINING ROOM
- OFFICE
- SHOWER/
BATHROOM

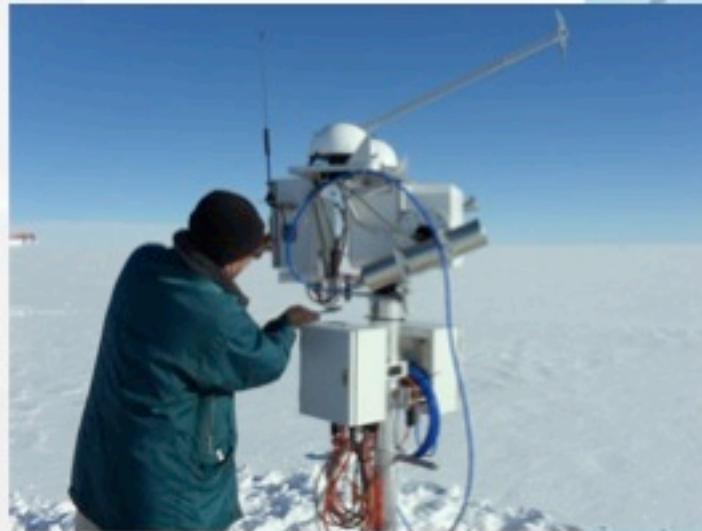
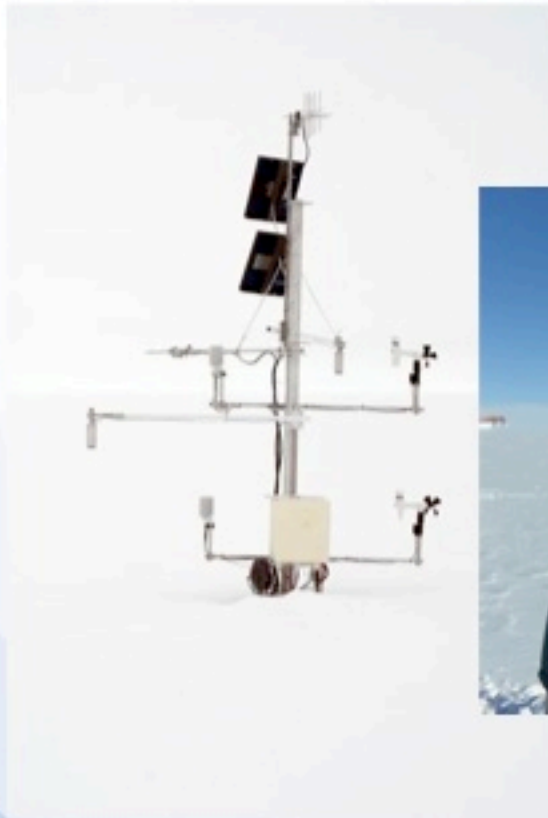
WHERE DO WE SLEEP?



ARCTIC OVEN

- DOUBLE-WALLED TENT
- MINUS 40 DEGREE F
- SLEEPING BAG W/ LINER
- NO HEATER!

WHY ARE WE HERE?



TWO REASONS:

- 1) MAINTAIN THE AUTOMATED WEATHER STATION (AWS) & BASELINE SURFACE RADIATION NETWORK INSTRUMENTS (BSRN).
- 2) TO BETTER UNDERSTAND THE EARTH'S HEAT BALANCE.

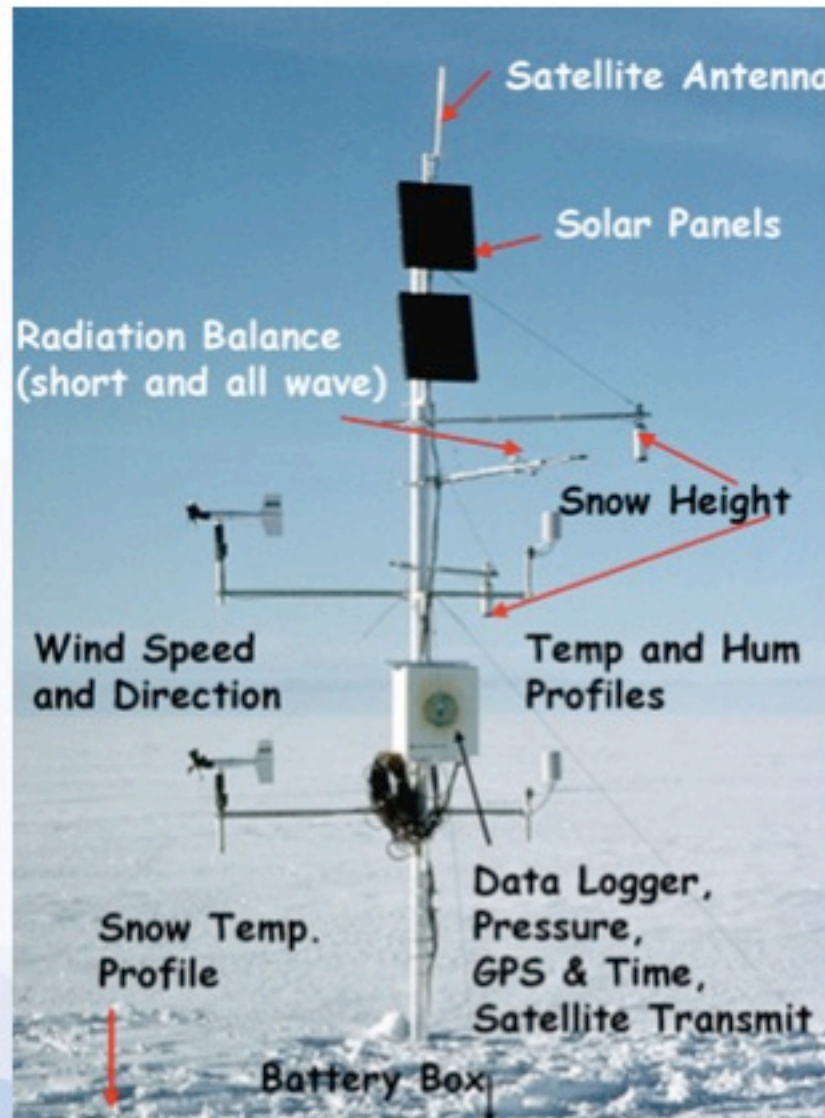
AUTOMATED WEATHER STATION (AWS)

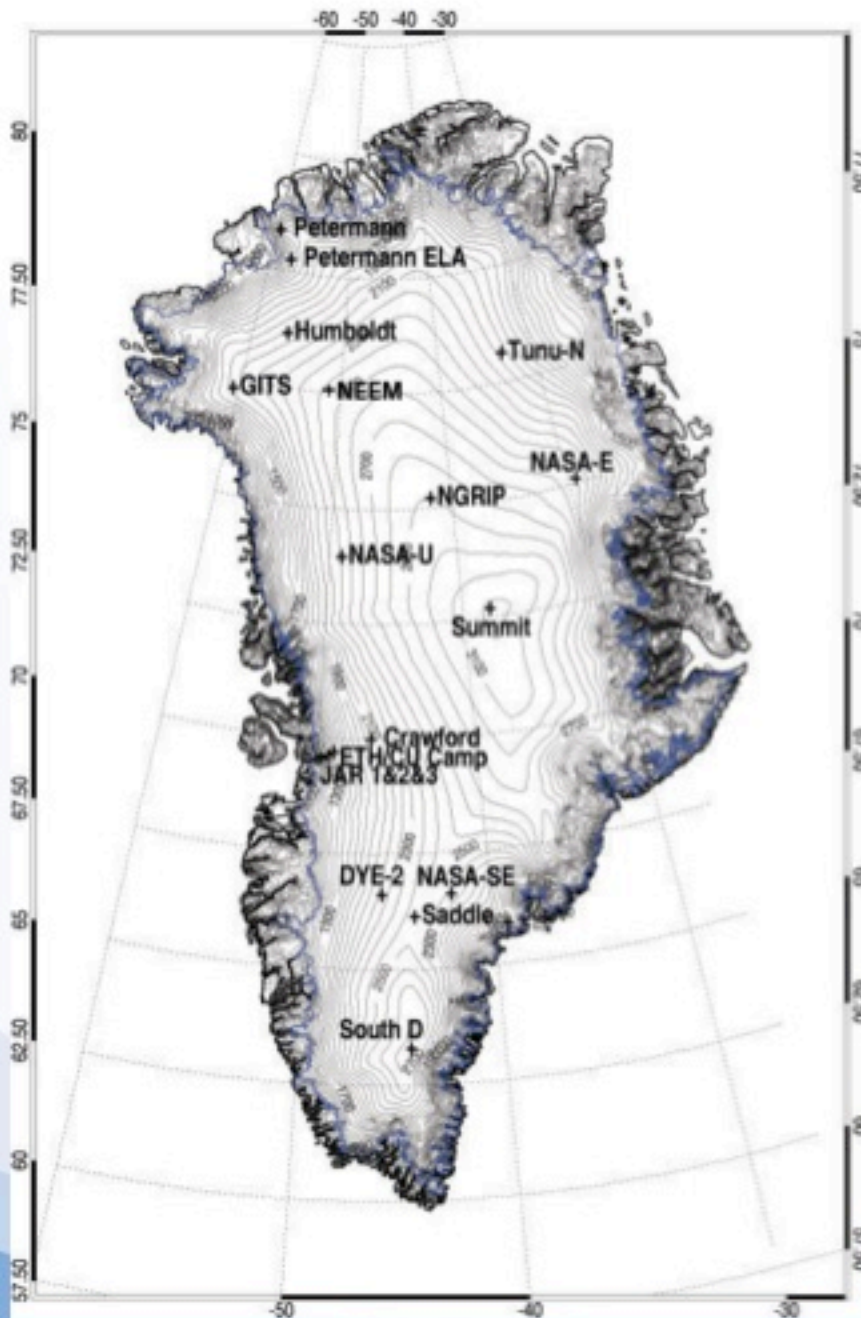


NICOLAS BAYOU – PHD CANDIDATE –
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AUTOMATED WEATHER STATION (AWS)



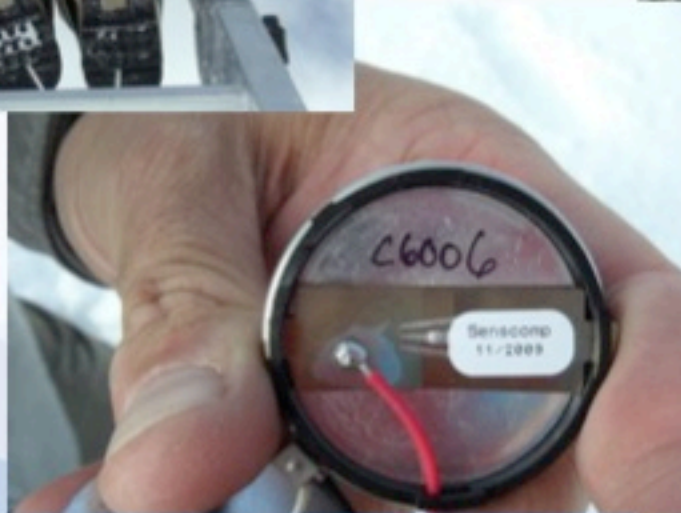
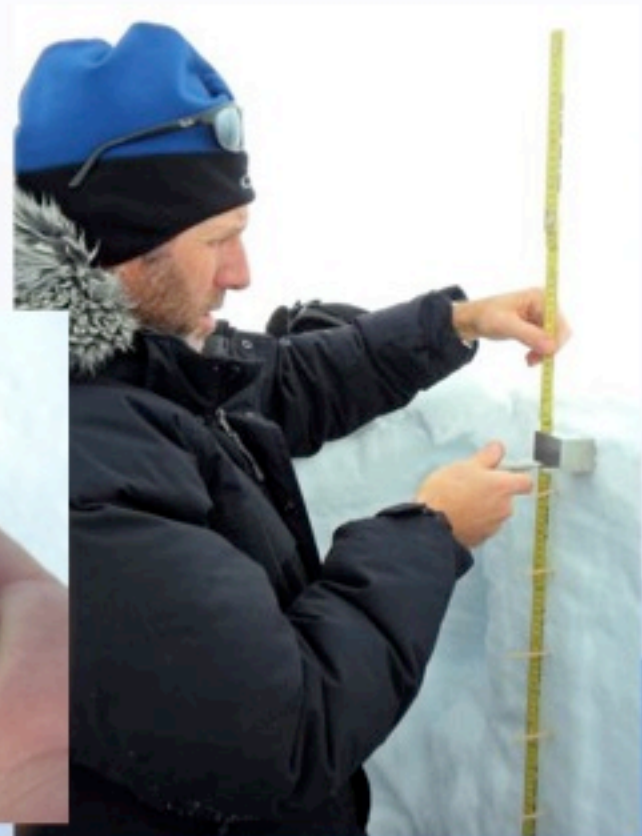


LOCATIONS OF AWS GC-NET

EXTENDING THE AWS



MAINTAINING AWS AND SNOW SAMPLING



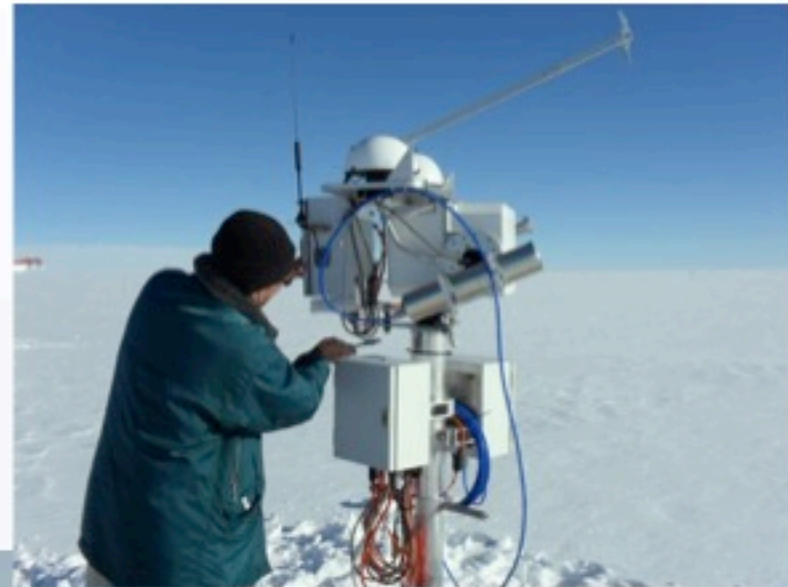


BASELINE SURFACE RADIATION NETWORK (BSRN)



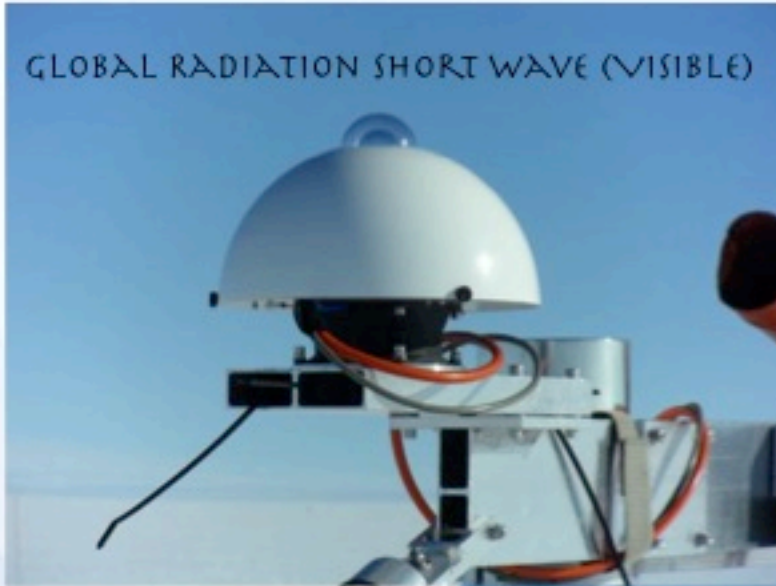
JOHN AUGUSTINE
NOAA

BASELINE SURFACE RADIATION NETWORK (BSRN)



BASELINE SURFACE RADIATION NETWORK (BSRN)

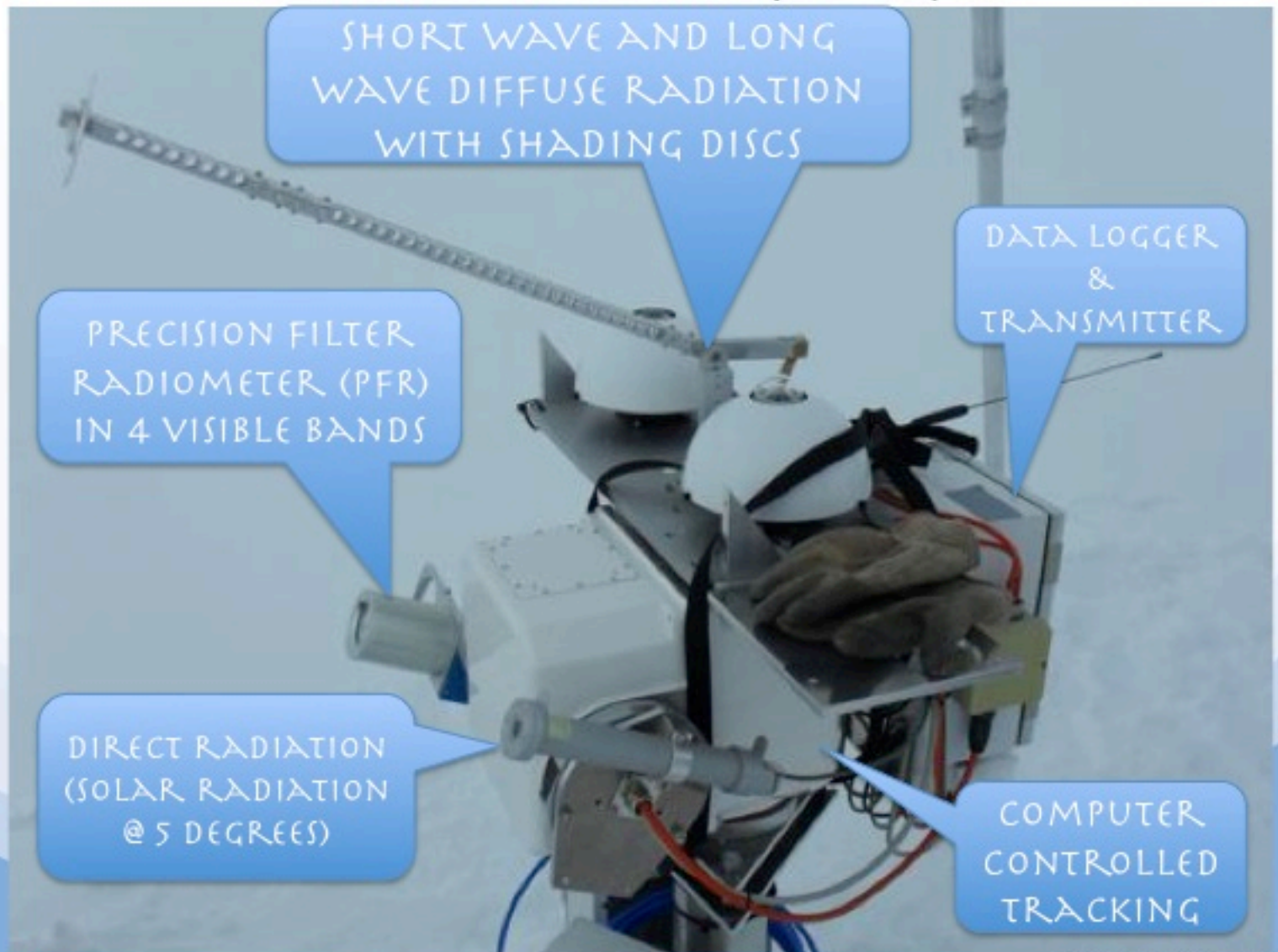
GLOBAL RADIATION SHORT WAVE (VISIBLE)



REFLECTED SHORT WAVE & LONG WAVE RADIATION (INFRARED)



BASELINE SURFACE RADIATION NETWORK (BSRN)





SCIENCE AT SUMMIT



KATRINE GORHAM
SCIENCE PROJECT MANAGER
POLAR FIELD SERVICES



BALLOON LAUNCHES

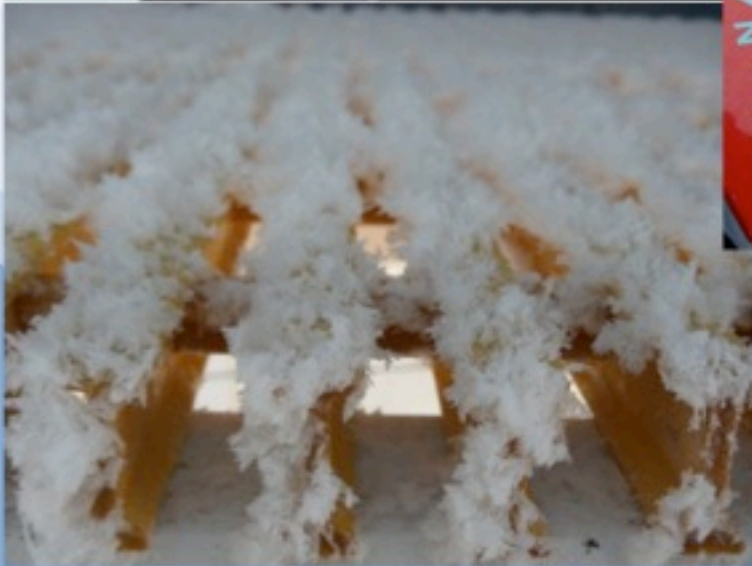


SNOW SAMPLING



QUESTIONS?





Upcoming Events

Interested in applying for PolarTREC?

Tuesday, 31 August 2010 – Researcher Info Webinar

Thursday, 9 September 2010 – Teacher Info Webinar

Register for all events at www.polar trec.com!

Thank You!

An archive of the event will be available shortly.

<http://www.polar-trec.com/polar-connect/archive>

