POLAR TREC

TEACHERS AND RESEARCHERS EXPLORING AND COLLABORATING

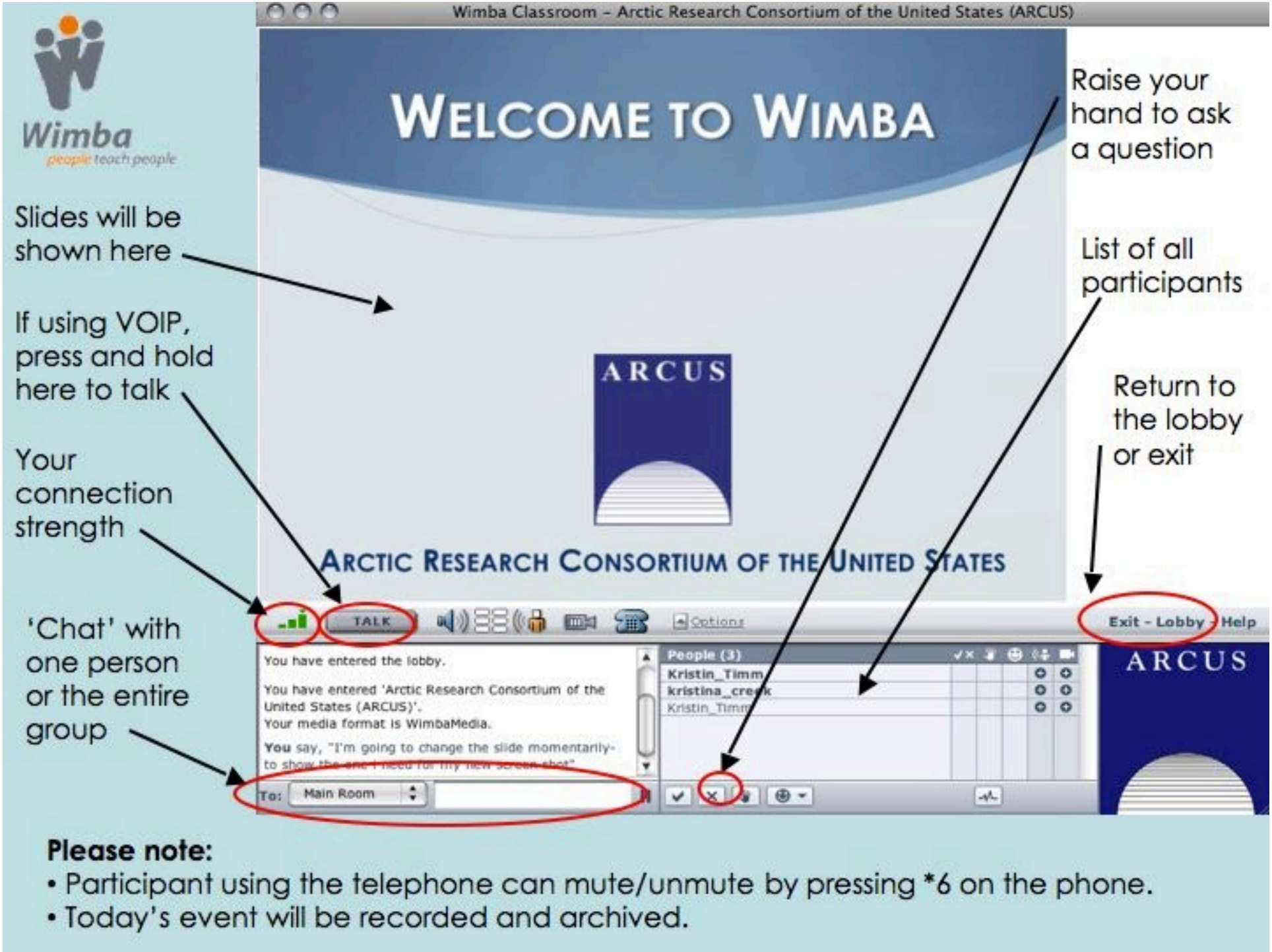
Welcome to a Special Live Event!

with Michael O'Toole and Barney Peterson
at Mt. Kilimanjaro, Tanzania

The GLOBE Program: Seasons and Biomes

28 September 2011

www.polartrec.com



Please note:

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

Participant Introductions

When called, please state your:

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

POLAR TREC

TEACHERS AND RESEARCHERS EXPLORING AND COLLABORATING

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.

Questions

To Ask a Question:

- ✓Raise your hand with the "hand button"
- ✓Type your question in the text chat box
- ✓Speak loud and clear and directly into the phone to ask your question.


Xpedition
STUDENT INVESTIGATIONS

Elena Sparrow PhD
Seasons & Biomes

Martha Kopplin
Seasons & Biomes

Watcharee Ruairuen
GLOBE Alumni Representative

Michael O'Toole
Xpedition Leader

a GLOBE Africa
Seasons & Biomes
ESSP Project

Barney Peterson
Faculty Xpedition Member


Seasons
& Biomes

The GLOBE Program

Seasons and Biomes

- **Seasons and Biomes is an inquiry- and project-based initiative that monitors seasons, specifically their interannual variability to increase K-12 students' understanding of the Earth system, participate in IPY and contribute to climate change studies.**
- **This Earth System Science Project brings together GLOBE students, educators, networks, communities and scientists in studies relevant locally and globally.**

The GLOBE Program

Seasons and Biomes

Seasons and Biomes students

-Engage in earth science studies by monitoring seasons in their biomes

-Contribute to climate studies worldwide

-Participate in the International Polar Year

The GLOBE Program

Seasons and Biomes

Students understand earth system science through

-**New phenology and seasonality protocols combined with classic GLOBE protocols**

-**Inquiry learning activities**

-**PD model integrating GLOBE, earth system science, best teaching practices and student scientific investigation process**

-**Global learning communities and projects**

The GLOBE Program

Seasons and Biomes

Dr. Elena Sparrow[1], Dr. Rebecca Boger[2], Dr. Leslie Gordon[3], Ms. Kim Morris[1], Dr. David Verbyla[1], Dr. Elissa Levine[4], Ms. Martha Kopplin[1,], and Dr. Sheila Yule[5]

[1] University of Alaska Fairbanks, Fairbanks, Alaska
[2] Brooklyn College, Brooklyn, New York
[3] Gordon Consulting, Neskowin, Oregon
[4] Bethesda, Maryland
[5] Louisville, Kentucky

Dr. Jessica Robin, Dr. Martin Jeffries

GLOBE Seasons and Biomes Collaborators

Bonanza Creek Long-Term Ecological Research

UAF UNIVERSITY OF ALASKA FAIRBANKS

International Arctic Research Center IARC University of Alaska Fairbanks

UAF Permafrost Outreach Program

Alaska EPSCoR Experimental Program to Stimulate Competitive Research

Center for Global Change & Arctic System Research

GLOBE Partnerships in Argentina, Australia, Czech Republic, Belgium, Canada, Cameroon, Croatia, Dominican Republic, Estonia, Germany, Greenland, Madagascar, Norway, Peru, South Africa, Switzerland, Tanzania, Thailand, USA

SNRAS School of Natural Resources & Agricultural Sciences

GLOBE Africa, GLOBE Europe/Eurasia, GLOBE Latin America/Caribbean, GLOBE North America

IPST

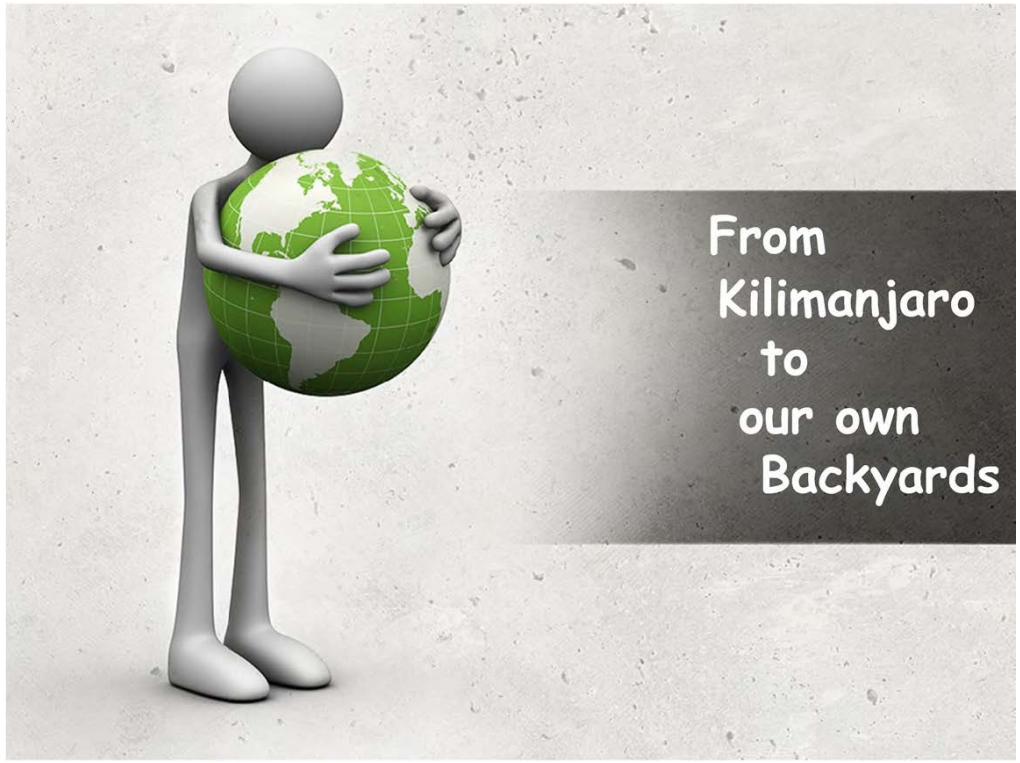
GLOBE Alumni International

U.S. Embassy in Estonia

ARCUS

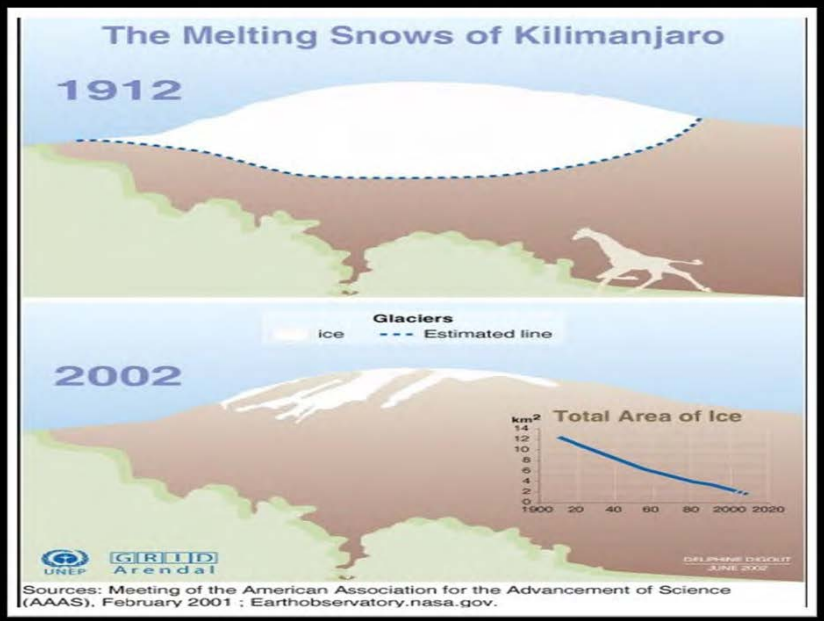
Arctic Research Consortium of the U.S.

The Arctic System Science Thermokarst Project


From
Kilimanjaro
to
our own
Backyards


Uganda
Kenya
Rwanda
Burundi
Democratic
Republic
of the Congo
Tanzania
Mozambique


Uganda
Lake Victoria
Kenya
Rwanda
Serengeti
Ngorongoro
Arusha
Mount Kilimanjaro
Burundi
Lake Manyara
Tarangire
Pemba
TANZANIA
Zanzibar
Katavi
Mahale Mountains
Ruaha National Park
Dar Es Salaam
Lake Tanganika
Selous Game Reserve
Mafia
Zambia
Malawi
Mozambique
Lake Malawi



Sources: Meeting of the American Association for the Advancement of Science (AAAS), February 2001 ; Earthobservatory.nasa.gov.

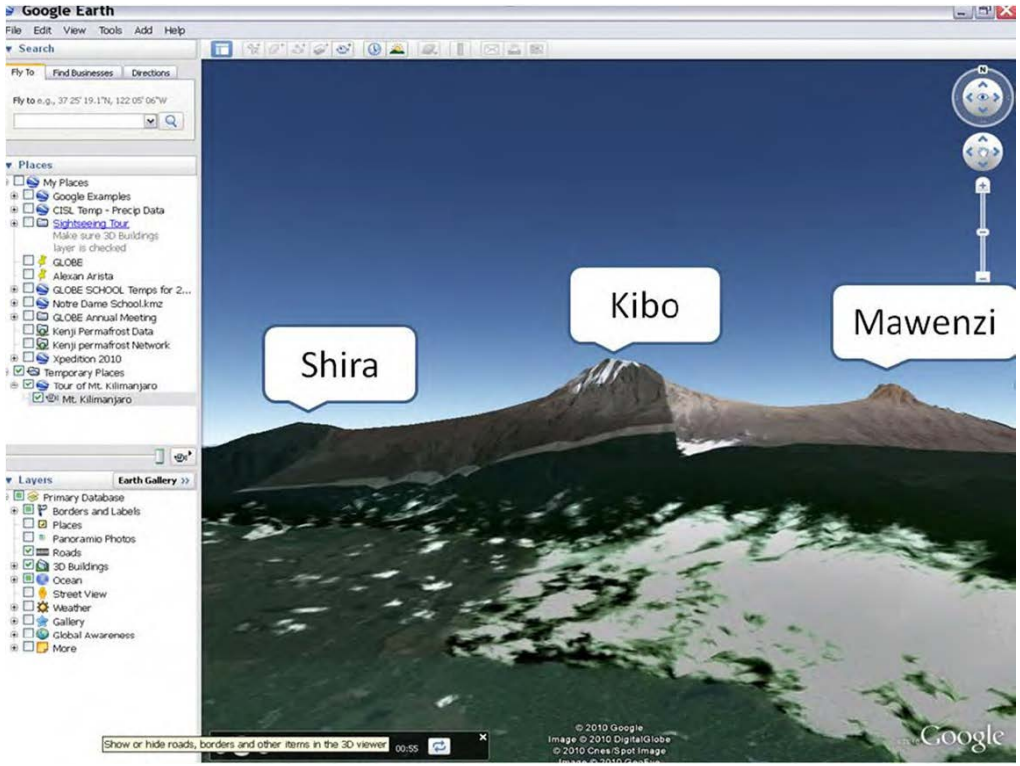

Google Earth
File Edit View Tools Add Help
Search
Fly To
Find Businesses
Directions
Fly to e.g., 37 25' 19.1"N, 122 05' 06"W
Places
My Places
Google Examples
CISL Temp - Precip Data
Sightseeing Tour
Make sure 3D Buildings layer is checked
GLOBE
Alexan Arista
GLOBE SCHOOL Temps for 2...
Notre Dame School.kmz
GLOBE Annual Meeting
Kenji Permafrost Data
Kenji permafrost Network
Xpedition 2010
Temporary Places
Tour of Mt. Kilimanjaro
Mt. Kilimanjaro
Layers
Earth Gallery
Primary Database
Borders and Labels
Places
Panoramio Photos
Roads
3D Buildings
Ocean
Street View
Weather
Gallery
Global Awareness
More
Shira
Kibo
Mawenzi
Show or hide roads, borders and other items in the 3D viewer
00:55
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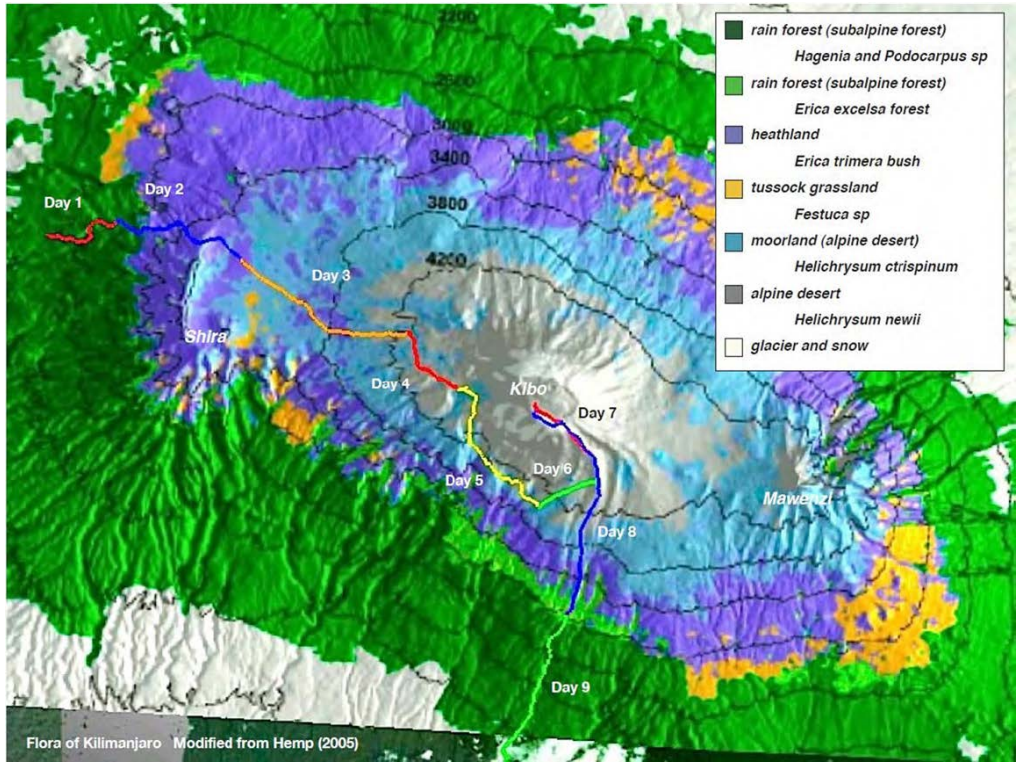
Image © 2010 DigitalGlobe
© 2010 Cnes/Spot Image
Google


The
Science


CONGRATULATIONS
YOU ARE NOW AT
AMSL
AFRICA'S HIGHEST POINT
The GLOBE Program


rain forest (subalpine forest)
Hagenia and Podocarpus sp
rain forest (subalpine forest)
Erica excelsa forest
heathland
Erica trimera bush
tussock grassland
Festuca sp
moorland (alpine desert)
Helichrysum ctrispinum
alpine desert
Helichrysum newii
glacier and snow
2200
2600
3000
3400
3800
4200
Day 1
Day 2
Day 3
Shira
Day 4
Kibo
Day 7
Day 6
Day 5
Mawenzi
Day 8
Day 9
Flora of Kilimanjaro Modified from Hemp (2005)


CONGRATULATIONS
YOU ARE NOW AT
AFRICA'S HIGHEST POINT
The GLOBE Program


GLOBE
in
AFRICA

The Ecological Zones of Kilimanjaro

Summit

Alpine Desert

Moorland

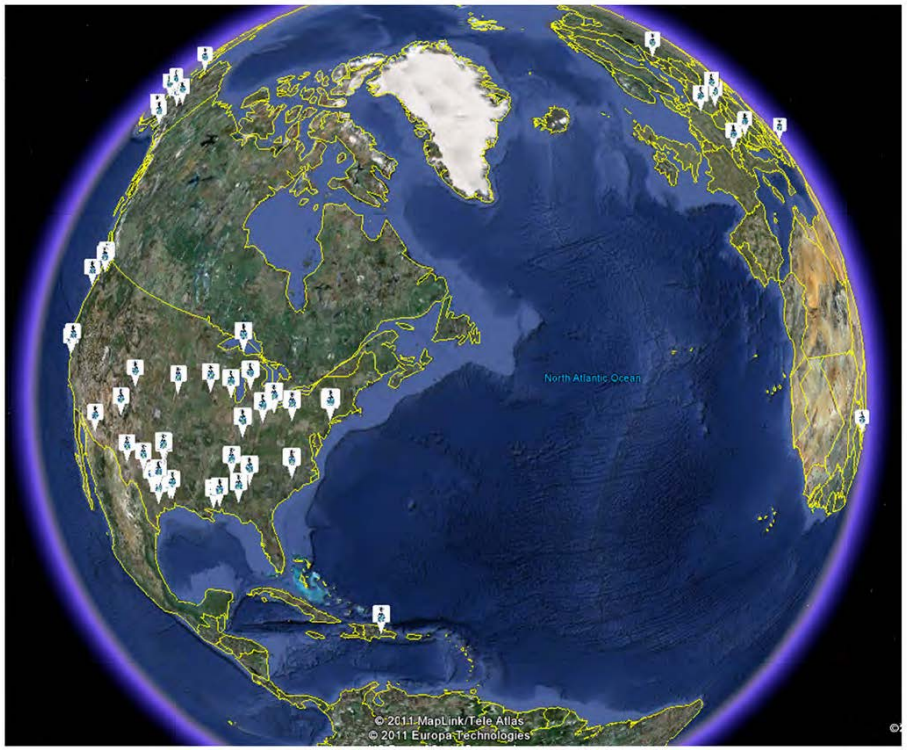
Heath Zone

Rain Forest

Cultivated Areas

Now it is your turn to join the Xpedition by entering data !

Post your School and Biome


North Atlantic Ocean
© 2011 MapLink/Tele Atlas
© 2011 Europa Technologies

Notre Dame School

Teacher: Maria Lorraine De Ruiz-Alma

Location
City: Santo Domingo
Country: Dominican Republic
Latitude: 18.4772
Longitude: -69.9421

Biome Description:
Santo Domingo City In the Dominican Republic is an urban biome in a tropical and subtropical moist broadleaf forests (tropical and subtropical, humid). The average temperature is 34 degrees Celsius, the most frequent clouds are cumulus and nimbo cumulus, the soil has a lot of sand and clay, the "Roca Caliza" (Lime Stone) is found every where, specially when they are building towers our students stop by and collect some samples. The troposphere ozone average is 43 parts per million, around the city there are lots of Sweietenia Mahagony trees and at the beach that faces the Caribbean Sea the "Palma Real" is everywhere. Two years ago we noticed that our average temperature raised 1.3 grades Celsious and the low temperature season is longer it usually ended in February and now it goes till March. The Mahogany trees also experience the green up season at the end of March and not in January or February as it was the normal pattern.

Gimnazjum nr 2 w ZSO nr 5 w Zabrzu

Zabrze, Poland

Zabrze is located in the southern part of Poland, in the Central Europe, on the rivers Bytomka and K?odnica, in the Odra river basin.

Our city is one of the Upper Silesian Industrial District. The main industries are coal mining and energy. The landscape here is strongly transformed by man - there are heaps, pits, and landslides, air and water are highly polluted.

Upper Silesia is one of the areas in Poland with the largest ecological threat. In recent years, the situation is improving thanks to many actions, the reclamation, establishment of modern filters on chimneys and building more sewage treatment plants. Many large industrial plants had been closed.

Poland belongs to the Palearctic Area. Our BIOM - TEMPERATE BROADLEAF AND MIXED FORESTS, is characterized by transitional climate between maritime and continental.

The weather depends on the incoming air masses. Due to prevailing westerly winds more air masses flow into our region are Maritime Polar Air masses.

The average annual temperature is about 8°C (46° Fahrenheit). The warmest month is July (average 17°C to 18°C, 64°F), while the coldest January (-2°C to -3°C, 27°F).

Crow Village Sam School
Chuathbaluk, Alaska

Chuathbaluk is in the Taiga / Boreal forest Biome, on the Kuskokwim River in Southwest Alaska. We are on the edge of the tundra just upriver from the Yukon Kuskokwim Delta. We are mostly Yupik Eskimos. We subsistence hunt and fish. We go camping on hunting trips. We hunt for moose, bear, wolves, geese, caribou, beavers, ptarmigan, rabbits, ducks, swans, foxes, and porcupines. We use the furs for hats, mukluks (boots), guspuks (Eskimo jackets), mulihuks (hats), and dance hats and fans. We fish for salmon all summer long, and ice fish during the winter. We love to pick berries for akutaq (Eskimo ice cream). Winter is coming. We had our first frost on August 27th. Our birch trees are turning yellow now. Most of our other trees are spruce. It usually starts snowing in October. We usually have snow for Halloween, October 31. It gets down to -40 degrees Celsius in the winter. Our river usually freezes in November, and usually breaks up late April to early May.

Winter is our longest season. We love to play in the snow. We make snow angels, snowmen, igloos, tunnels, dens, and snow forts. Our favorite is having monstrous snowball fights in deep snow with our friends and family. We slide down hills, and drag each other on sleds with Honda ATV's and snowmachines. The ice on our river gets thick enough for us to travel on with snowmachines, trucks, and dog sleds to other places. The most beautiful thing about Chuathbaluk is that we get to see the colors of the northern lights dancing in the sky above our snow-covered mountains.

Benin Republic: West African Continent.

LATITUDE : 6.55 deg North
LONGITUDE : 2.65 deg East
ELEVATION: 52 m

Avrankou's dominant plant is the palm tree. This is an introduced plant. Therefore there are other co-dominant plant species such as acacia and banana.

The animal species most observed is pigs.

Other important observations maked geography or climate related are below :

RELIEF; shelf
CLIMATE, four seasons (two rainy seasons and two dry) as follows:
. A LONG RAINY SEASON which lasts from April to July
. A SHORT DRY SEASON which lasts from August to September
. A SHORT RAINY SEASON which runs from October to November
. A LONG DRY SEASON which lasts from December to March

We now observe that these four seasons (that our parents have known) have disappeared, giving way to two main seasons, namely a long rainy season and dry season which dates and times are very disparate in time. For example, currently the country is under water. It is raining heavily and everywhere in the country there is flood. But there is still no flood at Avrankou, certainly related to our level of elevation relative to the sea.

Find coordinates by moving around the map

1. Drag and drop the map to broad location.
2. Zoom in for greater accuracy.

Find coordinates using the name and/or address

Submit the full location : number, street, city, country.

Search!

Latitude	Longitude
0.00000	0.00000

Xpedition Schools

* Required

School Name *

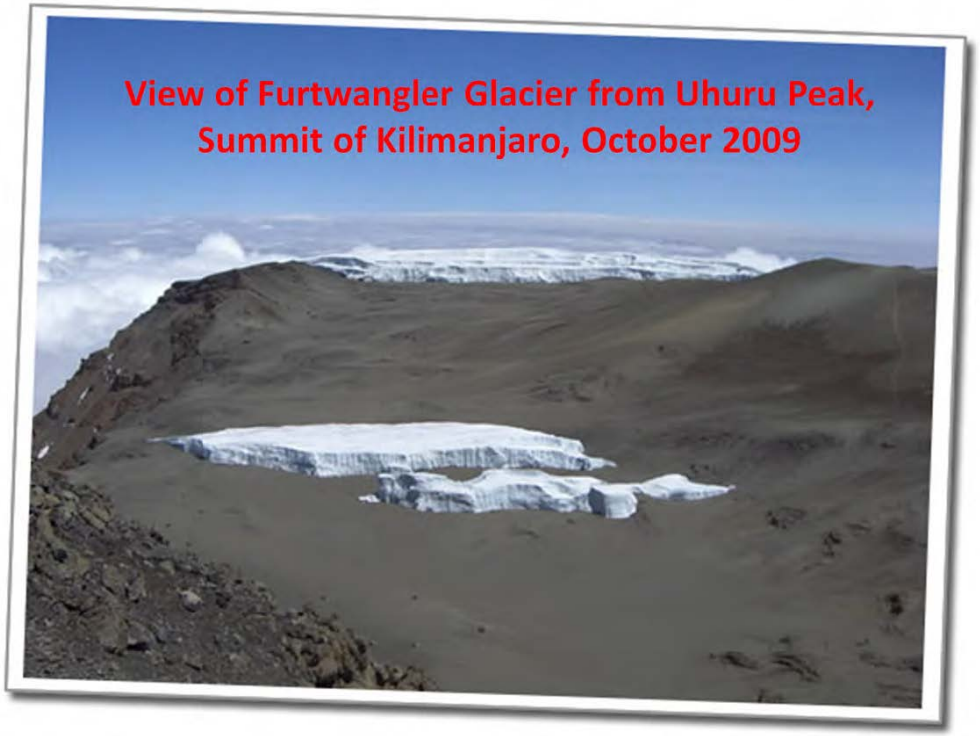
Teacher

City, State *

Country *

Latitude *

Decimal Format Only: Northern Hemisphere Example: 34.1456 Southern Hemisphere locations must use a negative symbol, Example: -34.1456 (Use the Google map above to find your exact location)


View of Furtwangler Glacier from Uhuru Peak,
Summit of Kilimanjaro, October 2009


Change in the size of the Furtwangler Glacier
over the last 20 years


June 2008


October 2009


October 2010

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Teachers: Join PolarTREC!

Application Period: Monday, 1 August 2011 through Friday, 30 September 2011

www.polartrec.com/teachers

POLAR TREC
TEACHERS AND RESEARCHERS EXPLORING AND COLLABORATING

Upcoming Events

Watch for and register for upcoming events at **www.polartrec.com!**

POLAR TREC

TEACHERS AND RESEARCHERS EXPLORING AND COLLABORATING

Thank You!

An archive of the event will be available shortly.

http://www.polartrec.com/polar-connect/archive