

Live from IPY! with Ann Linsley

Live from the “Human Impacts in Antarctica” Expedition

McMurdo Station, Antarctica

13 December 2007





Raise your hand to ask a question

List of all participants

Return to the Lobby or Exit

Slides will be shown here

'Chat' with one person or the entire group

Today's event will be recorded and archived at www.polartrec.com.



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



The PolarTREC Team



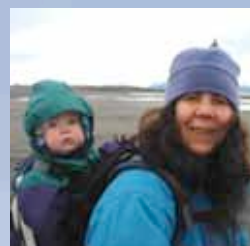
Wendy Warnick

PolarTREC PI
Executive Director



Helen Wiggins

Program Coordinator



Janet Warburton

PolarTREC
Project Manager



Katie Breen

PolarTREC
Project Manager



Kristin Fischer

PolarTREC
Project Manager



Ronnie Owens

Web Developer



Ben Wade

Web Developer



Tina Buxbaum

Electronic Media
Project Manager



Zeb Polly

Systems Administrator



Joed Polly

Video Production

...with help from
the entire staff
at ARCUS





International Polar Year (IPY) **2007-2009**

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



Who are we talking with today?



Teacher

Ann Linsley

Bellaire High School
Bellaire, Texas



Researcher

Dr. Andrew Klein

Texas A&M University
College Station, Texas



Researcher

Steve Sweet

Texas A&M University
College Station, Texas



Researcher

April Gossman

Texas A&M University
Corpus Cristi, Texas



Researcher

Terry Palmer

Texas A&M University
Corpus Cristi, Texas



Researcher

Dr. Chuck Kennicutt

Texas A&M University
College Station, Texas
(Project PI, not in Antarctica)



Ann Linsley
PolarTREC Teacher
Bellaire High School
Bellaire, TX

Dr. Andrew Klein
Department of Geography
Texas A&M University
College Station, TX





Steve Sweet

Geochemical & Environmental
Research Group
Texas A&M University College
Station, TX

Terry Palmer

Hartt Institute
Texas A&M University
Corpus Cristi, TX





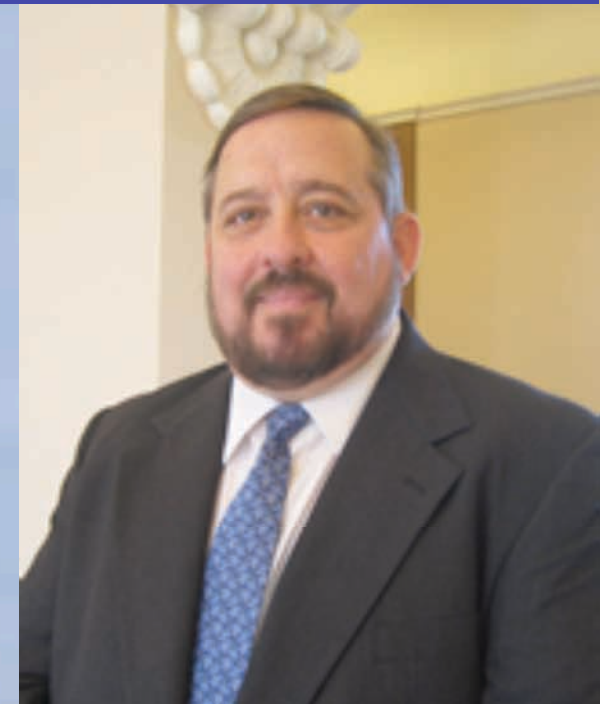
April Gossman

Hartt Institute
Texas A&M University
Corpus Cristi, TX

Dr. Chuck Kennicutt

Texas A&M University
College Station, TX

Project PI-Not currently in Antarctica



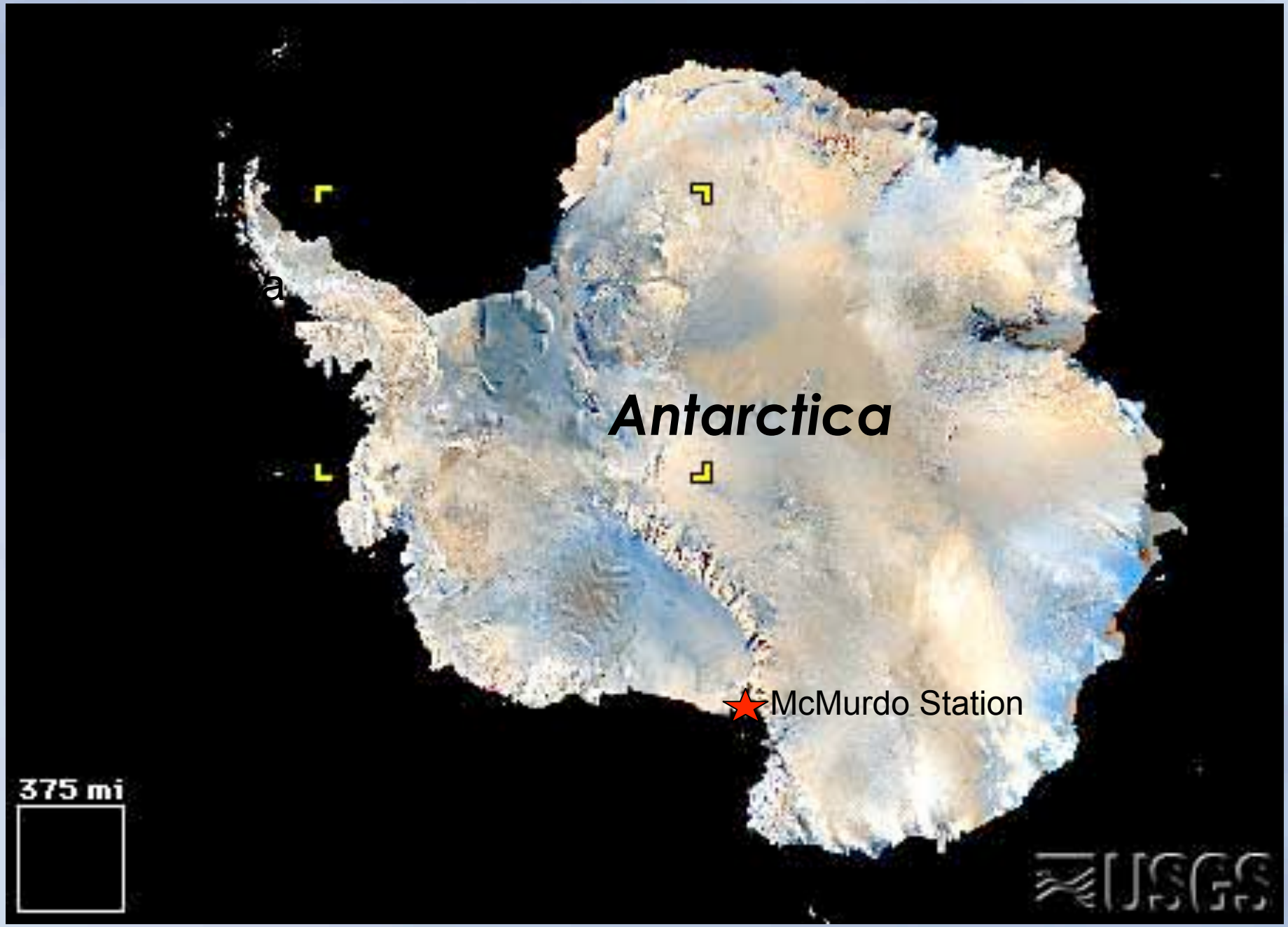
The Team at Thanksgiving



Where is Ms. Linsley and the Team?

Political Map of the World, April 2006





Antarctica

★ **McMurdo Station**

375 mi
□

USGS



McMurdo Station, Antarctica



Mud & Muck

Six years of Environmental Monitoring of Human Impact at McMurdo Station

Andrew Klein
and the B-518 Team

Texas A&M University, College Station, TX

Texas A&M University – Corpus Christi, Corpus Christi, TX



*McMurdo Wednesday Night Science Lecture
November 28th, 2007*

Texas A&M University
Corpus Christi



Protocol on Environmental Protection

“Extends and improves the Antarctic Treaty’s effectiveness in ensuring the protection of the Antarctic environment.”

Environmental principals govern all Antarctic activities (Article 3)

Activities should be planned and conducted to limit adverse impacts

Activities be **regularly monitored**.

Cooperation should occur in the planning and conduct of activities and sharing of information (Article 6)

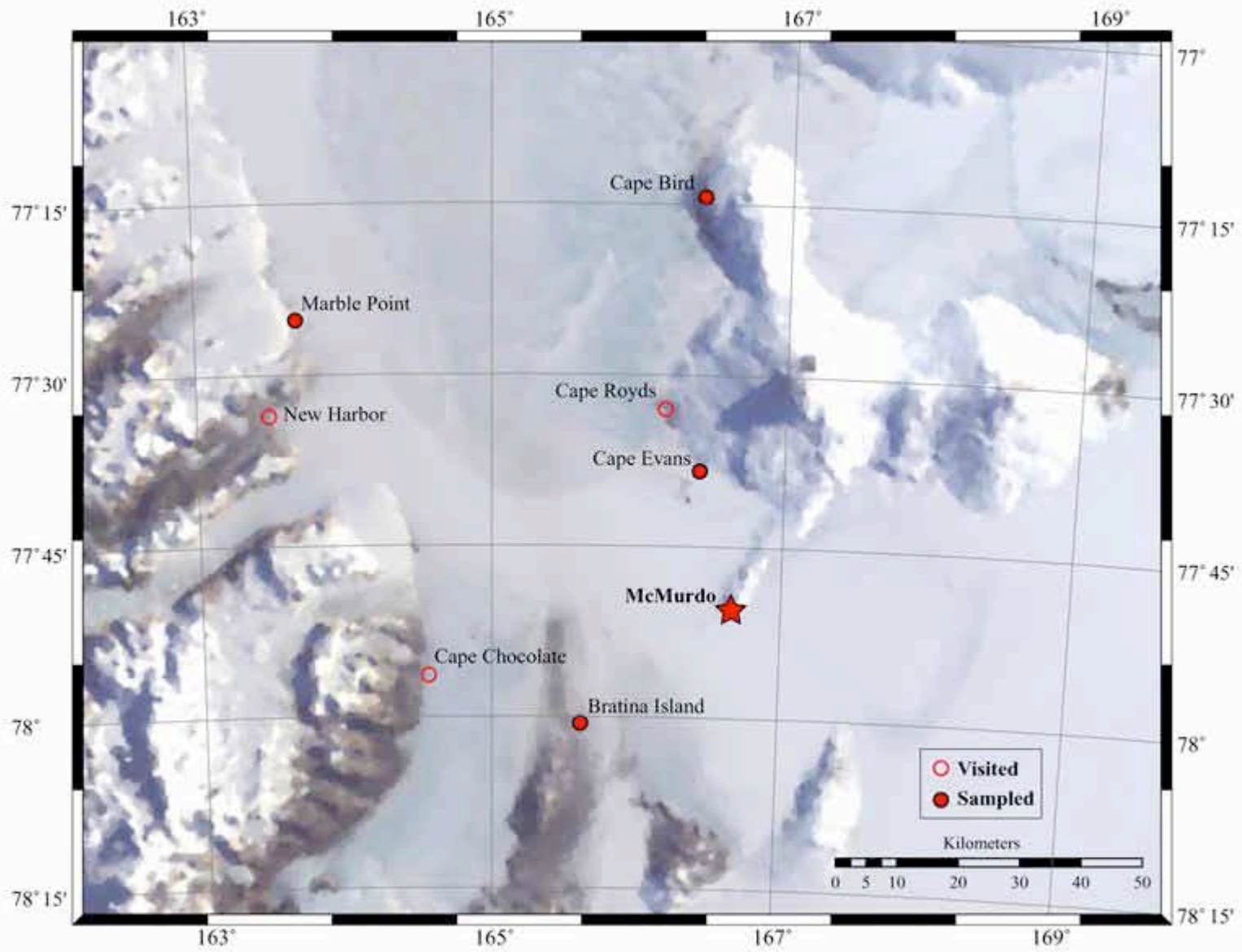
Environmental impact assessment procedures with advance notification should be put in place

establishment of the Committee for Environmental Protection (CEP)

inspections by observers

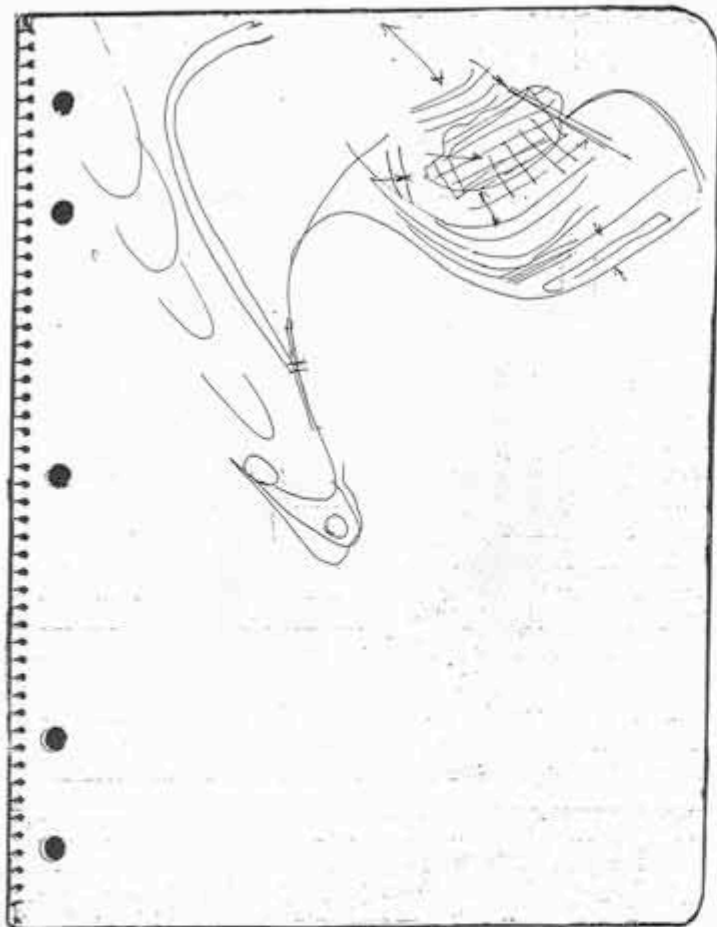
annual reports on protocol implementations

compulsory and binding settlement of dispute









Williams AirOpFac-Ross Is. Antarctica

Initial Base Plan - Sketch by Lt. Cdr David W. Canham
1-13-56

Gifted to the Byrd Polar Institute
by David Grisez



McM 2007
Station Map

Marine Monitoring Program



Outfall discharge before sewage
treatment went on line



WQB
120'



Cape Armitage
80'

Photograph by R. Robbins

Winter Quarters Bay *Transect A*



Photographs by R. Robbins

Sewage Outfall Transect D



Photograph by R. Robbins

Cape Armitage *Transect F*

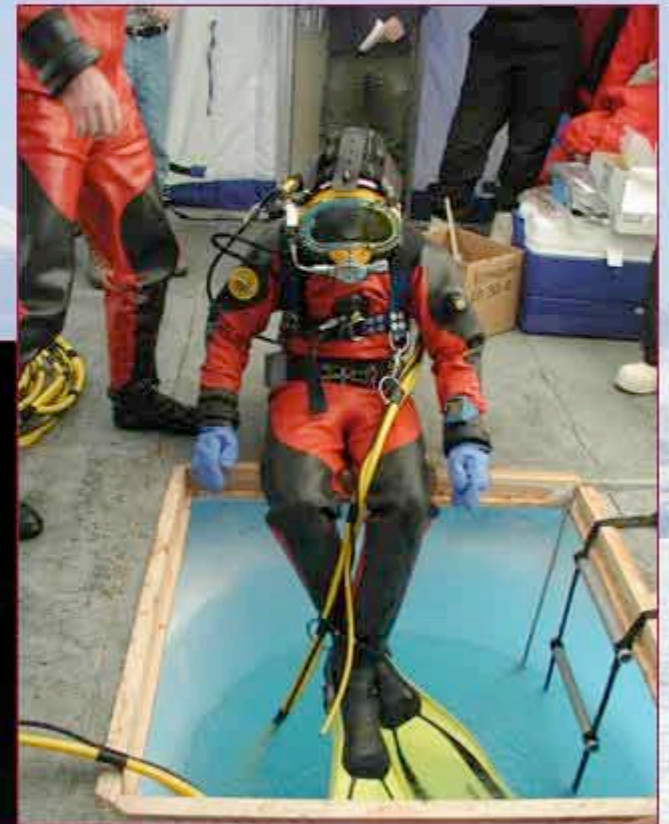
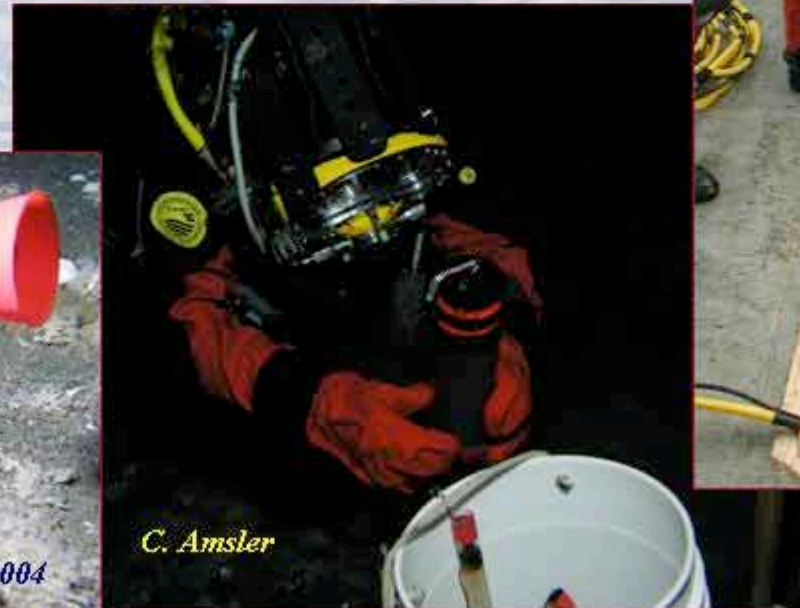


Photographs by R. Robbins

Methods

Sediments are sampled in triplicate with hand-driven cores by USAP station divers for:

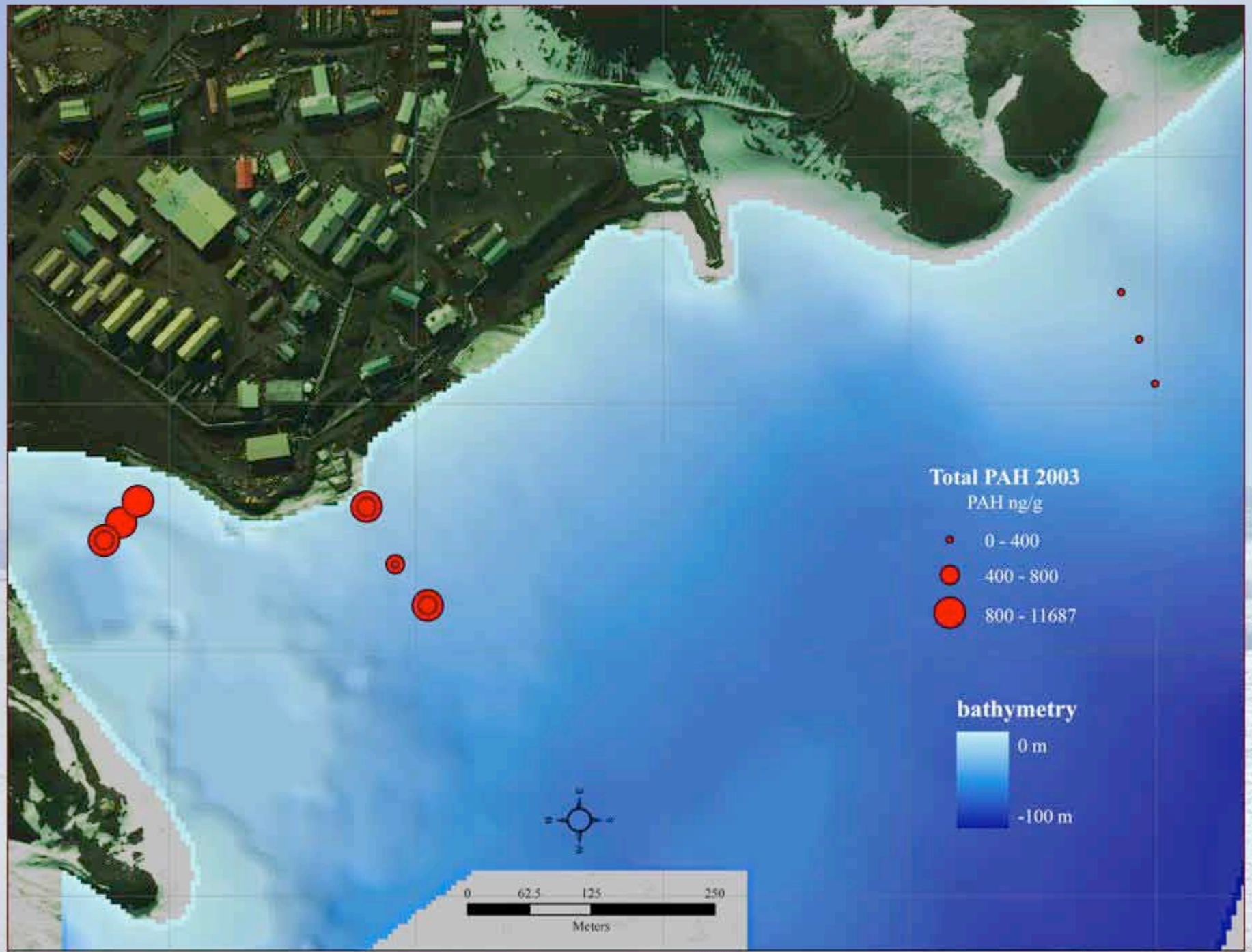
- Sediment toxicity
- Sediment chemical analyses
- Sediment communities



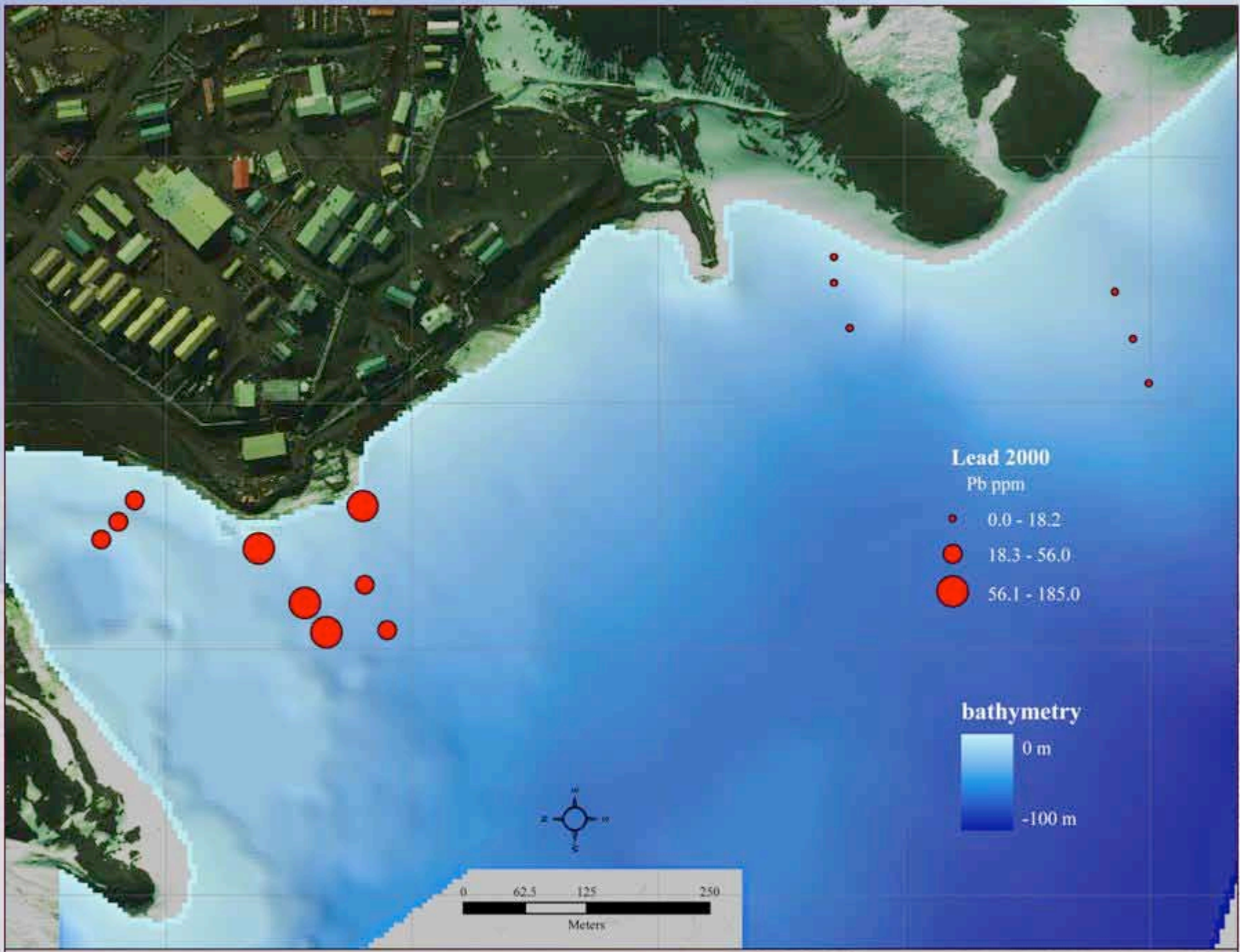
Sediment Toxicity

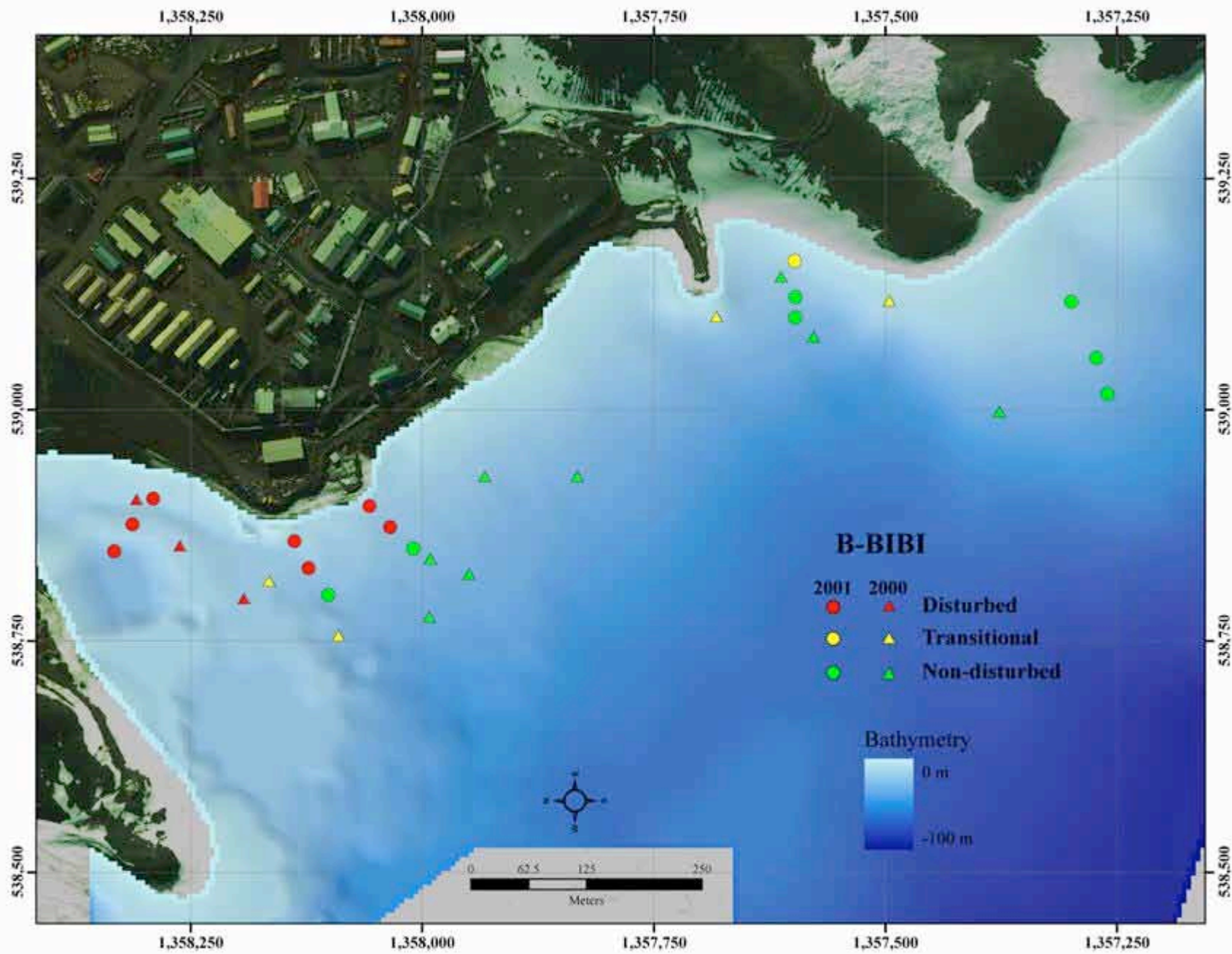
- Samples are stored at 4°C until analysis on station
- Microtox 500 analyzer
- Bioluminescent bacteria
 - *Vibrio fischeri*
- EC50 (mg/l)











Macroinfauna

- Sediment cores (6.7 cm diameter) and sampled to a depth of 10 cm
- Preserved, stained, and sieved on 500 μm sieve
- Identified to lowest possible taxa
- Analyzed with the Benthic-Index of Biotic Integrity (B-IBI) and other univariate and multivariate statistical methods



Terrestrial Monitoring Program



Soil Sampling



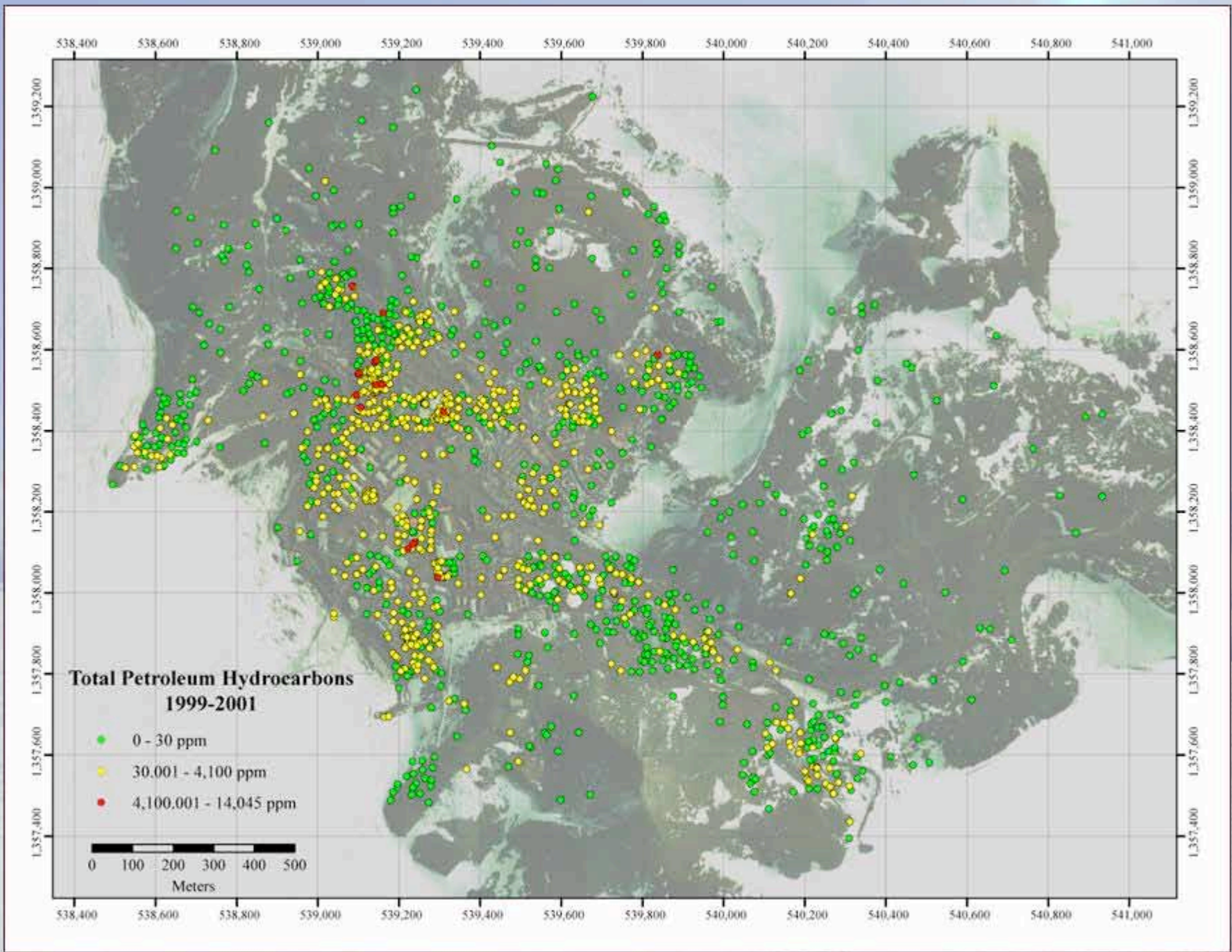
1. Locate random sampling location using GPS

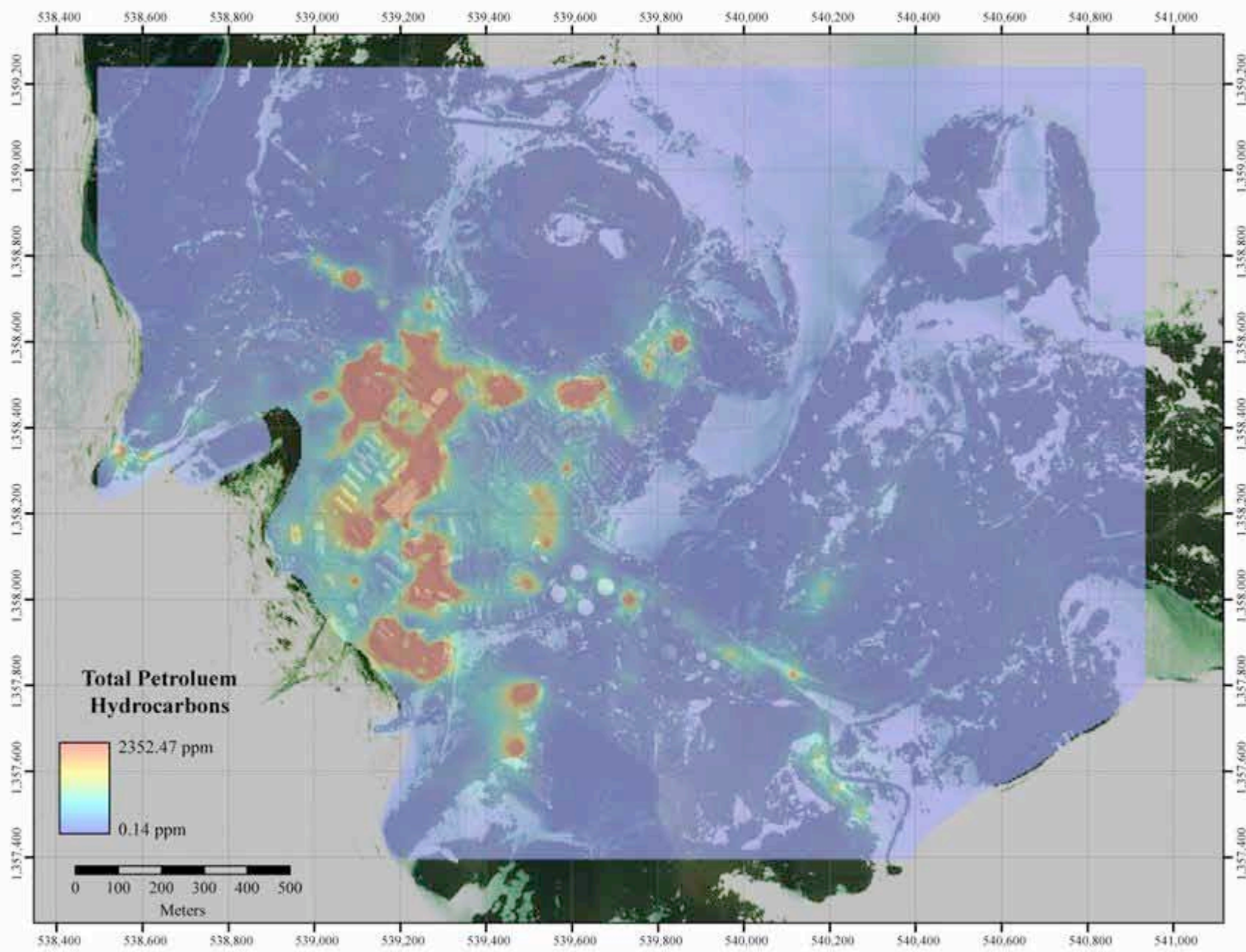


2. Characterize and photograph a 1 x 1 m sampling area

3. Collect a 250 ml surface soil sample



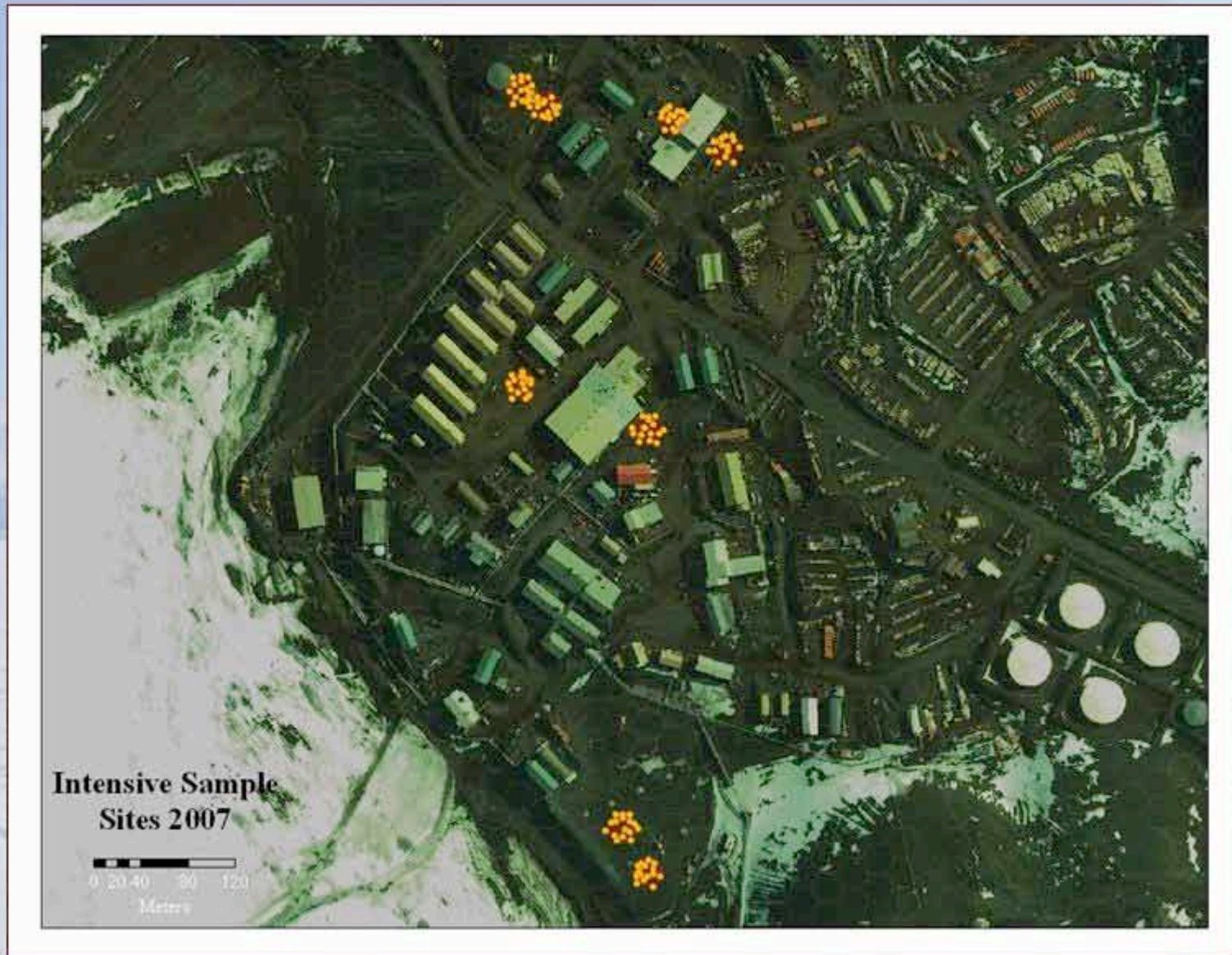


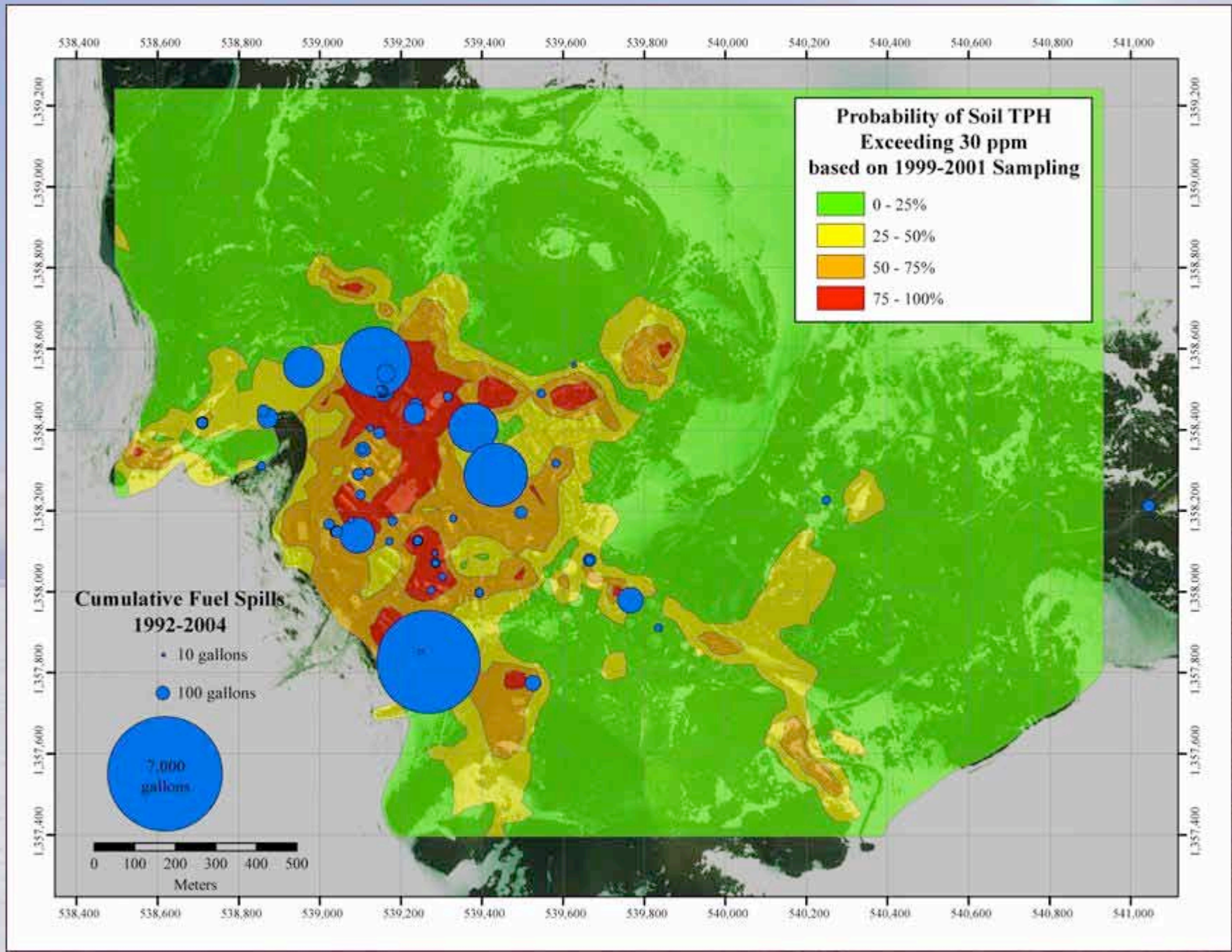


Random Sampling 2007



Intensive Sampling 2007





*Thanks for
your
attention!*

*The
B-518M
Team*



Marine Science





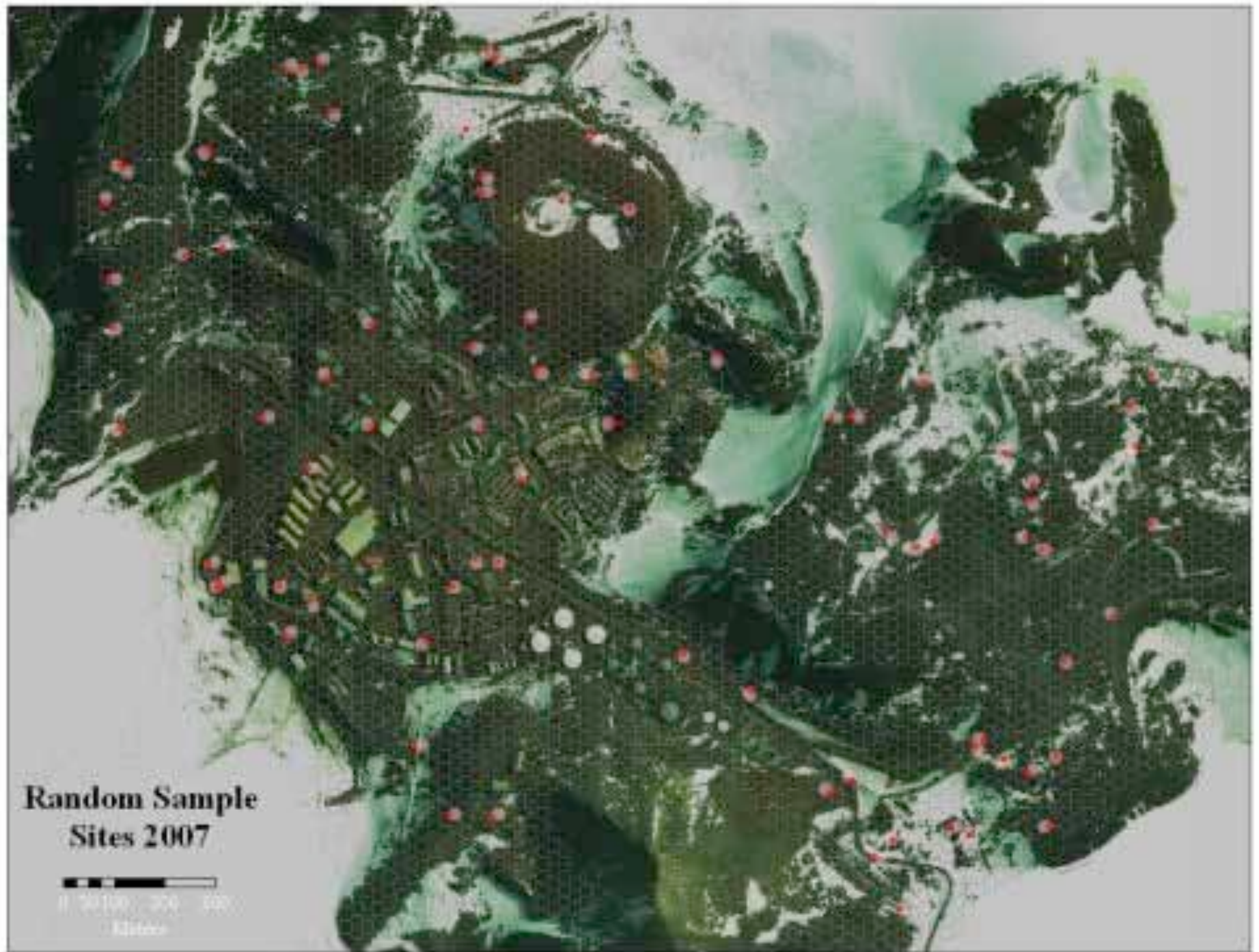


Terrestrial Science









Mount Erebus











Everything gets shipped in and everything gets shipped out!





Wildlife





Questions?



Check out and register for upcoming events!



12 & 19 December 2007 - Live with Elke Bergholz - South Pole

13 Decemebr 2007 -Live with Brandon Gillette for IPY Ice Sheet Day

Watch for additional events at: www.polarrec.com.

*Thank
You!*



*If you have further questions,
please contact us at
info@polartrec.com or call
1-907-474-1600*

