



TEACHERS AND RESEARCHERS
EXPLORING AND COLLABORATING

Welcome to *PolarConnect*

with Alex Eilers and the
Weddell seals in the Ross Sea team
2012Expedition

Monday, 13 February 2012

10AM AST

[11AM PST, 12PM MST, 1PM CST, 2PM EST]

Weddell seals

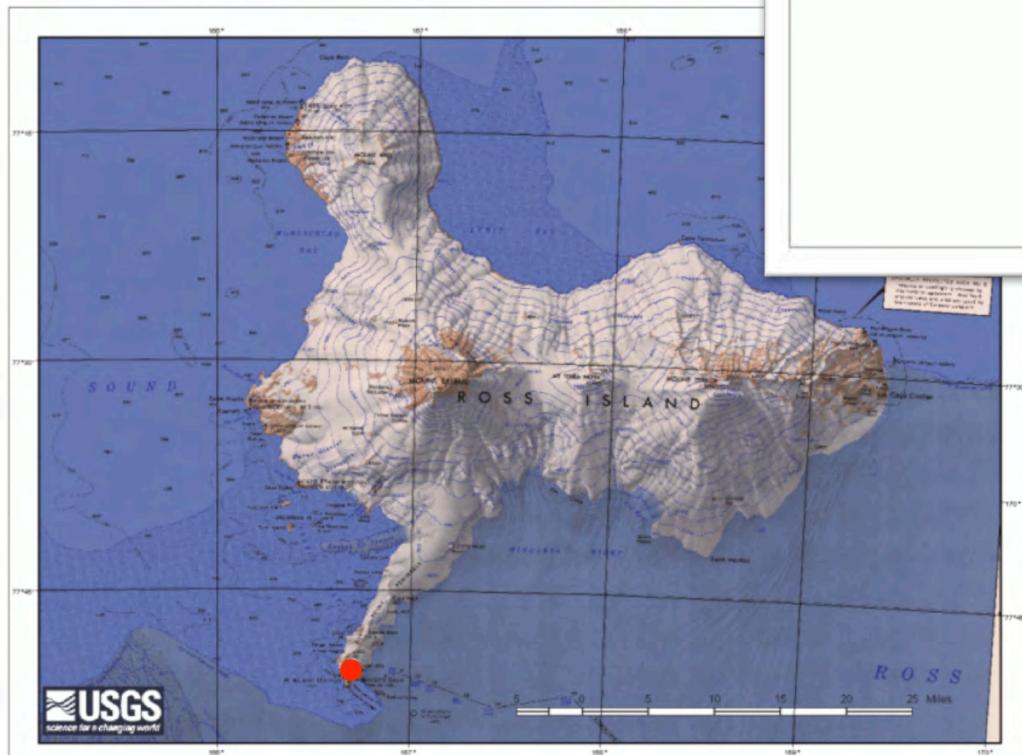
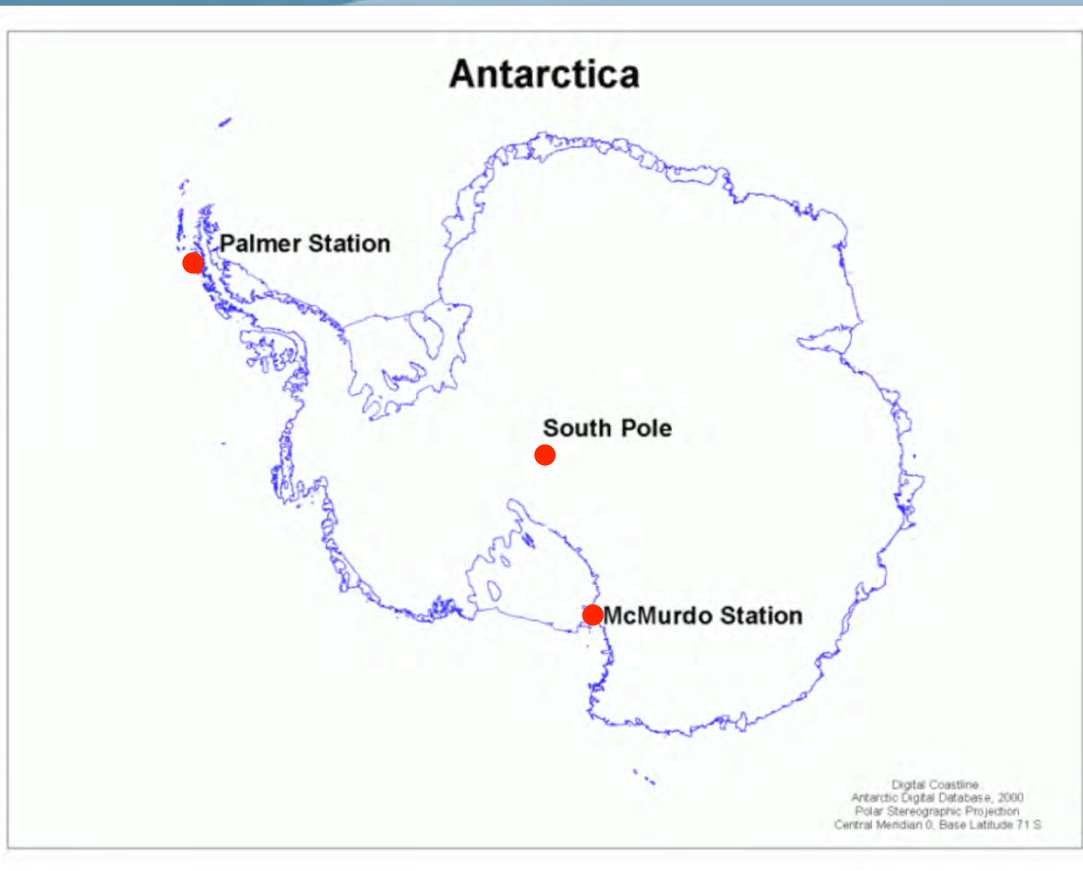


in the Ross Sea!!



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Where are we?



Antarctica Ross Island McMurdo Station

Our Team!

Principle Investigators



Dr. Daniel Costa
UCSC



Dr. Eileen Hoffman
ODU



Dr. Jennifer Burns
UAA



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UCSC

PhD and Post Doctoral Students



Kim Goetz
UCSC



Luis Huckstadt
UCSC



Patrick Robinson
UCSC

UAA

Masters and PhD Students



Linnea Pearson
UAA



Michelle Shero
UAA

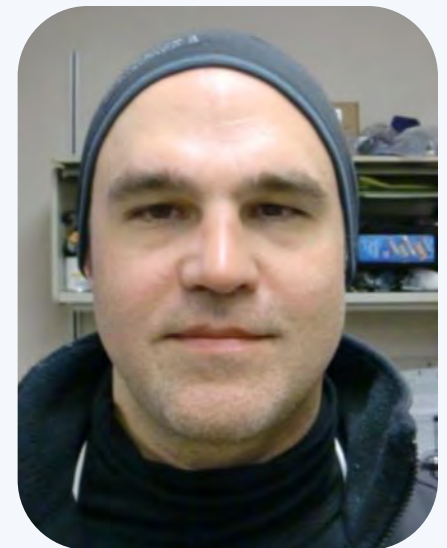
Other team members!



Chris Burns
Volunteer



Alex Eilers
PolarTREC teacher
Pink Palace Museum



Jesse Hiatt
Videographer

Scouting for seals!



Twin Otter

Snowmobile



Helicopter

Looking for seals



**And checking ice
conditions.**

Finding the right Seal!



Molted

vs.



Un-molted

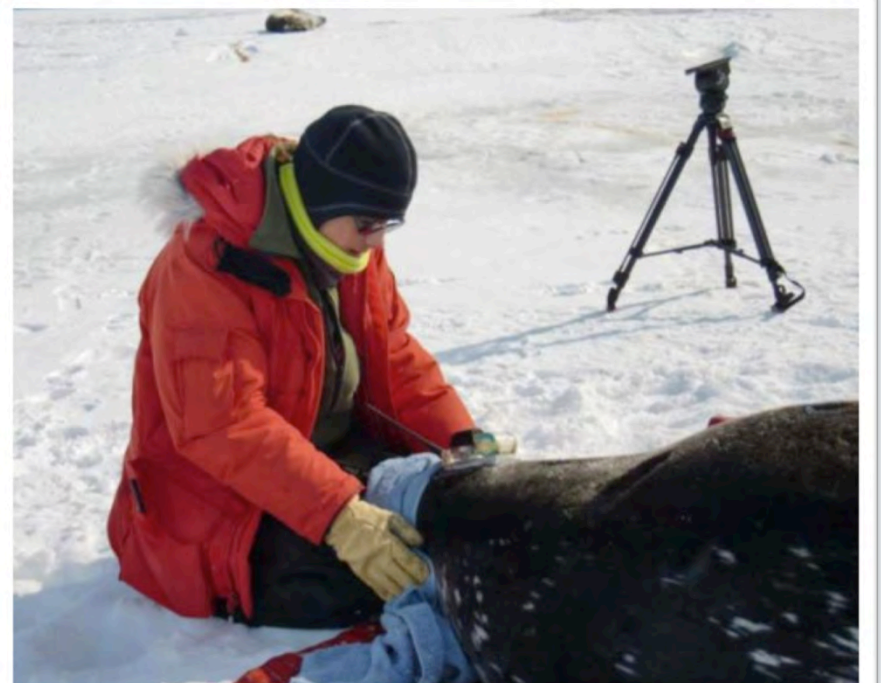


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The process begins!



Capturing and calming the seal!





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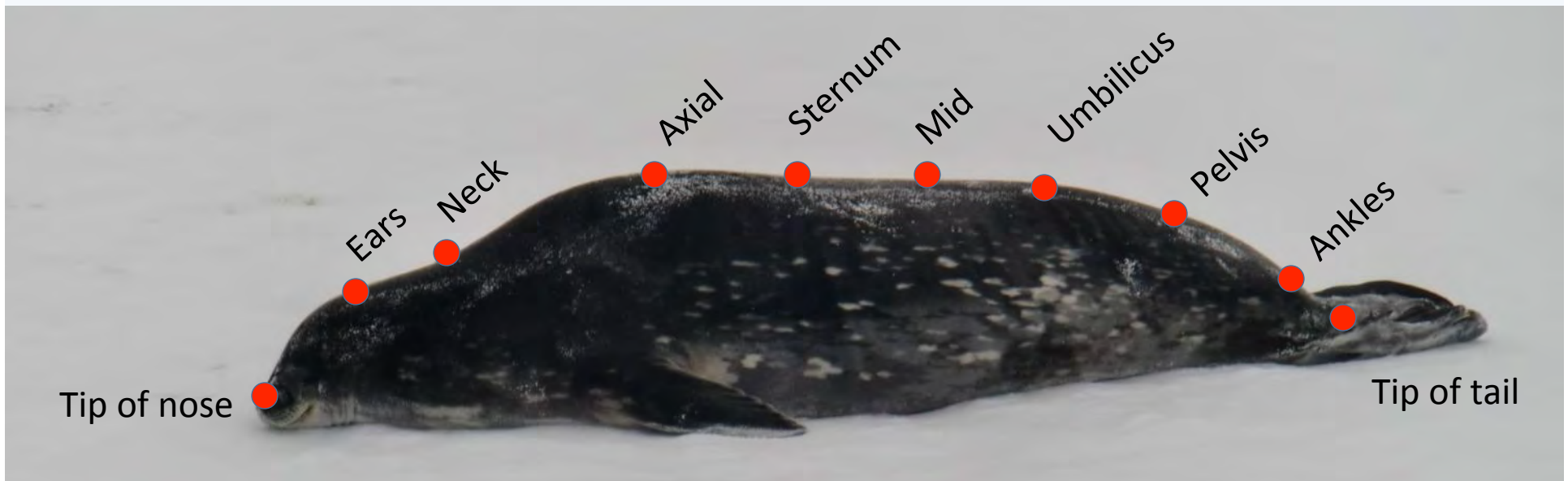
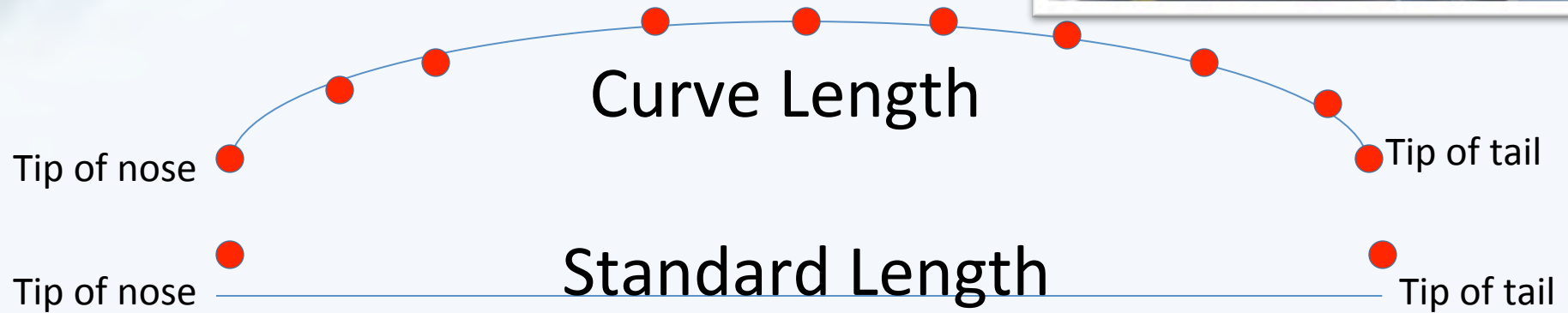
Health and condition assessment





Weight

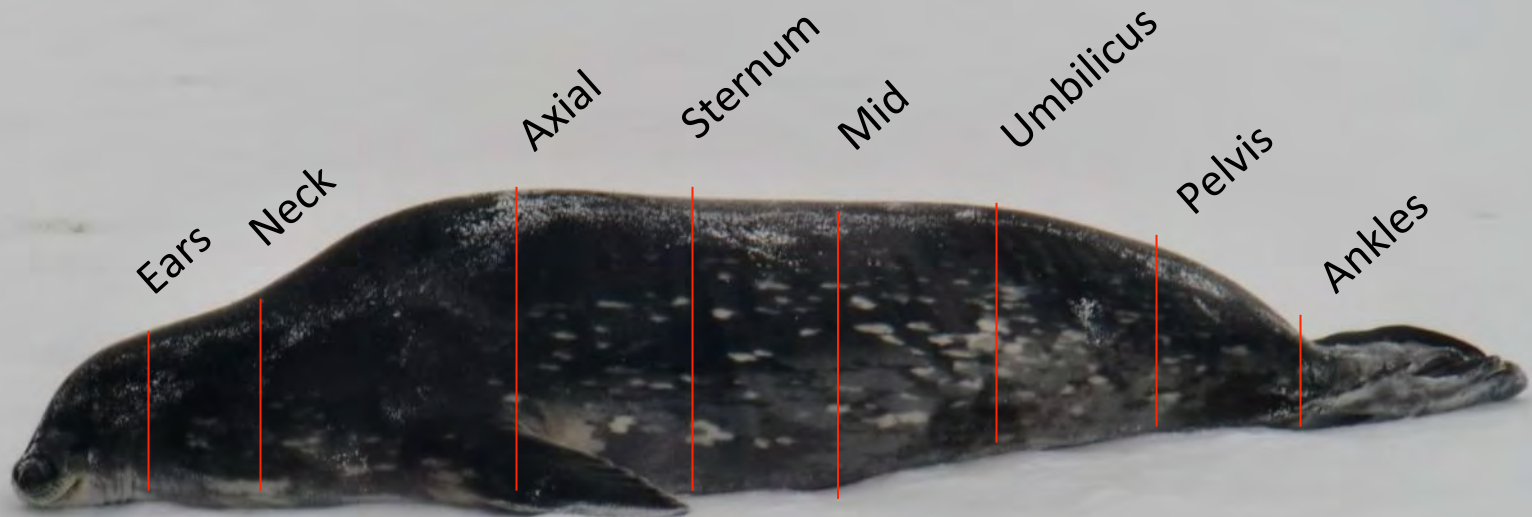
Measurement



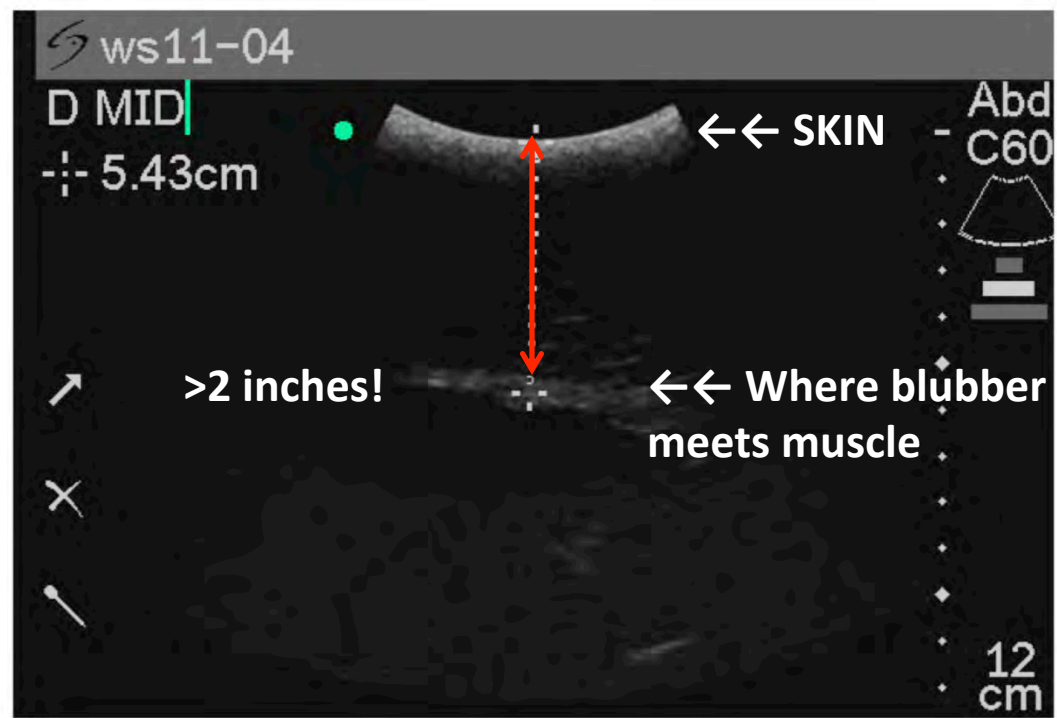


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Measurement Girth

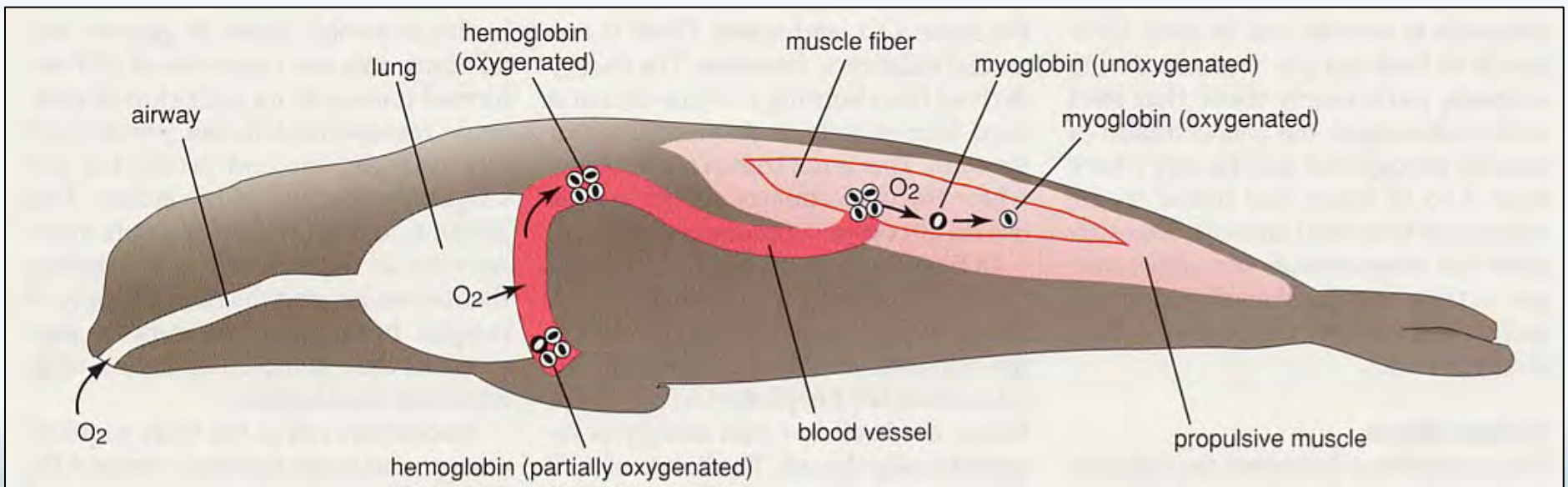


Ultrasound



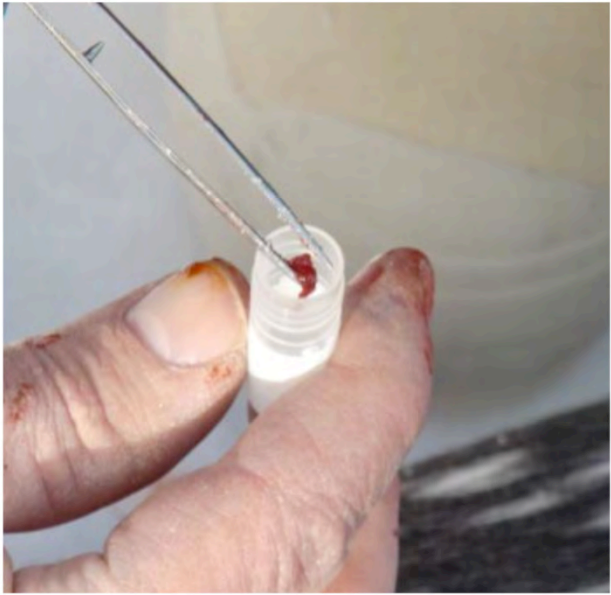
Measures
blubber
thickness

Collecting Blood



Measures the amount of oxygen in blood

Muscle Biopsy



**Oxygen and
fiber types**



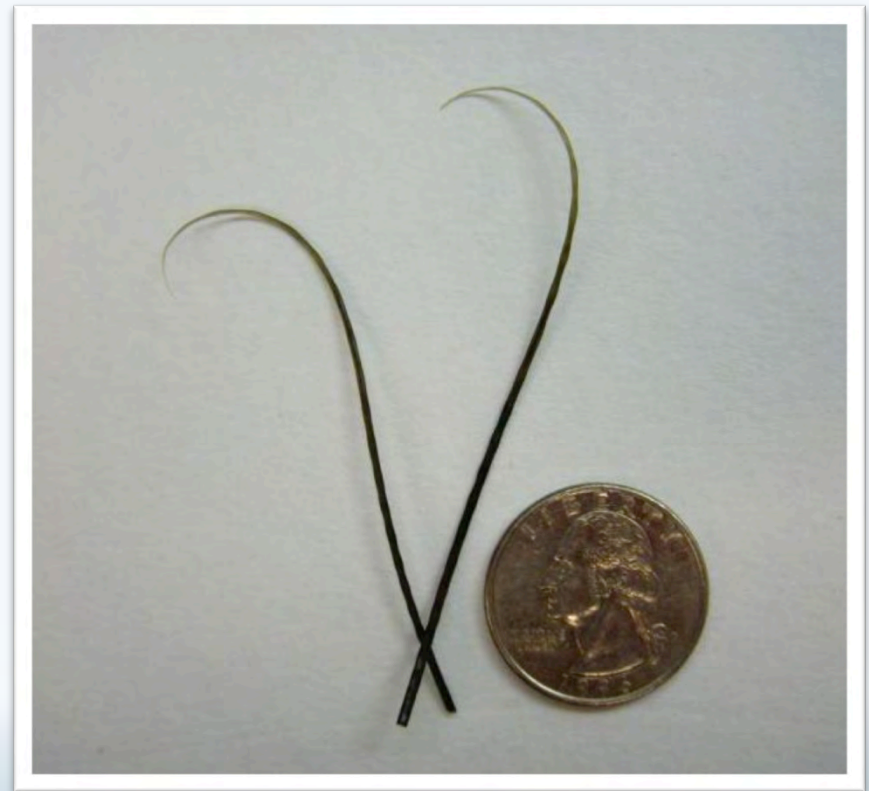
Blubber samples



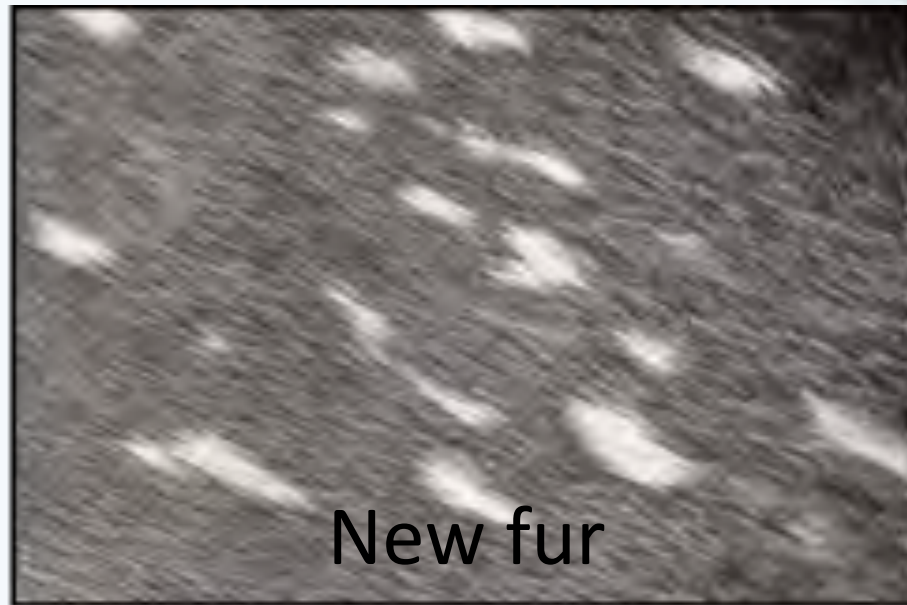
**Analysis of
lipids**



Diet - Whiskers



Diet - Fur



New fur →→

Old fur →→



Tagging



**ID tags –
Go on hind
flippers**





VHF Tag

**Glued on
middle of
back.**

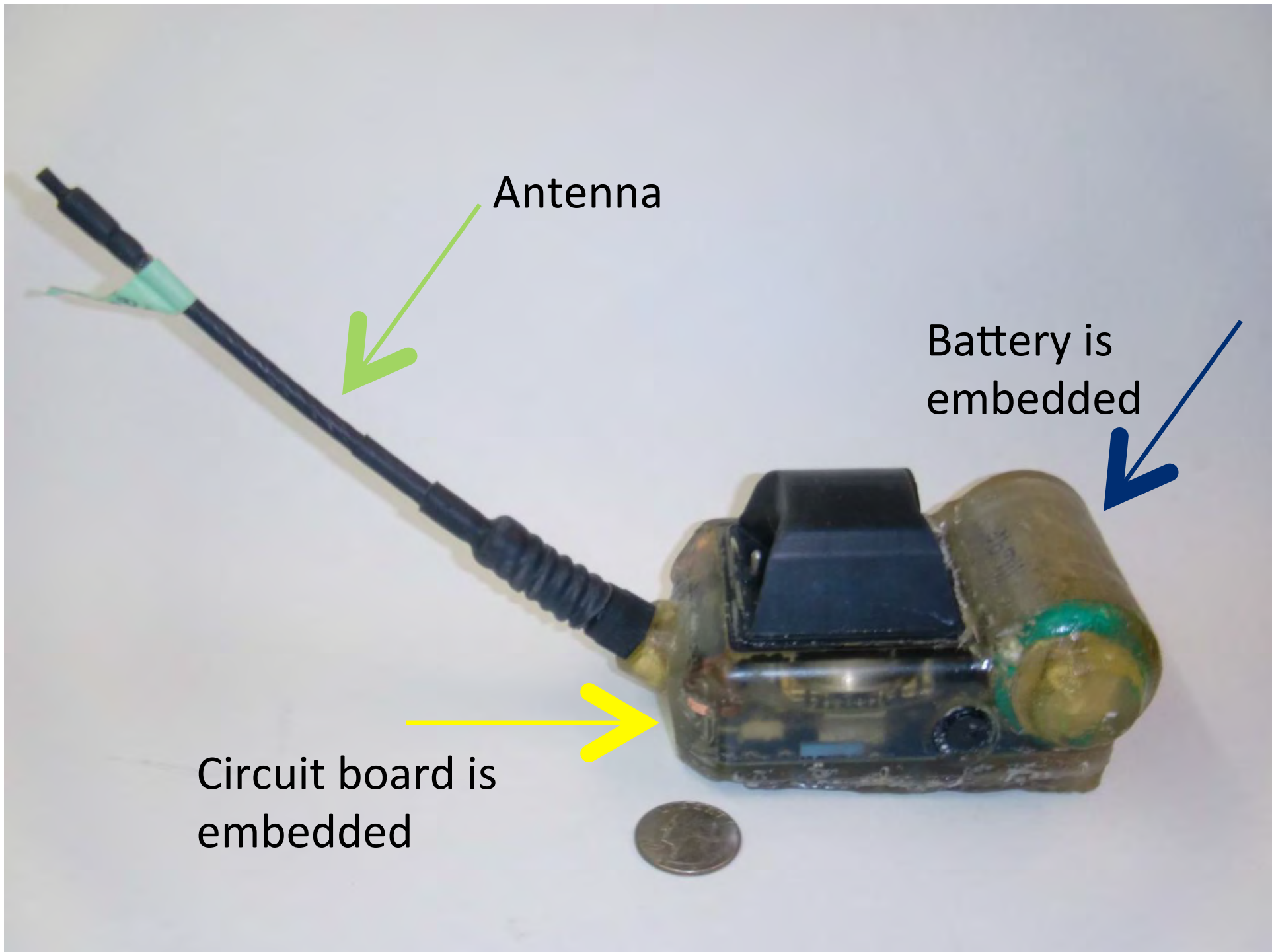


Satellite Tag



**Glued on top
of head.**





Antenna

Battery is
embedded

Circuit board is
embedded

Salt water switch

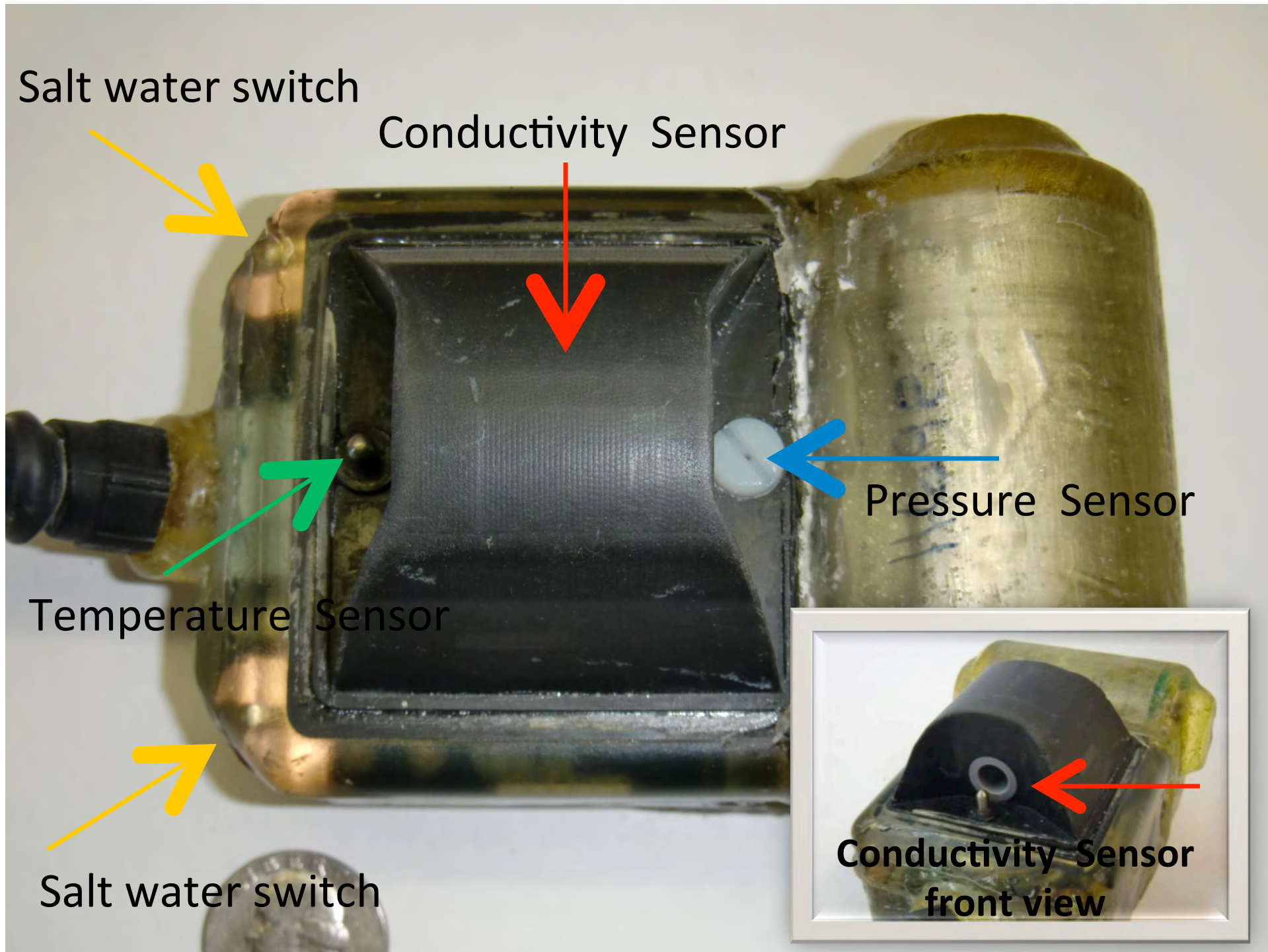
Conductivity Sensor

Pressure Sensor

Temperature Sensor

Conductivity Sensor
front view

Salt water switch





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And the data collection begins...





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What the Scientists are learning...

METHODS – TAG DATA



Imagery Date: 12/31/1998

3.64 km

Image: U.S. Geological Survey
Data: SIO, NOAA, U.S. Navy, NGA, GEBCO
Image: USGS/PGC
Data: LDEO-Columbia, NSF, NOAA
lat: -75.849927° lon: 169.826275° elev: -545 m

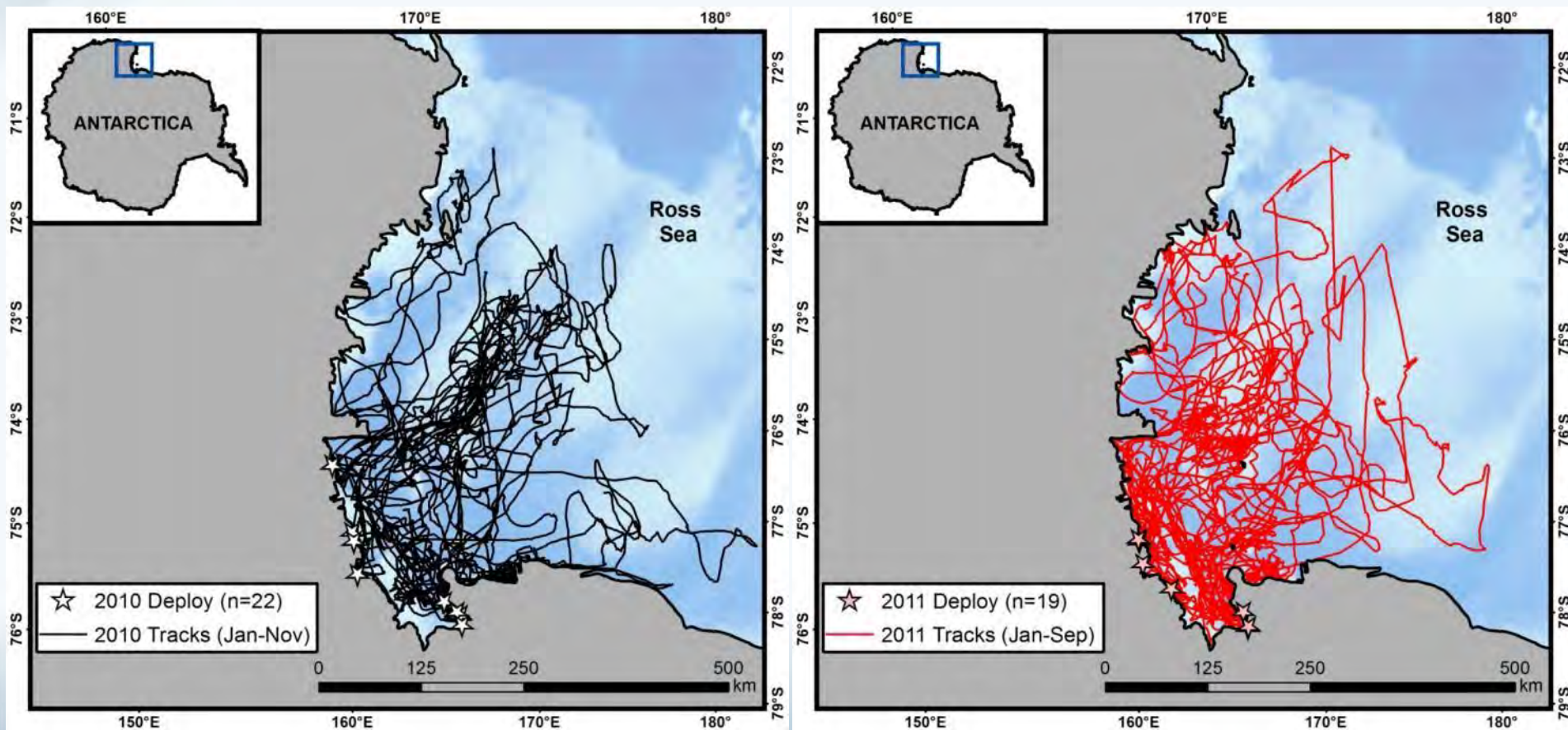
©2010 Google™

Eye alt: 8.80 km

www.polartrec.com

What the Scientists are learning...

ANALYSIS – TRACKING DATA





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QUESTIONS???