BOUVET Island DXpedition (early 2018)

A most difficult and dangerous visit to the number #2 DXCC Most-wanted

Rochester DX & Contest Club
Glenn Johnson WØGJ
30 April 2017

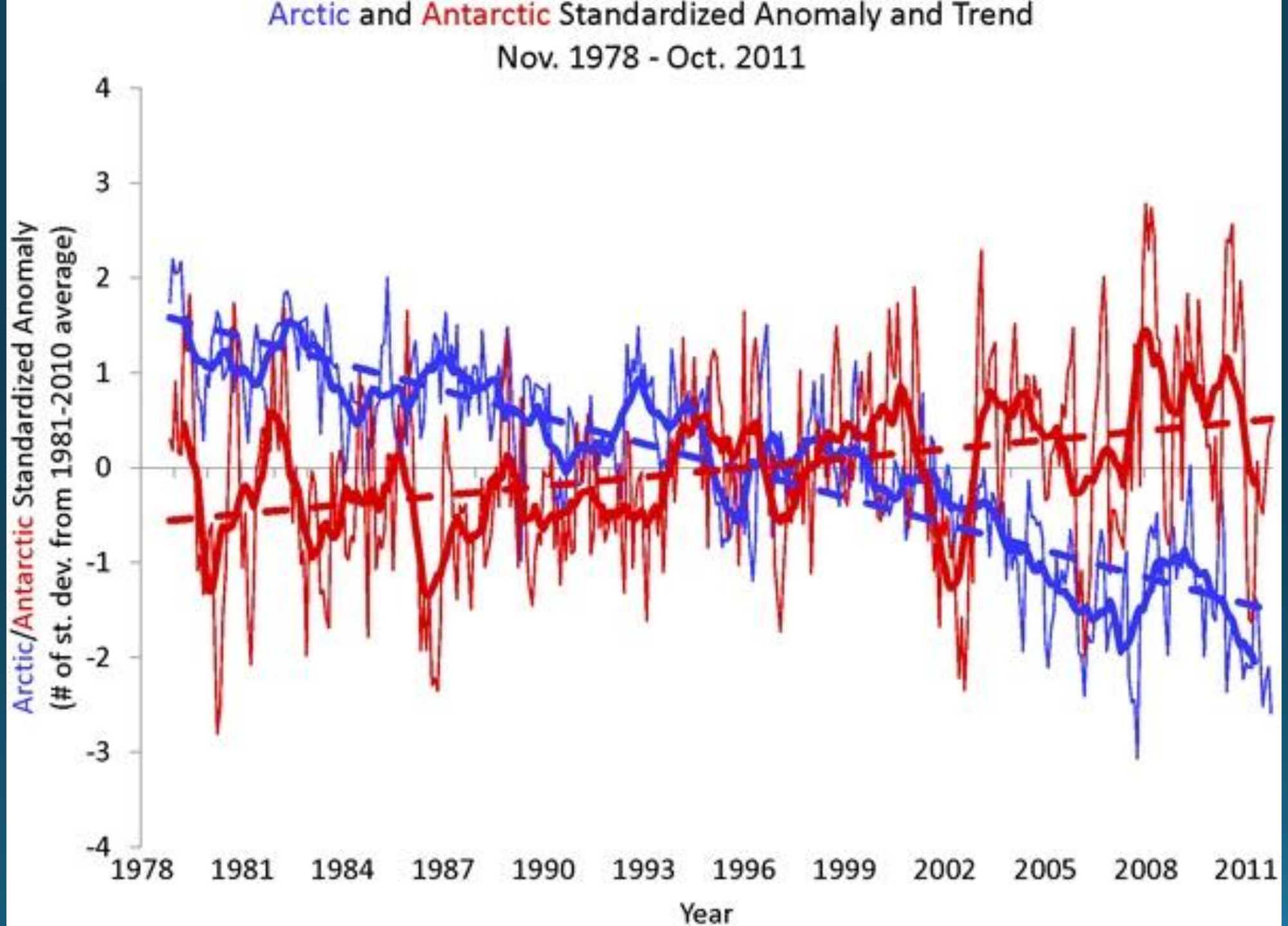

NORVEDIA
EKSPEDITIONEN

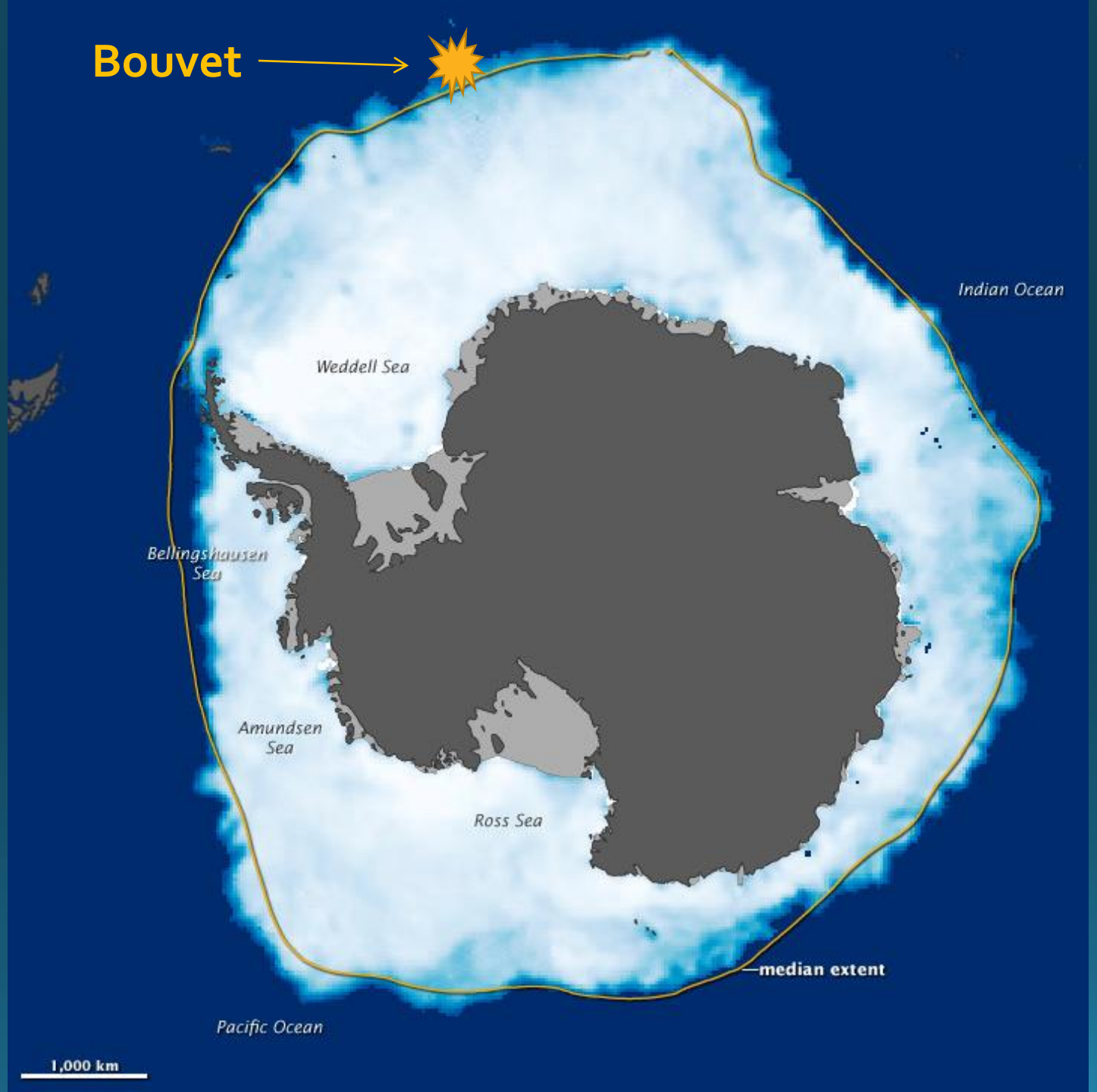
Claimed by Norway only 90 years ago!


South Africa
1800 mi.
Bouvet Island
South America
1000 mi.
2700 mi.
Antarctica

A foreboding place…for sure

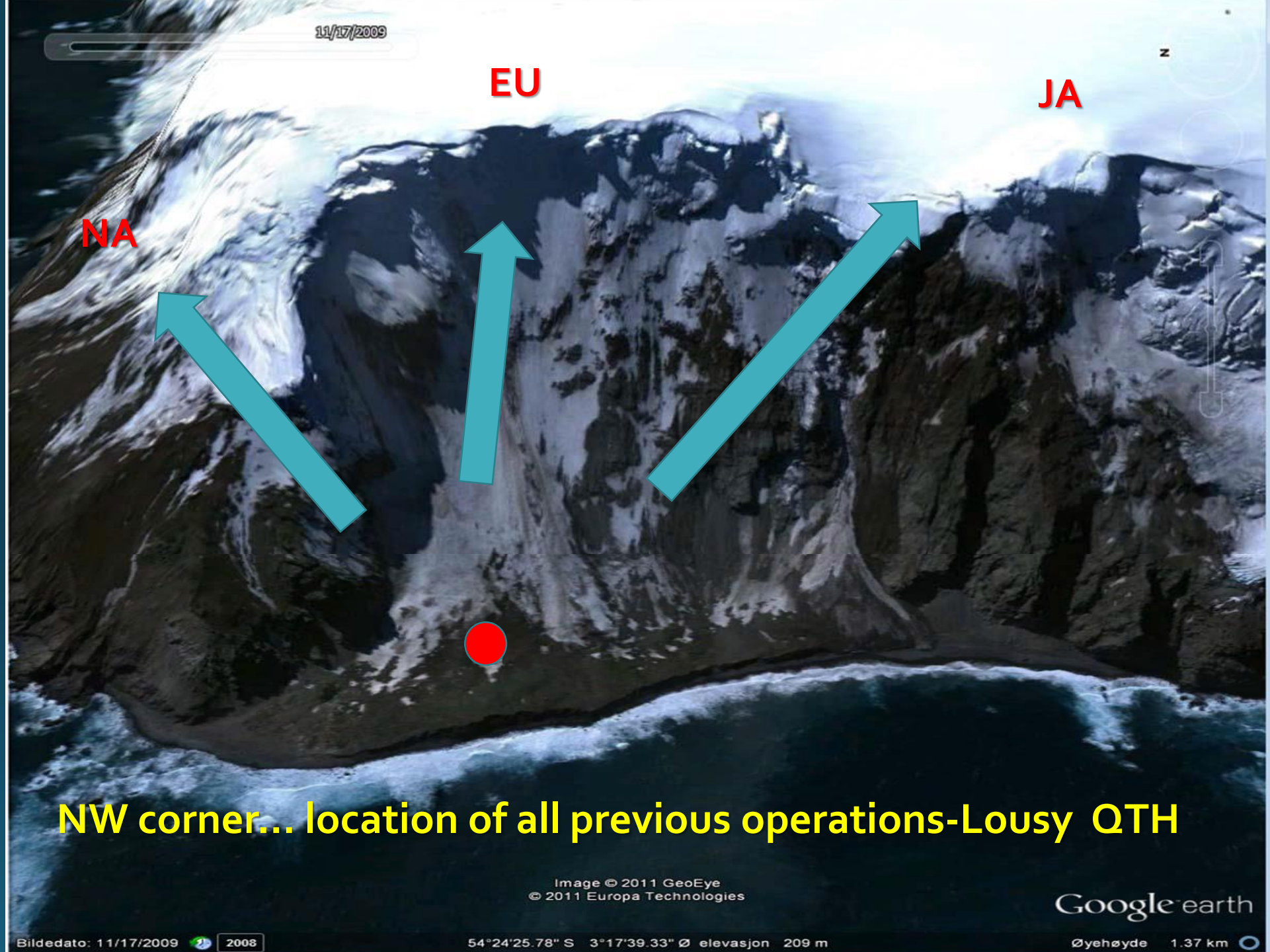
93% covered by glacier


Arctic and Antarctic Standardized Anomaly and Trend
Nov. 1978 - Oct. 2011
Arctic/Antarctic Standardized Anomaly
(# of st. dev. from 1981-2010 average)
4
3
2
1
0
-1
-2
-3
-4
1978
1981
1984
1987
1990
1993
1996
1999
2002
2005
2008
2011
Year


Bouvet
Indian Ocean
Weddell Sea
Bellingshausen Sea
Amundsen Sea
Ross Sea
median extent
Pacific Ocean
1,000 km


Bouvet Island
Kapp Valdivia
sea ice


ATLANTERHAVET
Kapp Valdivia
Kapp
Circoncision
54°24'S
780m
Olavtoppen
Nyroysa
Krater-
isen
Slakhallet
Kapp
Meteor
Bouvetøya
54°26'S
Norvegia-
odden
0
2 km
3°24'O
Larsøya
3°20'O
© Norsk Polarinstitutt 2011


11/17/2009
EU
JA
NA
NW corner… location of all previous operations-Lousy QTH
Image © 2011 GeoEye
© 2011 Europa Technologies
Google earth
Bildedato: 11/17/2009
2008
54°24'25.78" S 3°17'39.33" Ø elevasjon 209 m
Øyehøyde 1.37 km

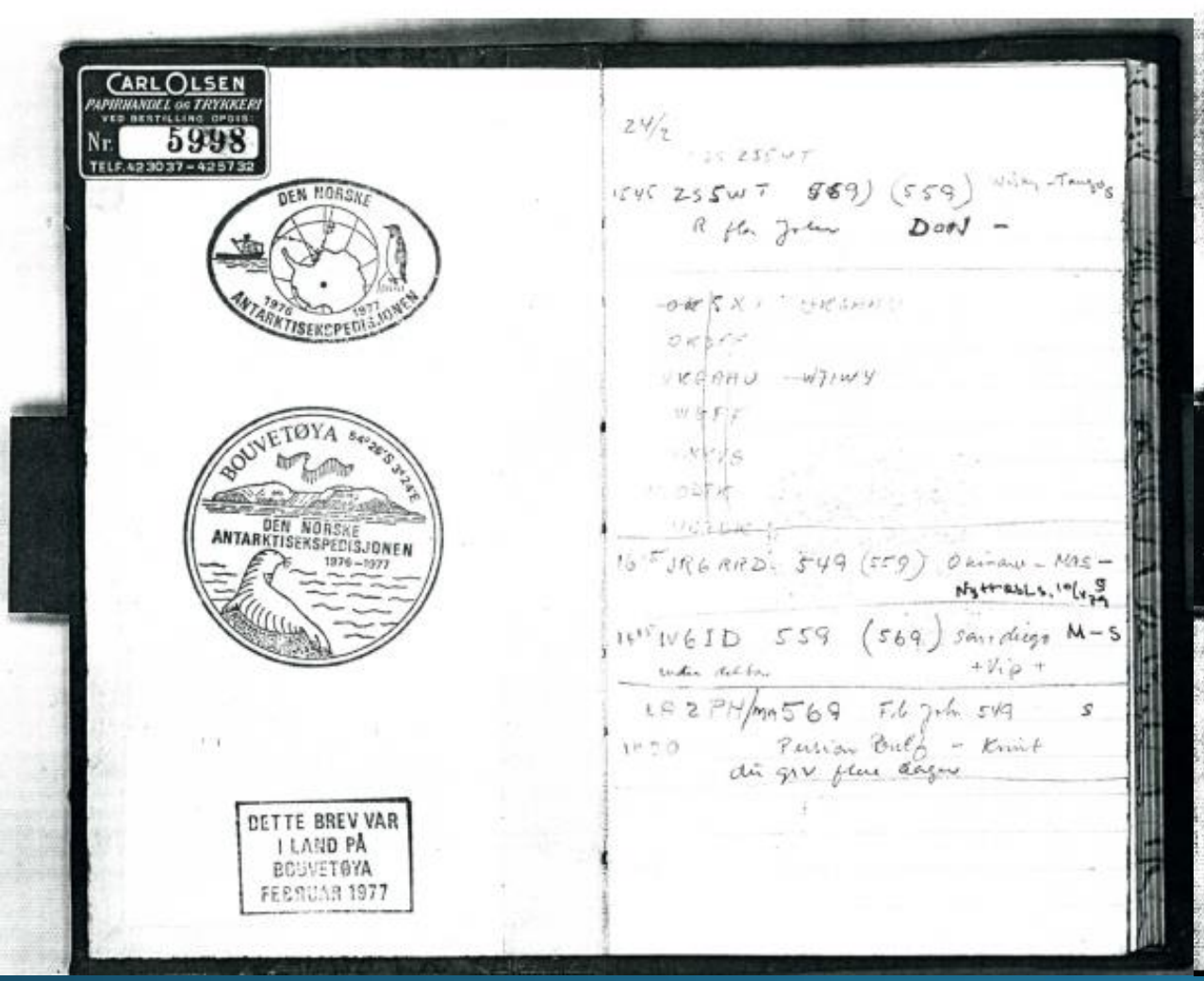
QTH Nyrøysa…this is the location of most previous operations

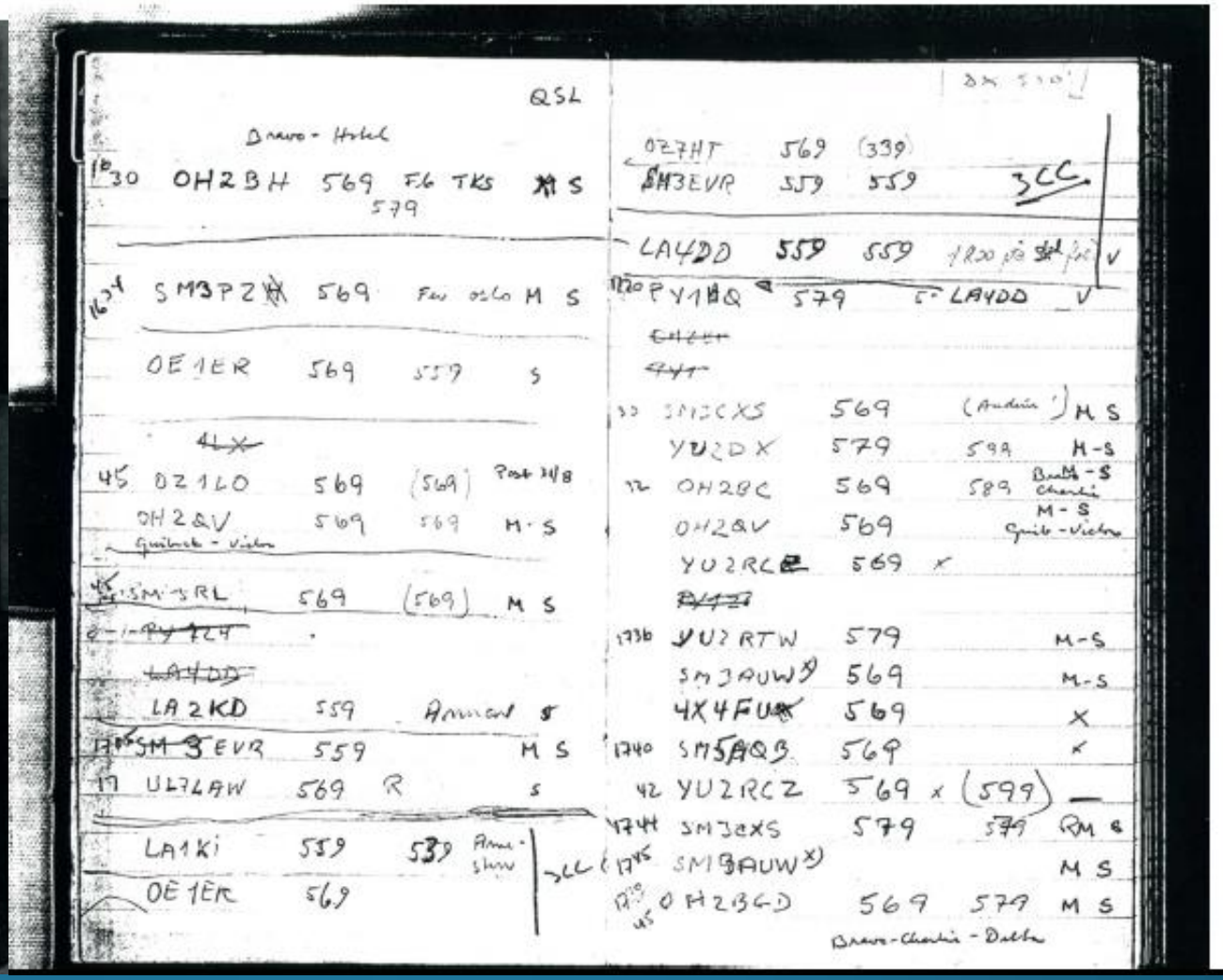
Previous Bouvetøya operations

- 1962 LH4C Gus Browning W4BPD – No documented landing

- 1977 3Y3CC Audun Hjelle 5 Q's
- 1977 3Y1VC John Snuggerud 27 Q's
- 1978 3Y5DQ Thor Winsnes 550 Q's
- 1978 3Y1VC John Snuggerud 1.930 Q's
- 1989/90 3Y5X by Club Bouvet 47.000 Q's
- 1997 3Y2GV Kåre Pedersen 200 Q's
- 2001 3Y0C Chuck Brady 17.000 Q's
- 2007 3Y/ZS6GCM ?? Q's

The 3Y1VC and 3Y3CC logs from 1977

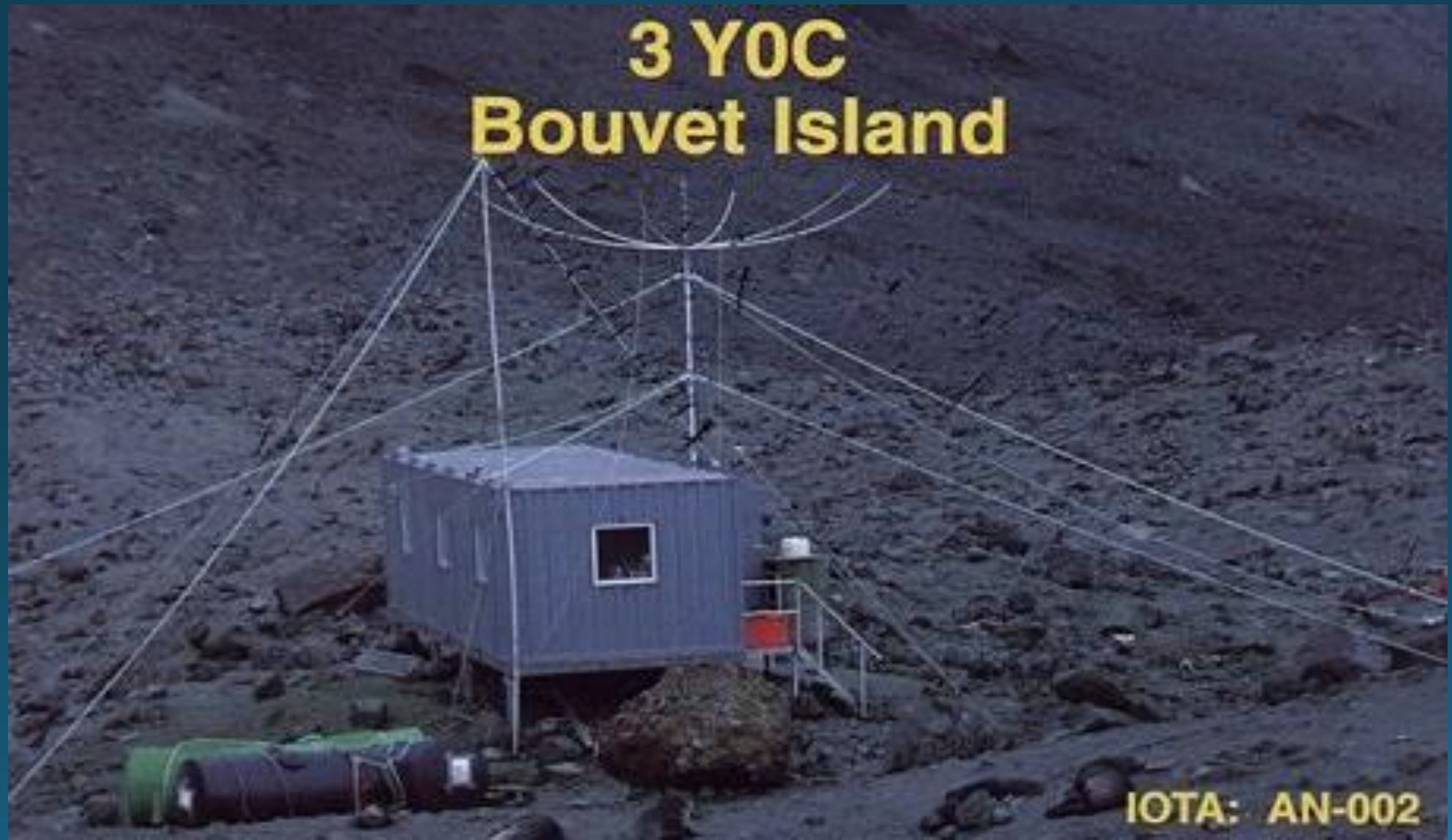




1990 3Y5X: 5 men, 16 days, 47,000 Q's

Nyrösa; New Rubble, bears its name with pride

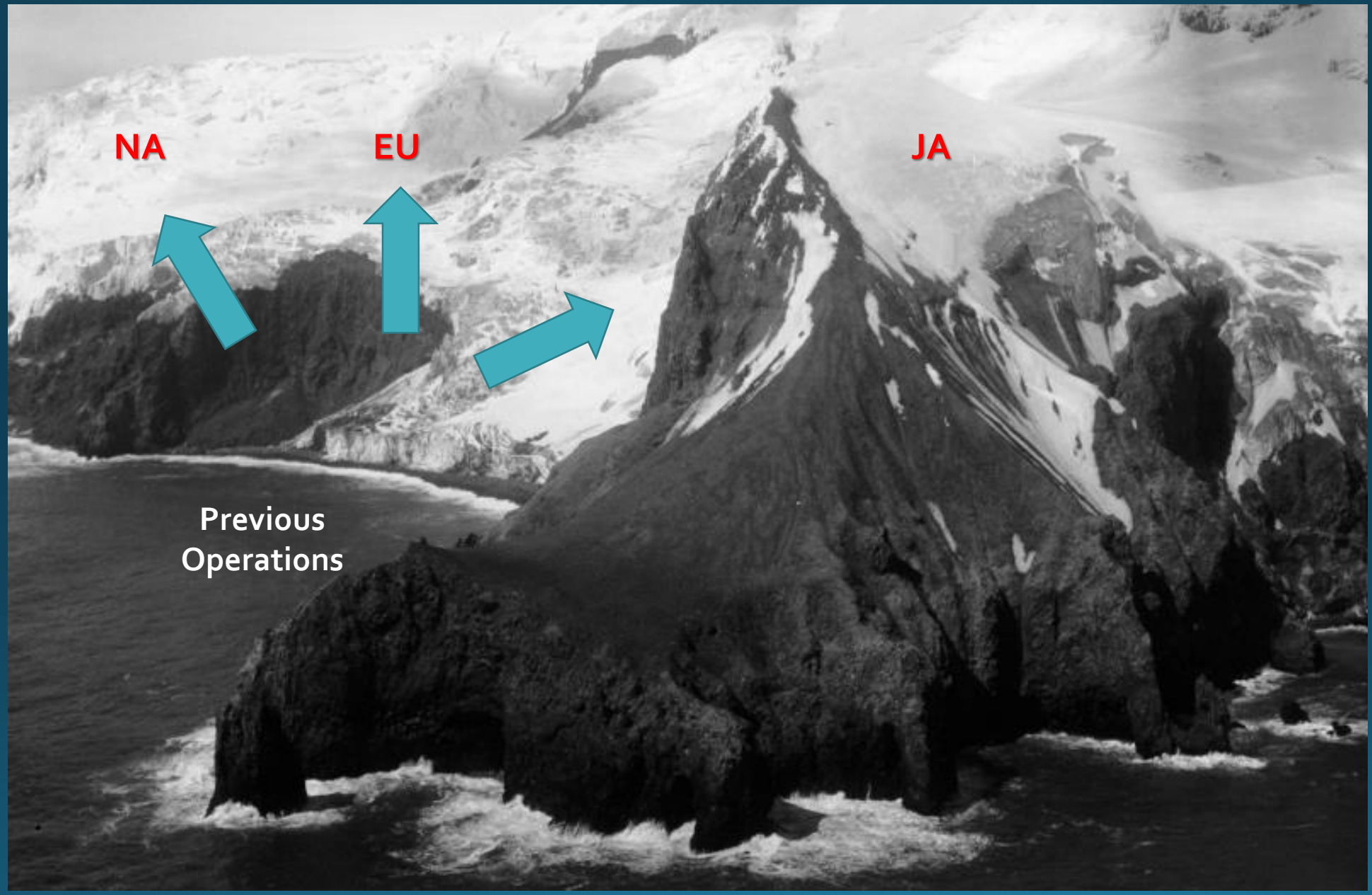
2001 N4BQW, 3 months, 17,000 Q's.



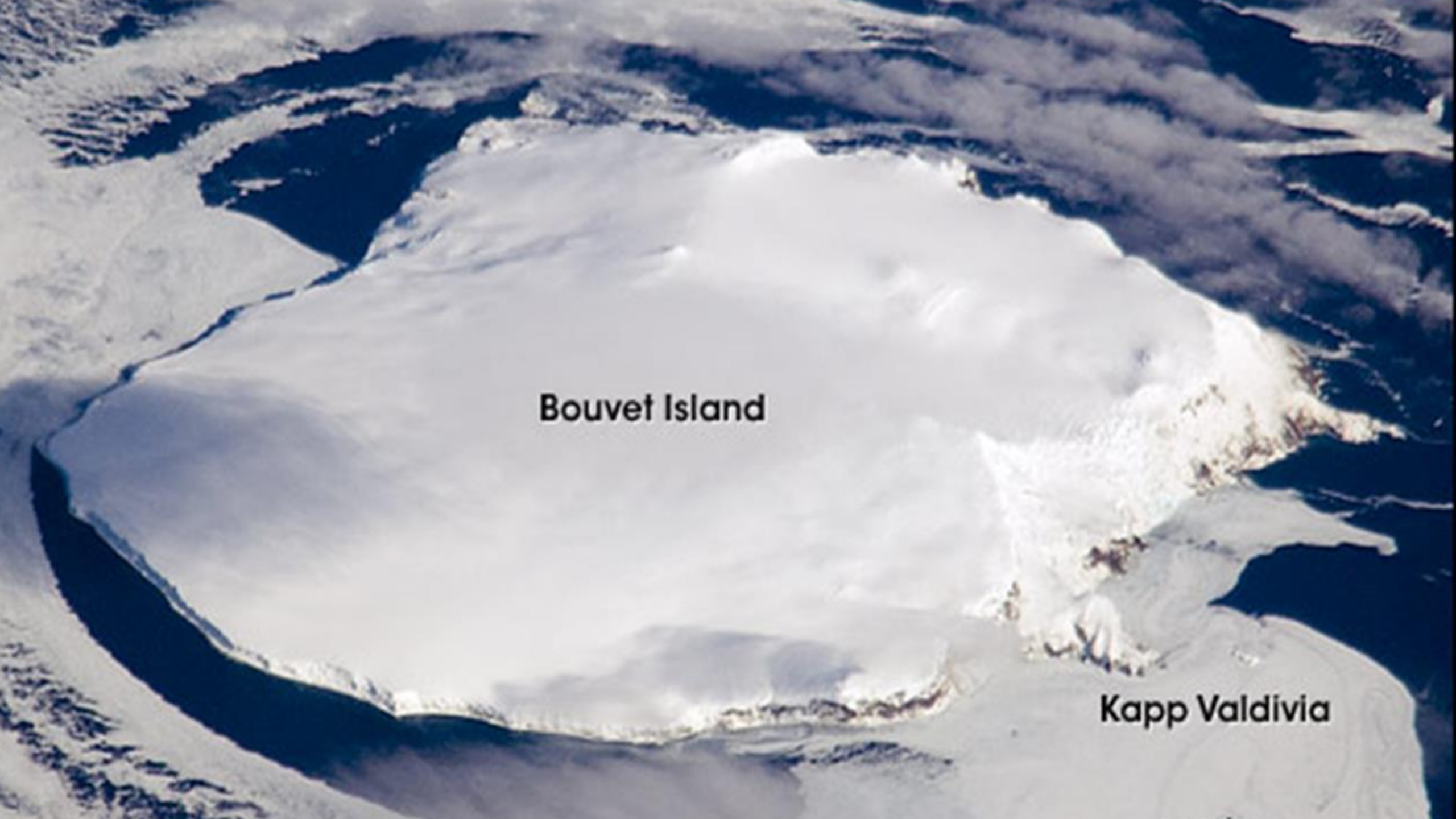
The new NPI station

The new NPI station

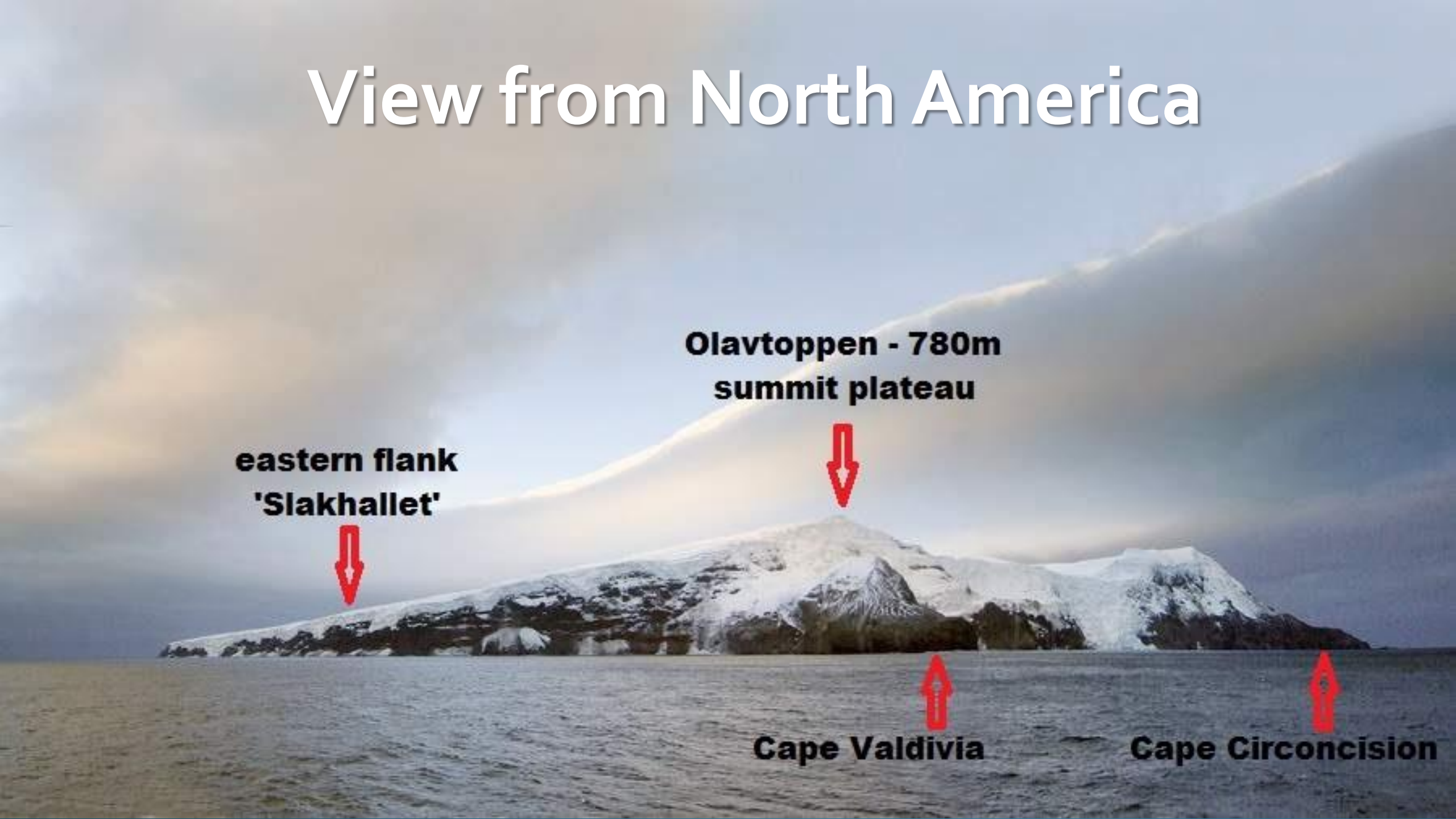
?


NA
EU
JA
Previous
Operations

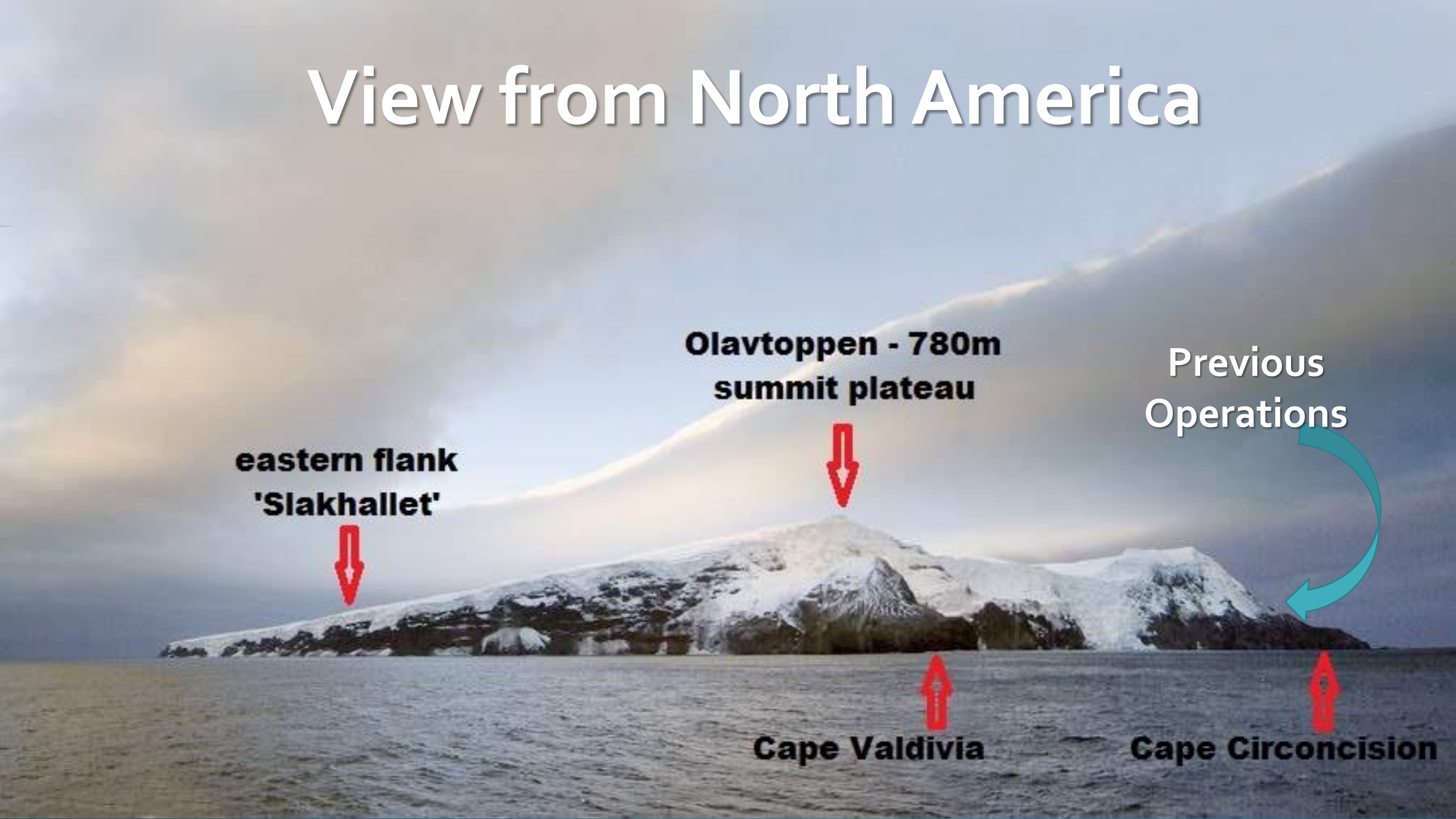
Cape Valdivia, where one expedition planned to stay


Bouvet Island
Kapp Valdivia

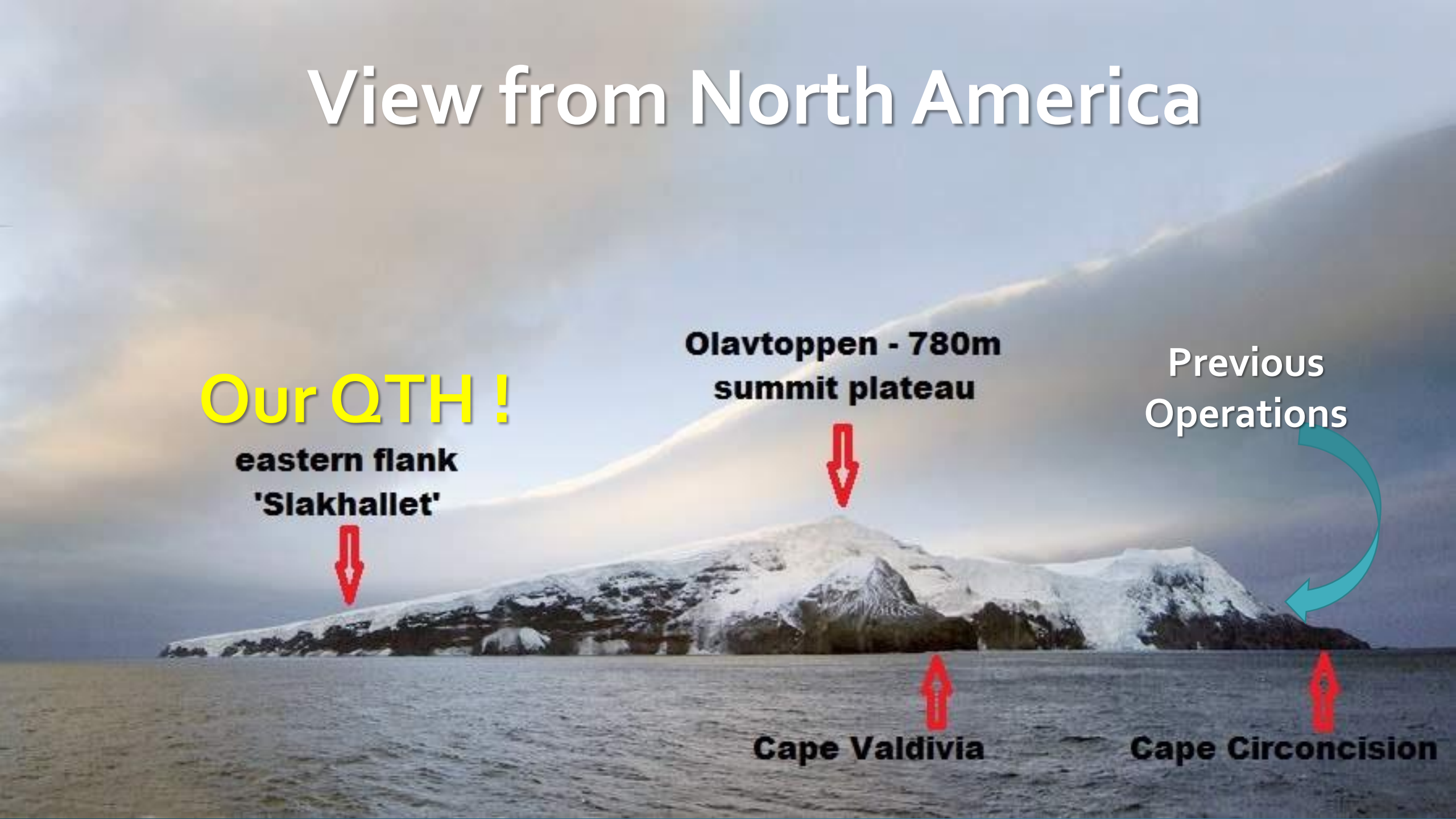
View from North America

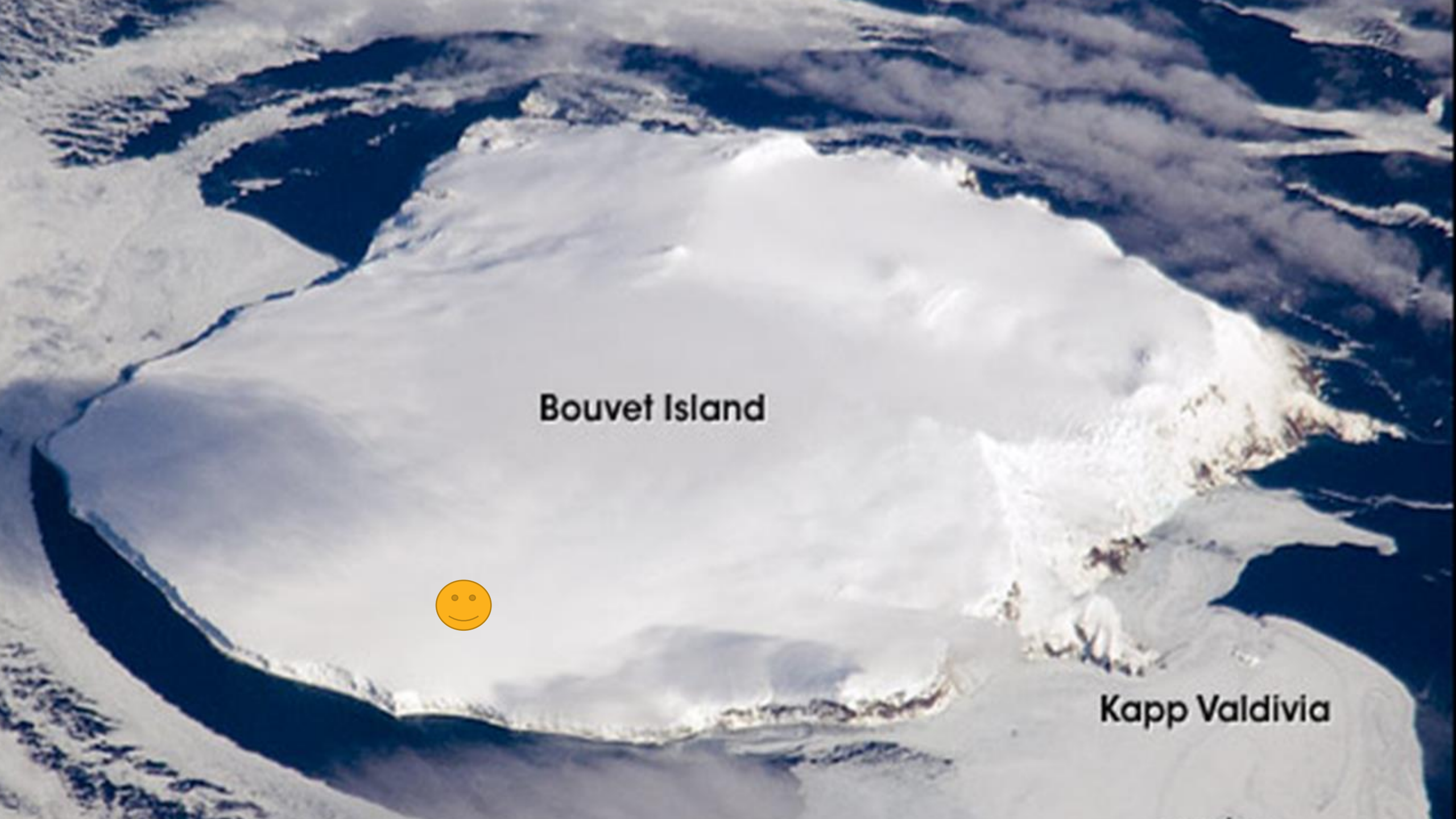


View from North America



View from North America



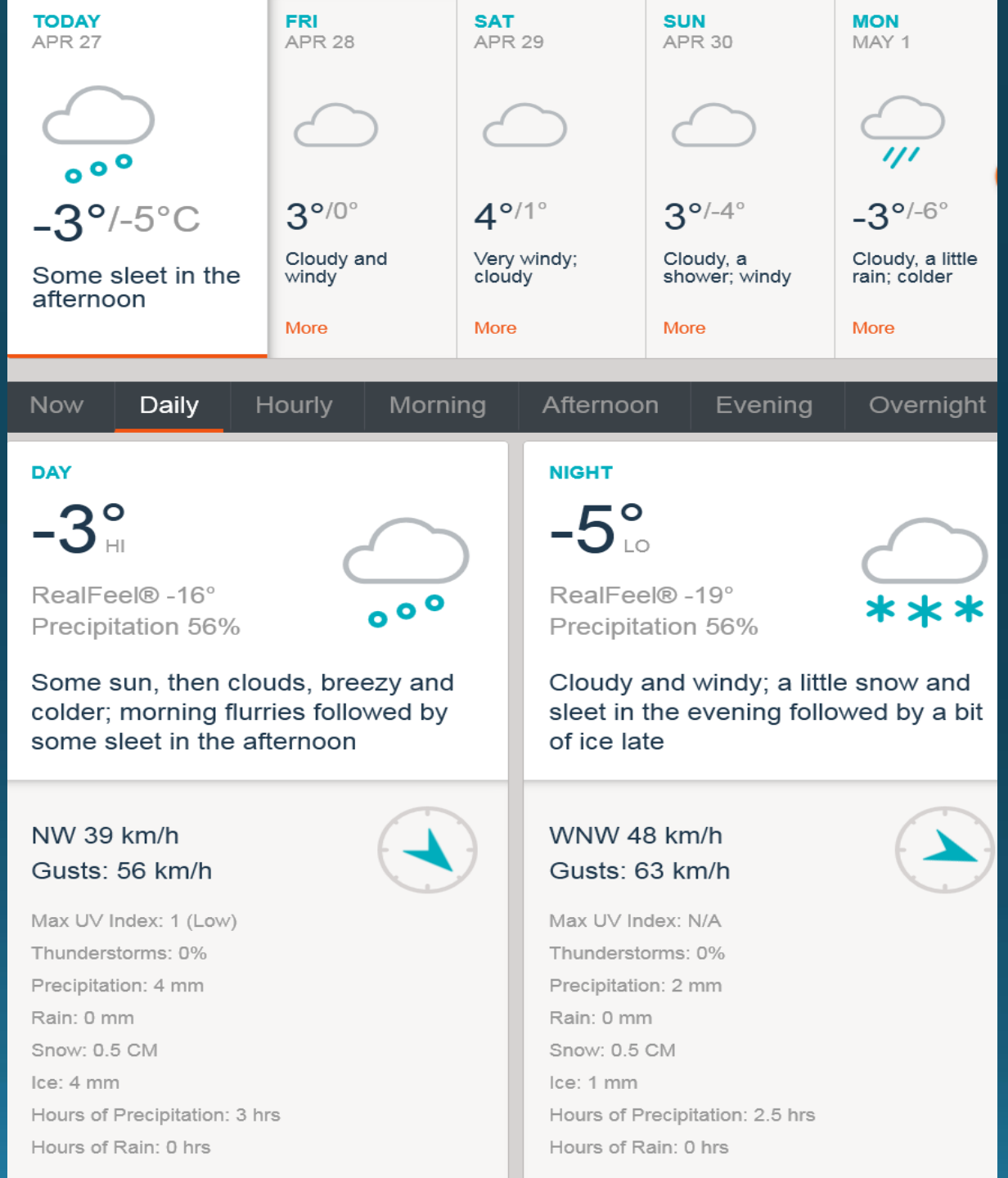

Bouvet Island
Kapp Valdivia

Our QTH
Previous
Bouvetøya
Larsøya
Norvegia-
odden
Nyrøysa
Krater-
isen
Slakhallet
Olavtoppen
780m
Kapp
Meteor
Kapp
Circoncision
Kapp Valdivia
ATLANTERHAVET
0
2 km
© Norsk Polarinstitutt 2011

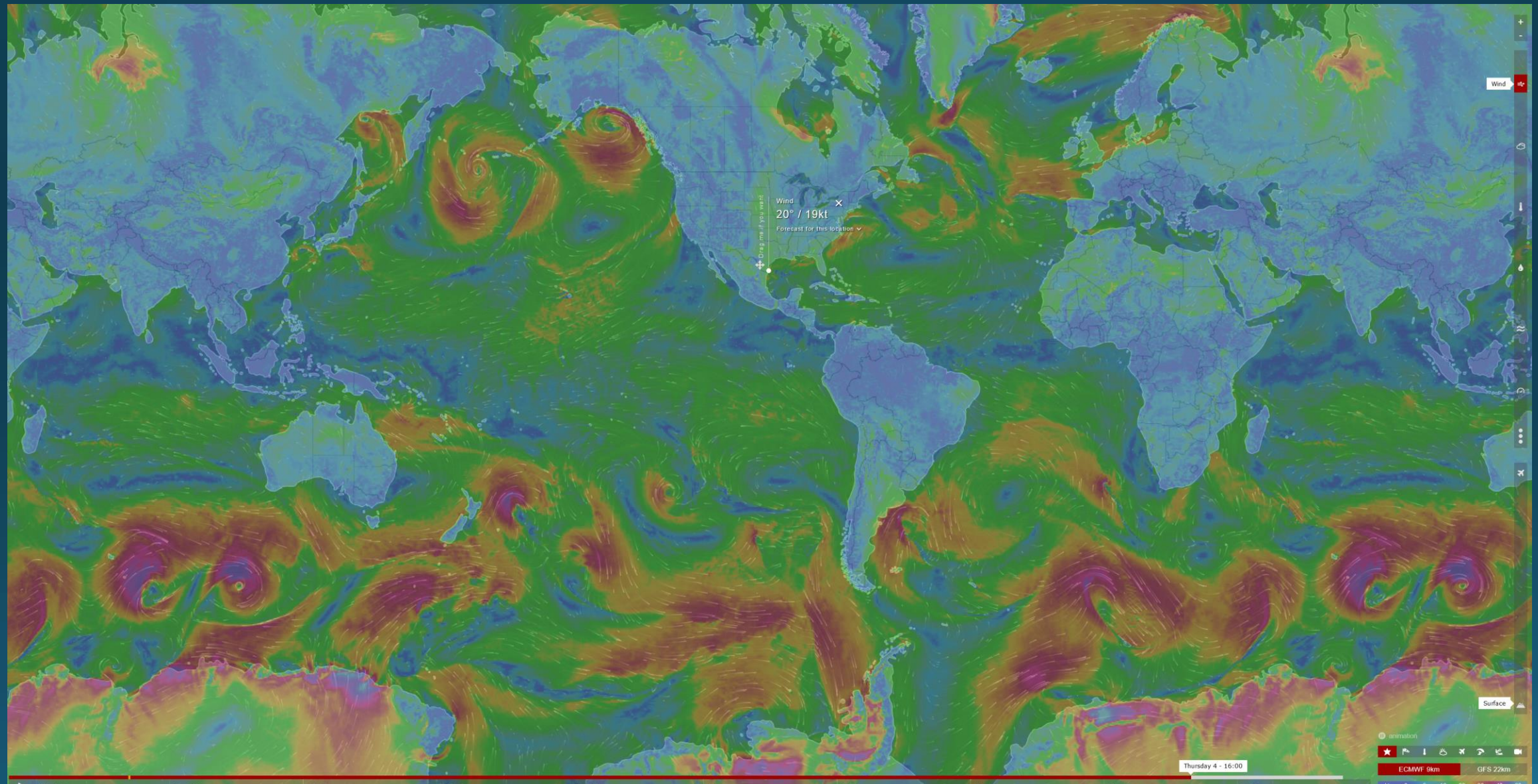
The Challenges:

- A landing permit and license---easy!
- Transportation (helo required)---Difficult
- A competent, experienced team---Difficult
  ($18,000-20,000, 7-8+ weeks away)
- A huge budget---Difficult
- SAFETY must be paramount---Difficult
- Extreme weather, rapid changes---Difficult
  - 300 storms/year
- Propagation challenges---Difficult

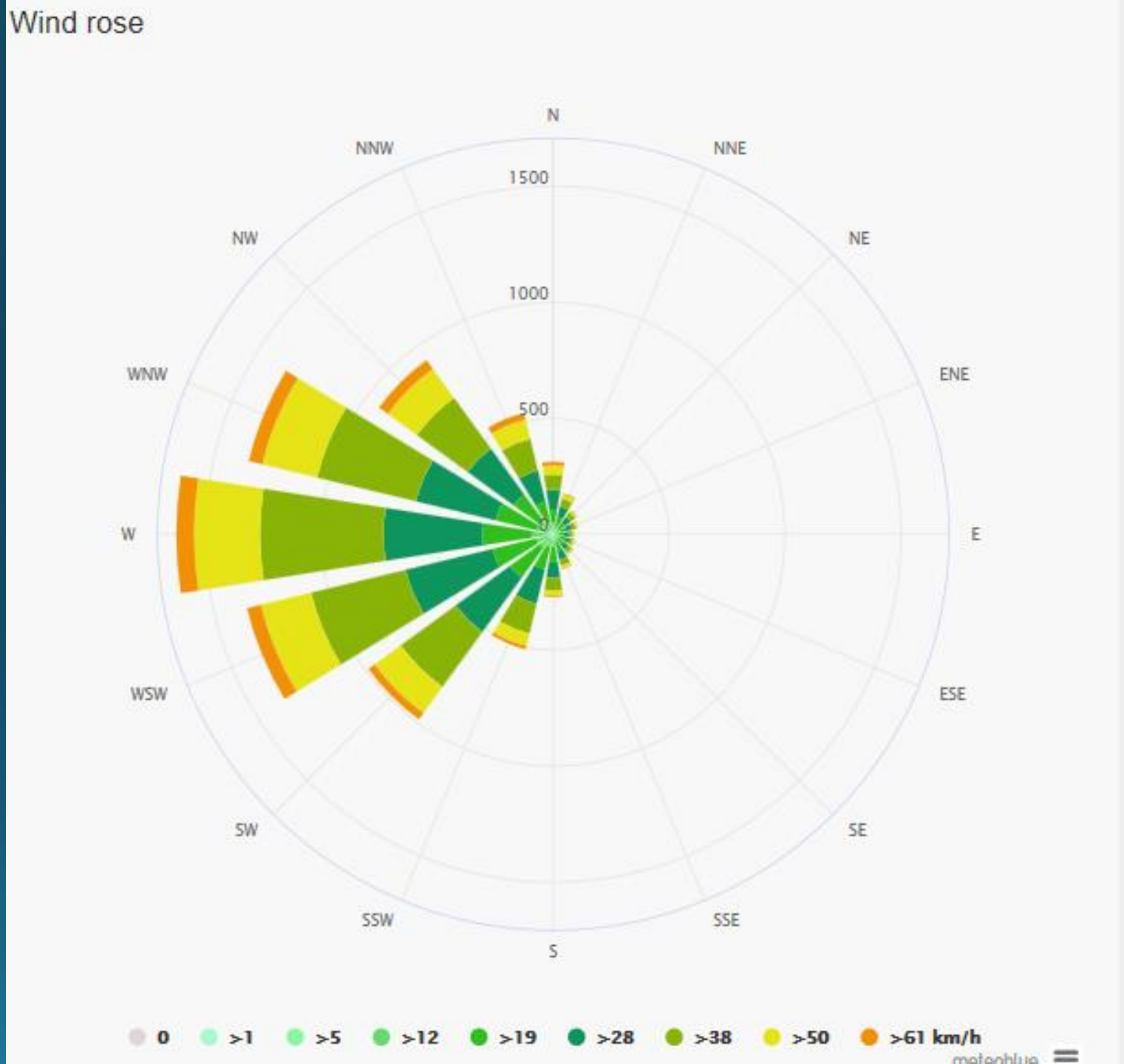
Bouvetøya WX now



Weather: 300 storms/year !



Annual Wind Rose



2006 Mountaineering Expedition Landing

Helicopter ---our lifeline

m/v Betanzos (home port-Punta Arenas, Chile)

m/v Betanzos (home port-Punta Arenas, Chile)

200’ x 33’ - 1438T
6 kt

m/v Betanzos (home port-Punta Arenas, Chile)

200’ x 33’ - 1438T

6 kt

15 days

Tried and True….experienced ops
(4,600,000 QSOs)

Guaranteed: 21 days AT Bouvet

- 14-15 days TO Bouvet
- 21 days AT Bouvet
  - Weather windows – could be days
  - Best scenario – 12-14 days of operation
- 15-16 days RETURN

Minimum 7 weeks

INCREDIBLE SUPPORT !!!

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DX® ENGINEERING

- Antennas
- Masts
- Coax

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- Masts
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- Masts
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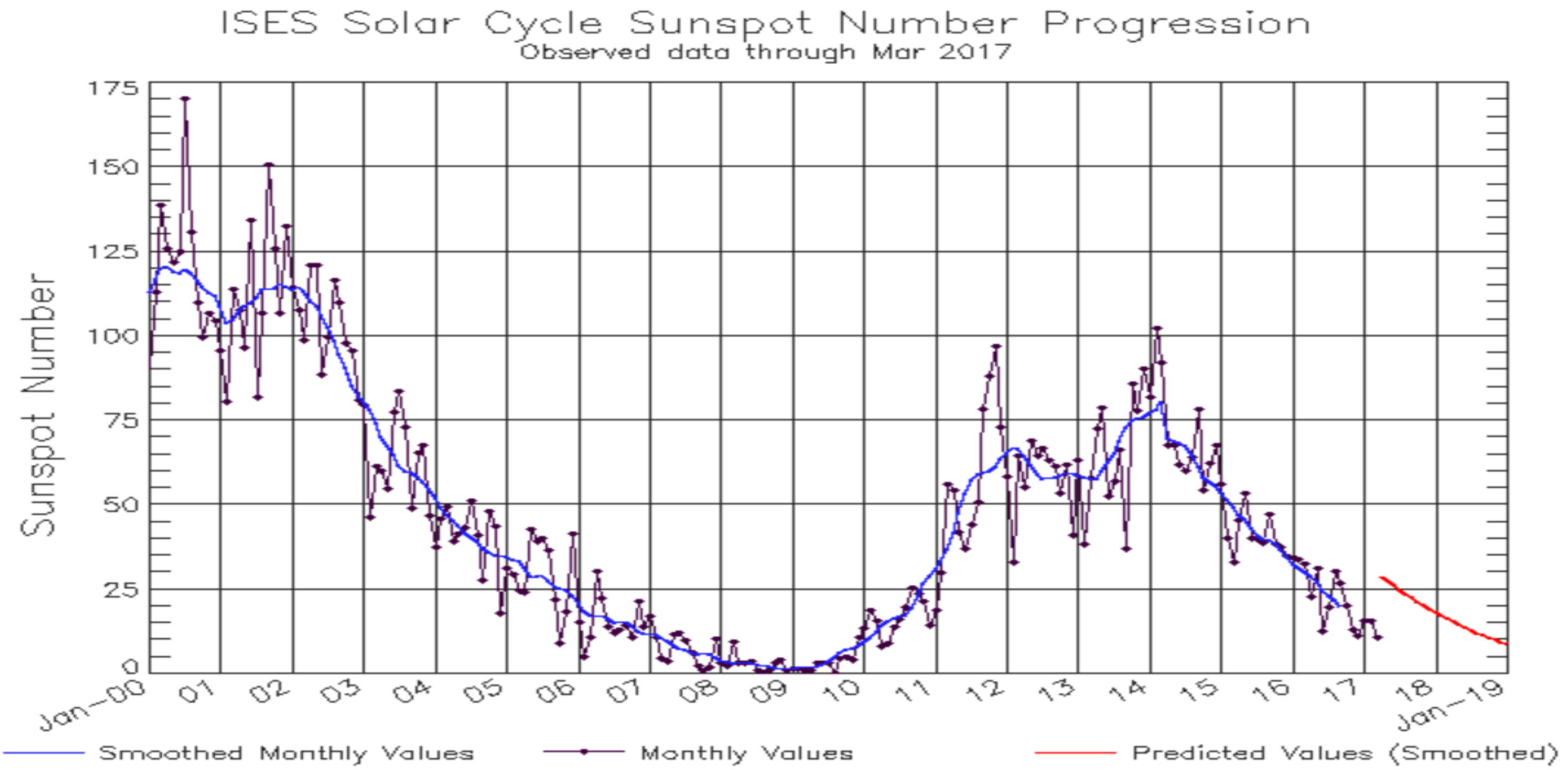
FlexRadio Systems®
Software Defined Radios

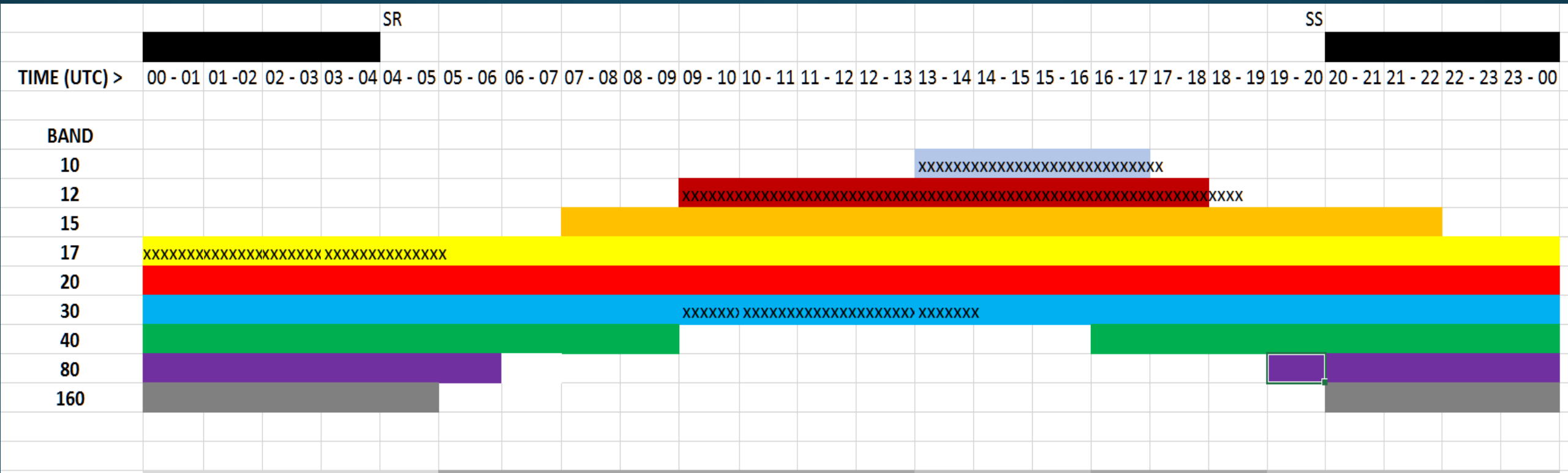
Masts

Falling derrick – engine block test

Sunspot Number Progression



Propagation Analysis

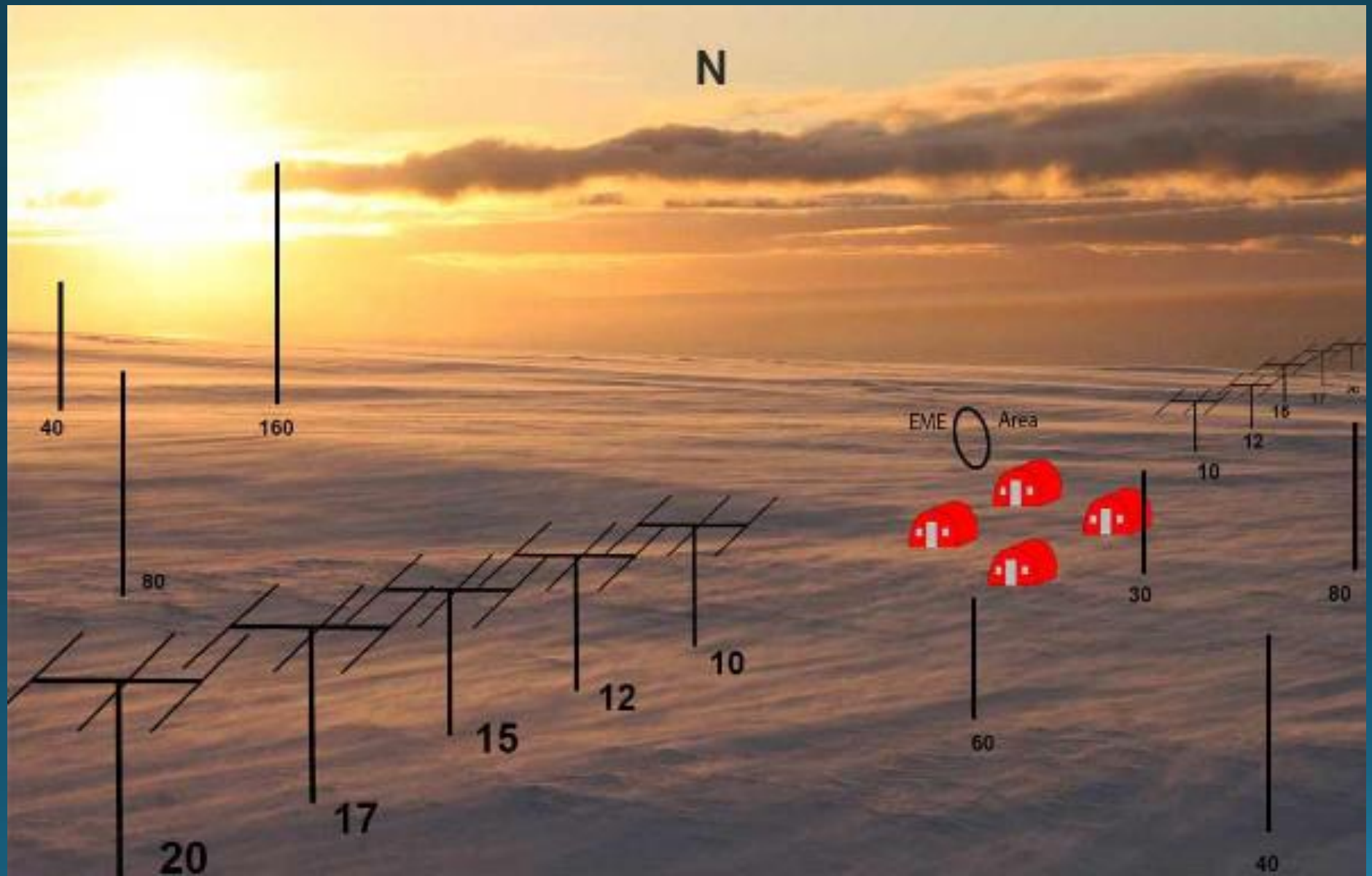


Nine stations could be active at any given time.

xxxx indicates light or lower probability opening.

EME stations not included in this analysis

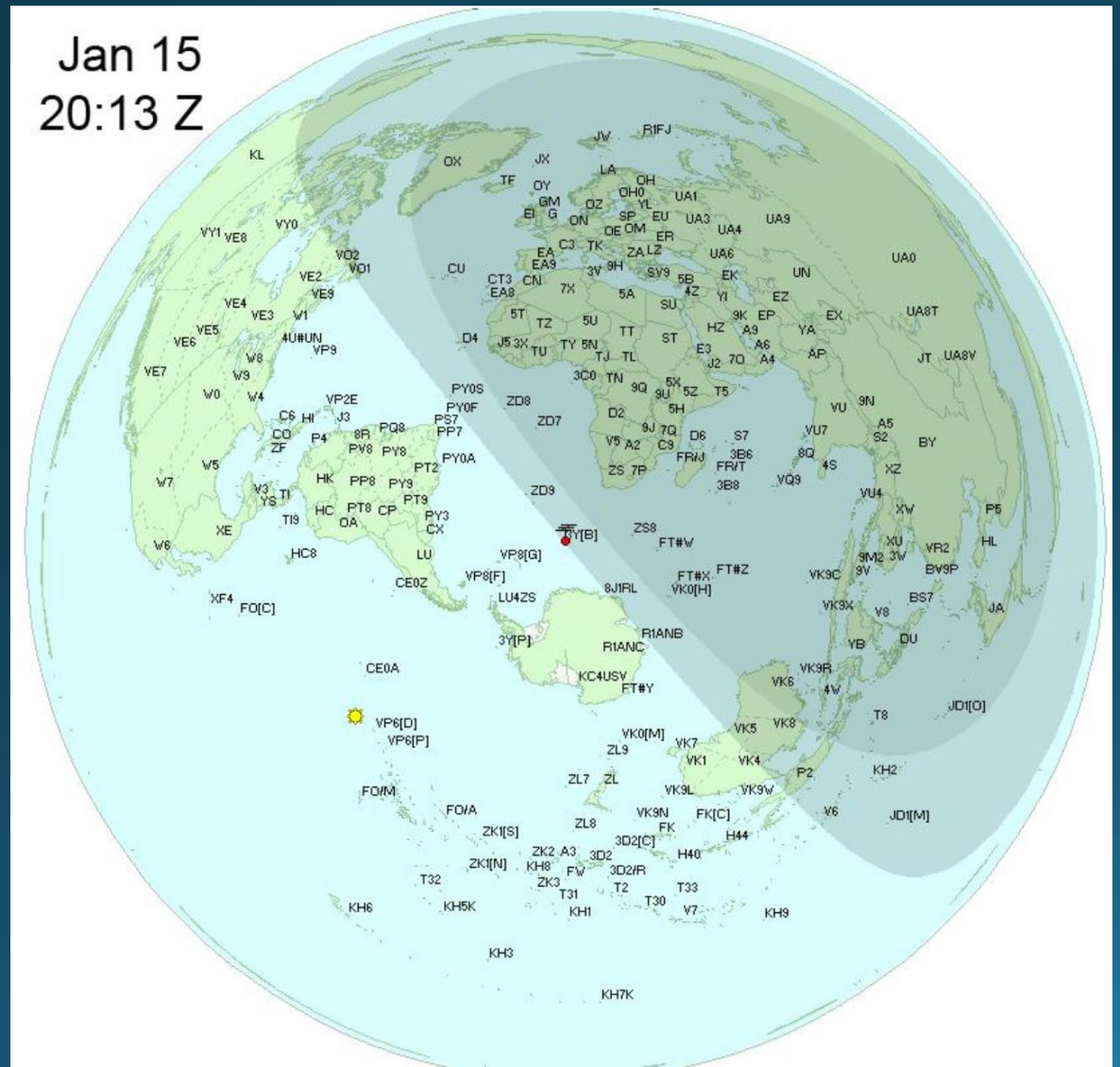
Antenna layout

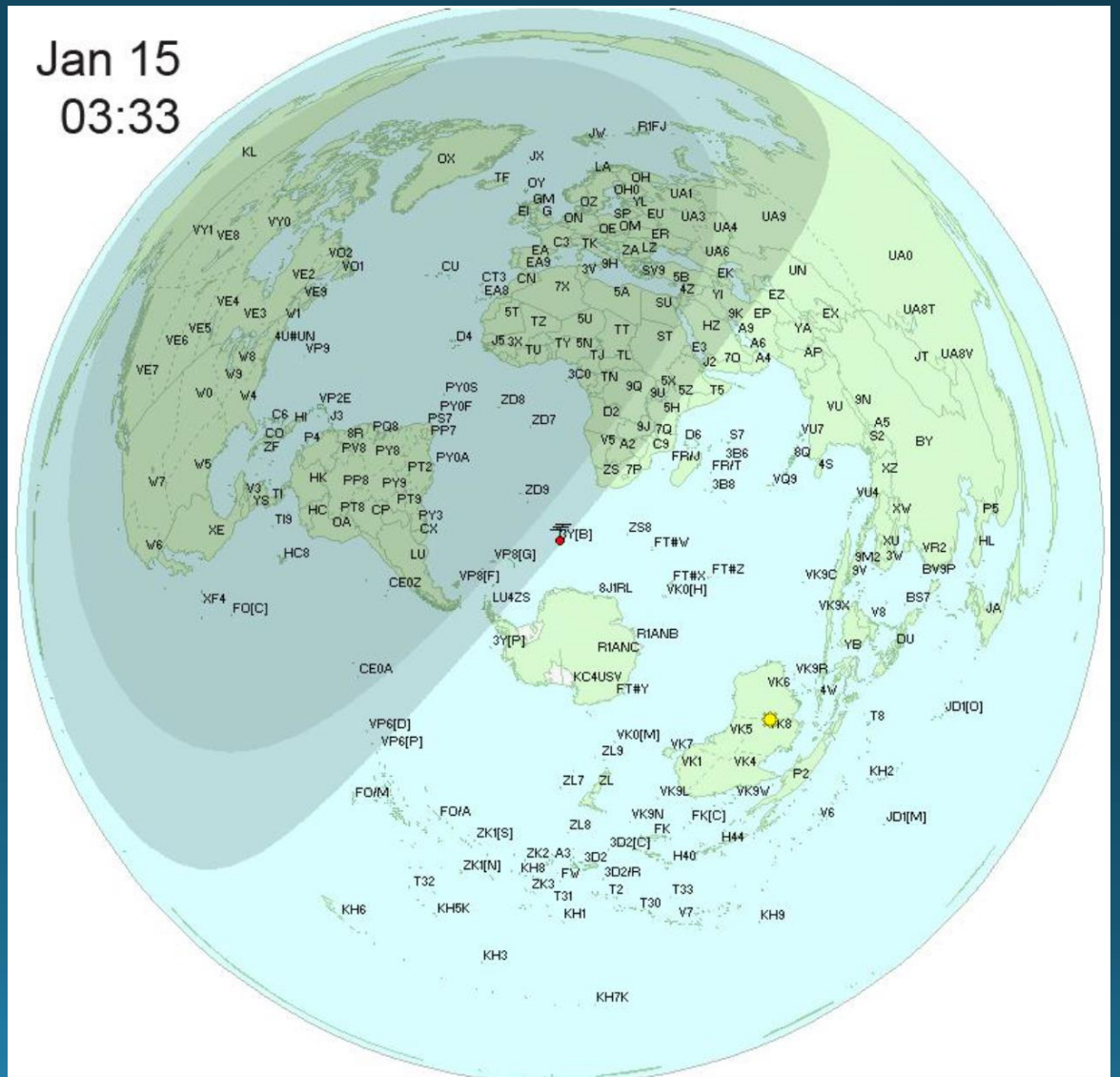


Operation

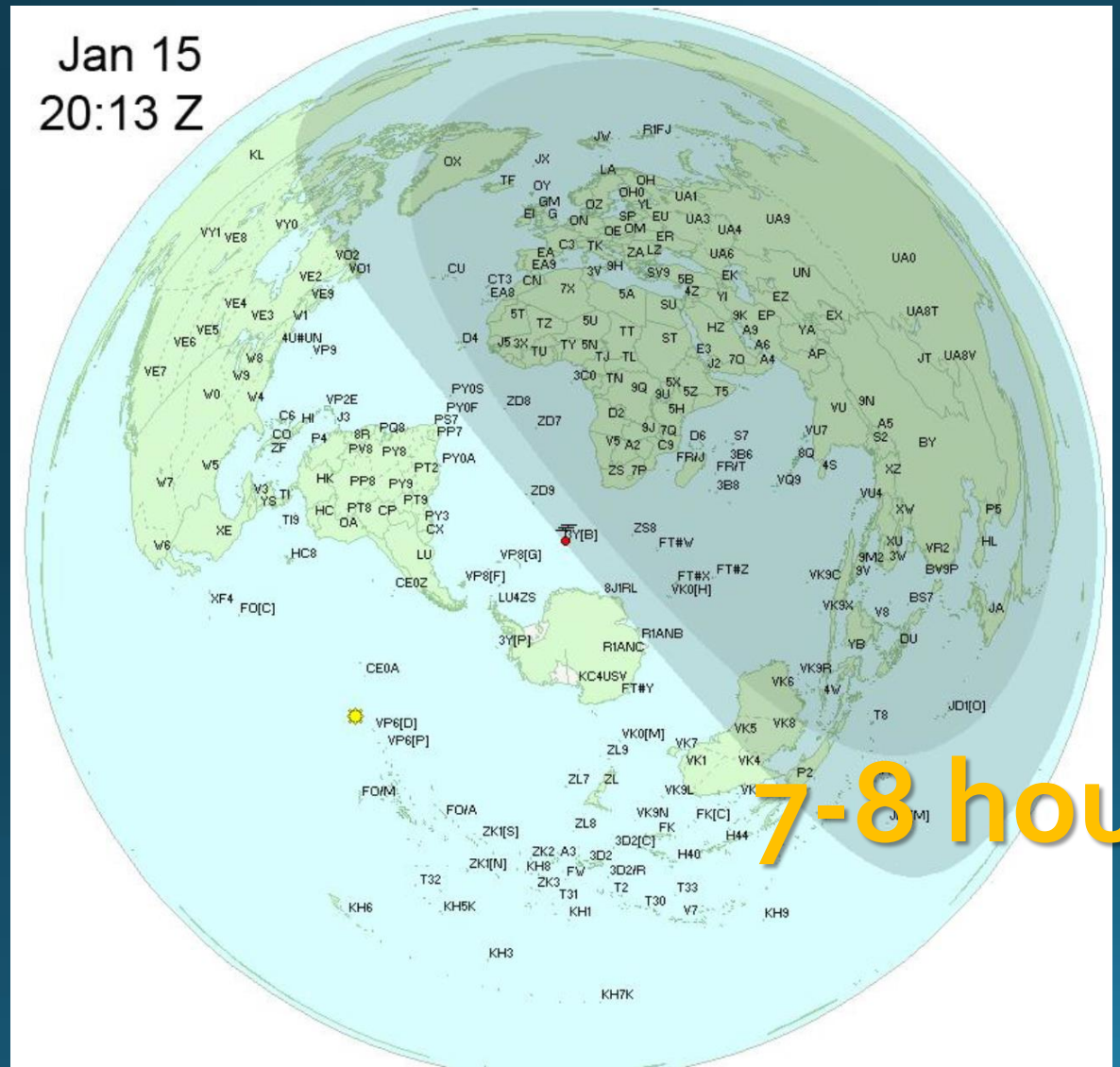
- 9 stations
- 160 – 10m
- 6 and 2m EME
- CW, SSB, RTTY
- 8 HF stations Flex 6500 with 1.5 kW Flex amplifiers
- 1 stn 2m, Flex 6700 with 1kW amplifier
- 3 ele monoband yagis for 20-10m
- Verticals for 160, 80, 60, 40 (4-SQ) and 30m
- Yagi arrays for 6 and 2m

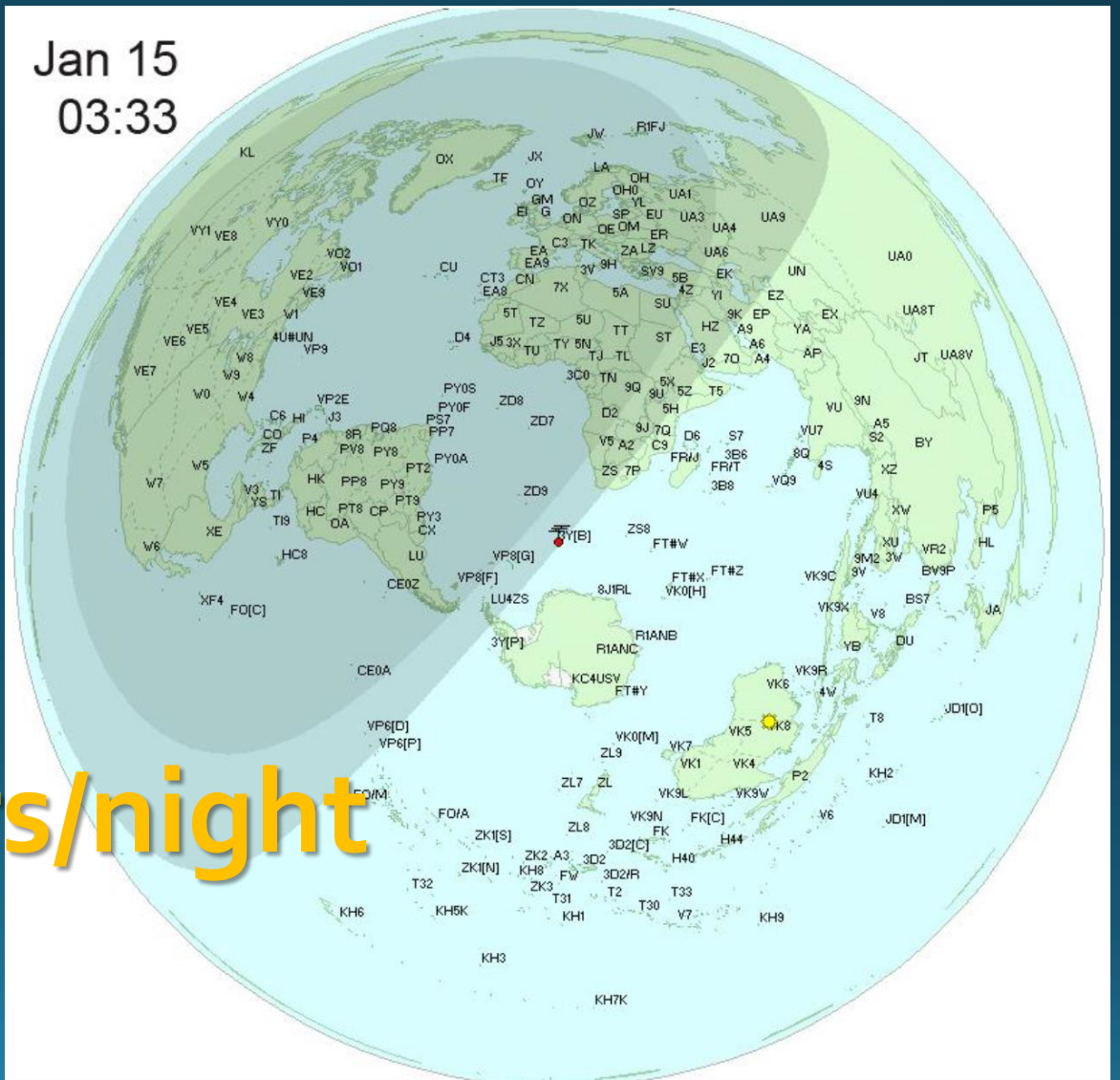
Gray line





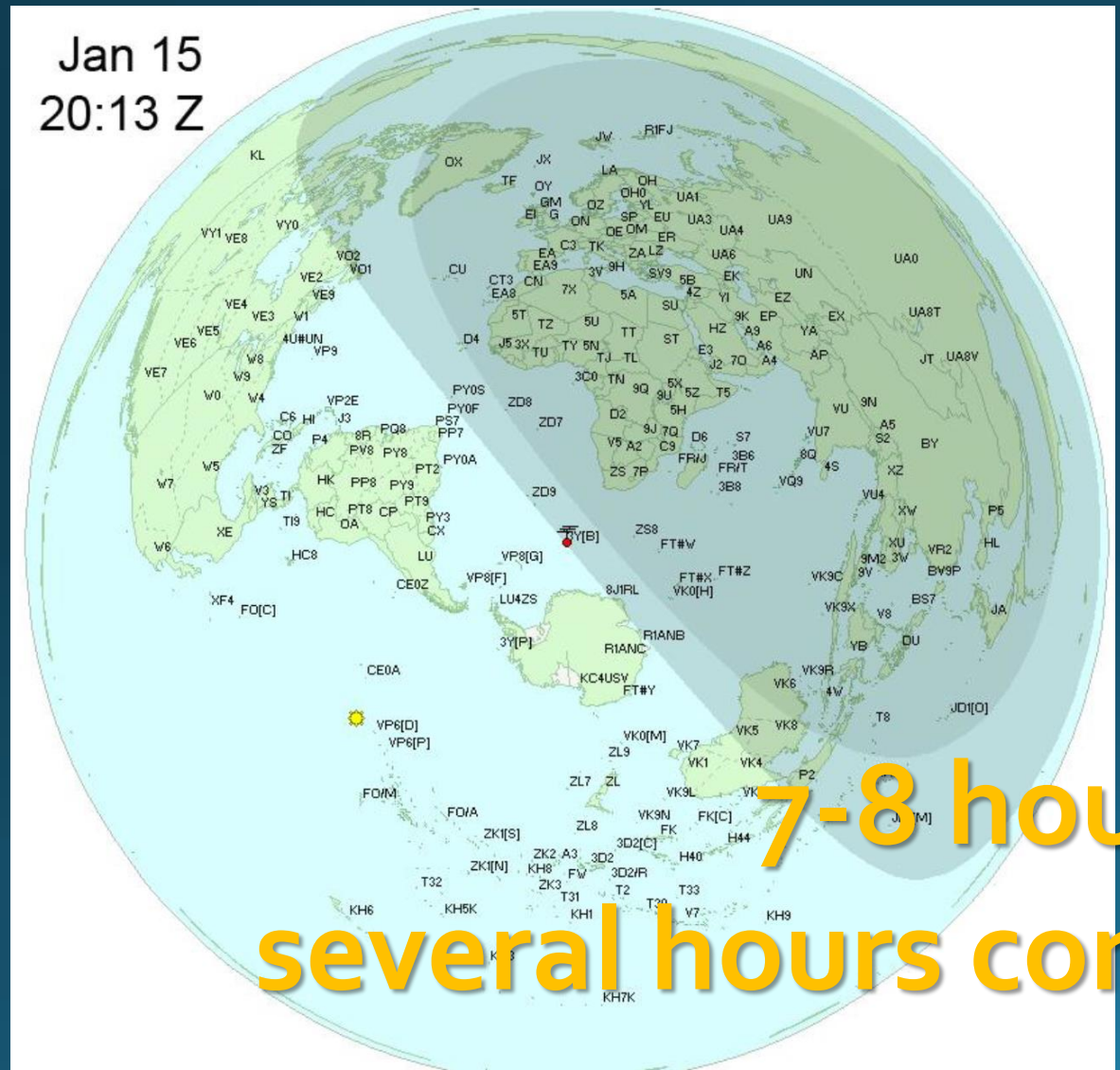
Gray line





7-8 hours/night

Gray line

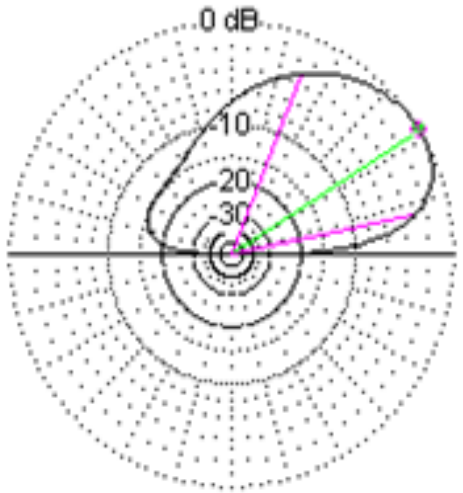


7-8 hours/night

several hours common darkness !!!

160M Beam

* Total Field
Horizontal Pol
Vertical Pol

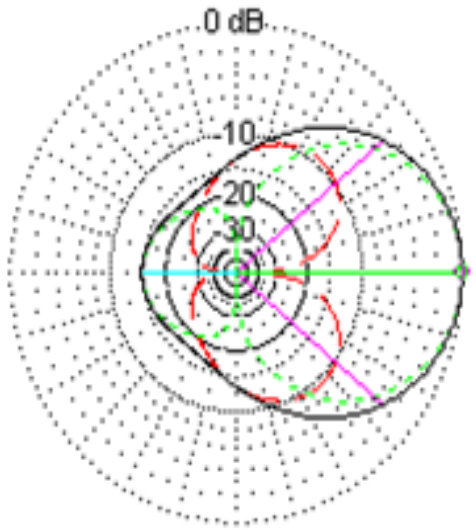


EZNEC Pro/2

1.832 MHz

Elevation Plot		Cursor Elev	32.0 deg.
Azimuth Angle	0.0 deg.	Gain	3.55 dBi
Outer Ring	3.55 dBi		0.0 dBmax
Slice Max Gain	3.55 dBi @ Elev Angle = 32.0 deg.		
Beamwidth	56.4 deg.; -3dB @ 11.3, 67.7 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		

* Total Field
Horizontal Pol
Vertical Pol



EZNEC Pro/2

1.832 MHz

Azimuth Plot		Cursor Az	0.0 deg.
Elevation Angle	32.0 deg.	Gain	3.55 dBi
Outer Ring	3.55 dBi		0.0 dBmax
Slice Max Gain	3.55 dBi @ Az Angle = 0.0 deg.		
Front/Back	14.97 dB		
Beamwidth	77.6 deg.; -3dB @ 321.2, 38.8 deg.		
Sidelobe Gain	-11.42 dBi @ Az Angle = 180.0 deg.		
Front/Sidelobe	14.97 dB		

160M Beam

Antenna parameters:

Reflector: 264.0 feet

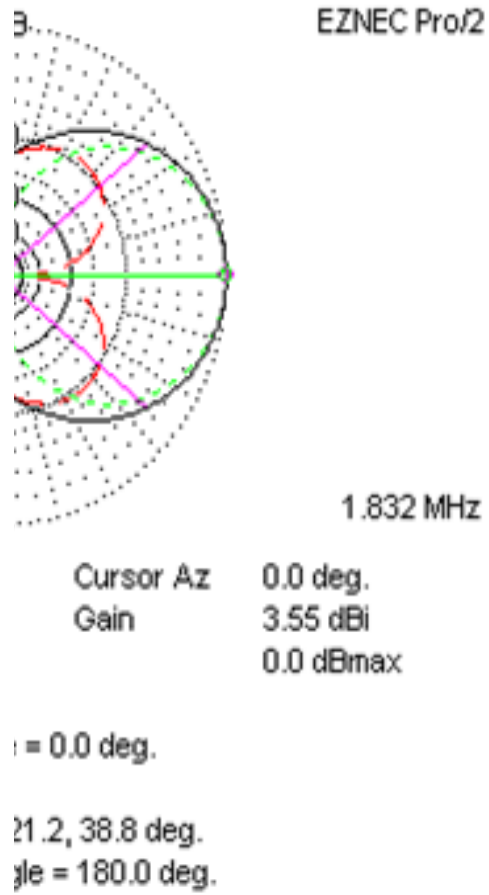
Driven Element : 255.5 feet

Director: 240.0 feet

Spacing:

Reflector – Driven Element 100 feet

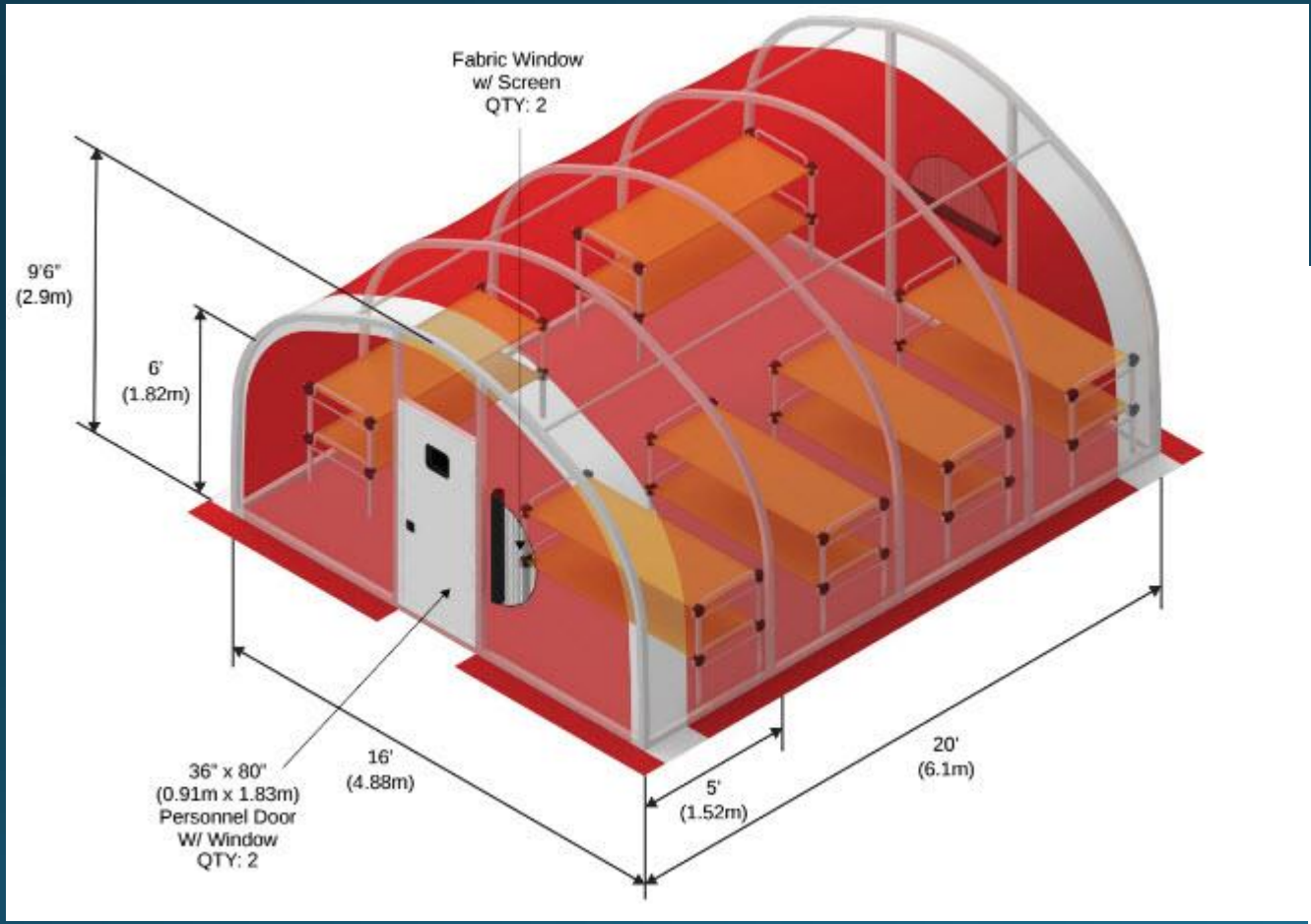
Reflector – Director 204 feet

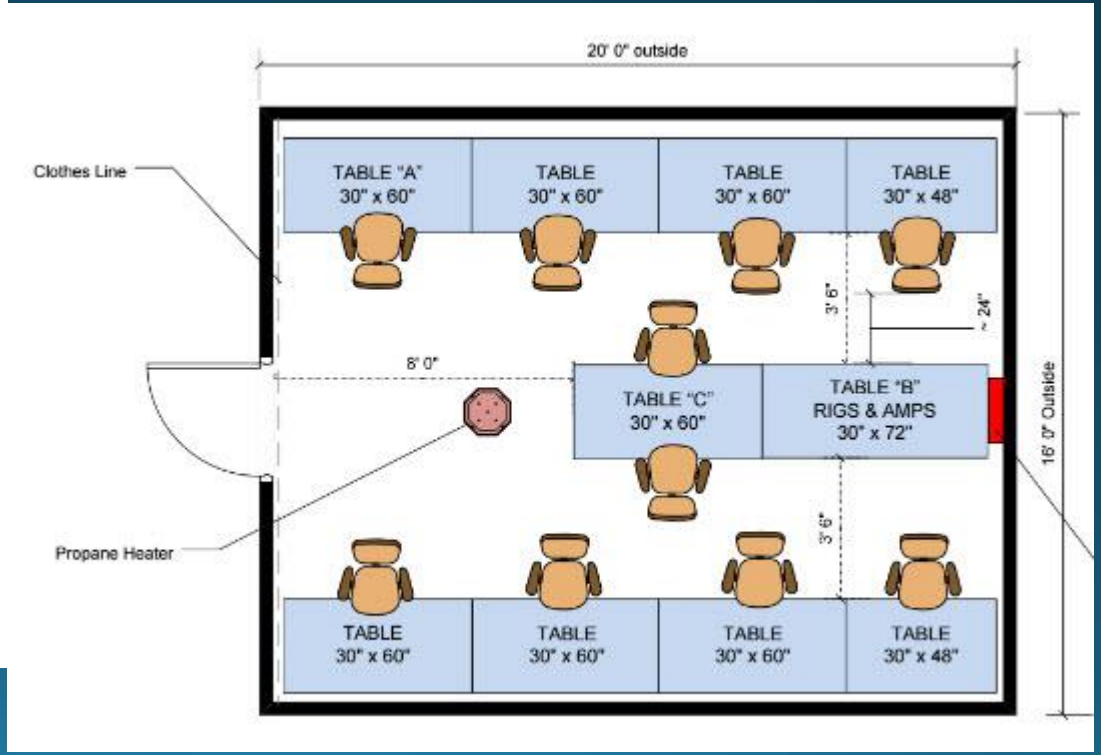



EME From Bouvet

Shelters

Two sleep shelters , one operating shelter and a MEG shelter





The Budget…..

- Expenses $741,000+ (most expensive yet!)
- $650,000 for vessel, helicopter, pilot, crew
- Most $$$ due upfront

Income…

- The Operators committed to--- 50 %
- DX Community---the remainder
  - Includes DX Foundations---(NCDXF, INDEXA, GDXF, Chiltern DXC, etc.)
  - DX Clubs worldwide---70% from NA
  - INDIVIDUAL DXers---worldwide
  - QSLing process--- Direct QSL requests + OQRS (preferred)
  - Souvenir Sales---

How you can help…

- Donate NOW! www.bouvetdx.org
- Encourage your local Clubs to donate
- Include more than return postage in your direct QSL requests
- Use OQRS…include an additional contribution.


BAND
CONDITION
SPRAY
DESIGNED TO
ENHANCE HF
PROPAGATION
WORK RARE DX EASILY
WORKS FOR ALL MODES
WILL NOT DAMAGE
THE IONOSPHERE
LICENCED AMATEUR
USE ONLY

January 2018….

CU in the PILEUPS!

73, de 3YØZ


The Bouvet Island DXpedition 2018
3YØZ
The Most Remote Island on Earth

Hey, hold it right there…. we're not finished!

Aren't there other parties also planning to go to Bouvetøya…?

The list is long… it will get crowded….

- 3Y0G : ON4WW, License valid January 1 to April 30, 2017
  Originally based on helo landing, but has no valid landing permission as of today.
  Some say that Mark is not planning to go "this year".

- 3Y0H : RA9USU; license valid from January 1, 2018 to February 28, 2018.
  Has helo landing permission, November 2017 to February 2018

- 3Y0I : 3Z9DX, license valid from January 13, 2017 to December 31, 2017
  Sailboat with Zodiac landing, no landing permission required.

- 3Y0Z : LA6VM, KoIR, K4UEE, etc, license valid December 1, 2017 to April 30, 2018
  Has helo landing permission

2006 Mountaineering Expedition Landing

Beach Boys.....

But it is not that easy …

- Through the years a number of persona have announced plans to go to Bouvet

- The problem is not to get a landing permit or a license
  - Anyone will get these for the asking

- The problem is to get there, to land with the required operators and equipment, and to return safely

  … and at an "affordable" cost!

www.bouvetdx.org