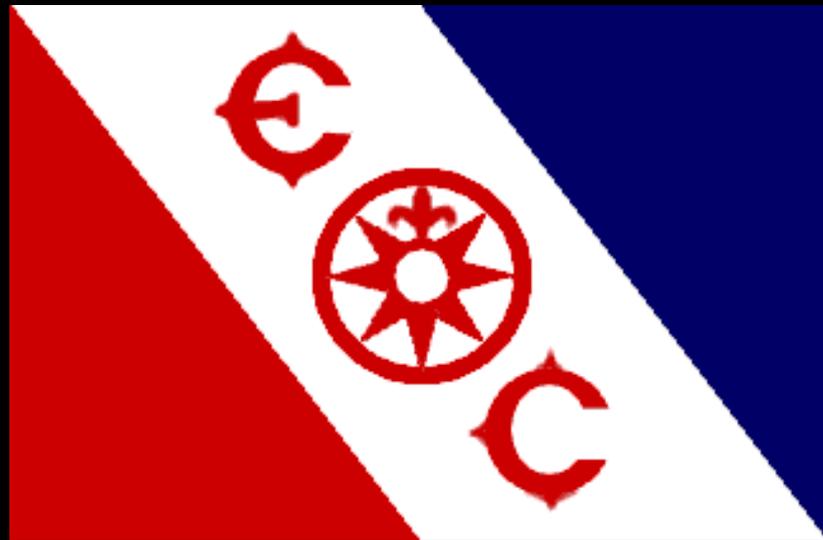


Heard Island 2016

Robert W. Schmieder
Cordell Expeditions



Explorers Club

18 Nov. 2016



 **Heard Island**

The 1997 Expedition that broke all the records and defined a new spirit of collective pride in Amateur Radio.



VKØIR

VKØIR

Heard Island

ISBN: 0-9626013-7-3

Cordell Expeditions
4295 Walnut Blvd.
Walnut Creek, California USA 94596

by KK6EK



heardisland.org

Photo: Eric Woehler

HEARD ISLAND

The 2016 Cordell Expedition

[This website is active again...](#)

[For the blog maintained during the expedition, go to the DXpedition website](#)

[NEW: Special message from the Expedition Leader](#)

Discovering Life in the Extremes...

VKØEK

Linking the Remote in Realtime...

[HOME](#) [ABOUT](#) [TEAM](#) [NEWS](#) [NEWSLETTER](#) [AUDIOLOG](#) [DXA](#) [QSLs](#) [SOUVENIRS](#) [PROJECTS](#) [FAQ](#) [DOCUMENTS](#) [SPONSORS](#) [DONATE!](#)

PERMIT APPLICATION

<p>ENVIRONMENTAL APPROVALS APPLICATION FORM</p> <p>Department of the Environment and Heritage 100 Macquarie Street, Sydney, NSW 2000 Tel: (02) 9231 3111 Fax: (02) 9231 3112 www.environment.nsw.gov.au</p> <p>Section 1: Applicant Information</p> <p>Name of Applicant: _____ Address: _____ City: _____ State: _____ Postcode: _____ Phone: _____ Fax: _____ Email: _____</p> <p>Section 2: Project Information</p> <p>Project Name: _____ Location: _____ Project Description: _____ Proposed Start Date: _____ Proposed End Date: _____</p> <p>Section 3: Environmental Assessment</p> <p>Has the project been assessed under the Environmental Planning and Assessment Act 1979? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide details: _____</p>	<p>Section 4: Environmental Impact Statement (EIS) Summary</p> <p>Has an EIS been prepared? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide details: _____</p> <p>Section 5: Other Approvals</p> <p>Other Approvals Required: _____ Status: _____</p>	<p>Section 6: Environmental Management Plan (EMP) Summary</p> <p>Has an EMP been prepared? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide details: _____</p>	<p>Section 7: Other Information</p> <p>Other Information: _____</p>	<p>Section 8: Declaration</p> <p>I, the undersigned, declare that the information provided in this application is true and correct to the best of my knowledge and belief.</p> <p>Signature: _____ Date: _____</p>	<p>Section 9: Fees</p> <p>Application Fee: _____ Assessment Fee: _____ Other Fees: _____</p>	<p>Section 10: Attachments</p> <p>Attachments: _____</p>
<p>Section 11: Environmental Impact Statement (EIS) Summary</p> <p>Has an EIS been prepared? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide details: _____</p>	<p>Section 12: Other Approvals</p> <p>Other Approvals Required: _____ Status: _____</p>	<p>Section 13: Environmental Management Plan (EMP) Summary</p> <p>Has an EMP been prepared? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide details: _____</p>	<p>Section 14: Other Information</p> <p>Other Information: _____</p>	<p>Section 15: Declaration</p> <p>I, the undersigned, declare that the information provided in this application is true and correct to the best of my knowledge and belief.</p> <p>Signature: _____ Date: _____</p>	<p>Section 16: Fees</p> <p>Application Fee: _____ Assessment Fee: _____ Other Fees: _____</p>	<p>Section 17: Attachments</p> <p>Attachments: _____</p>
<p>Section 18: Environmental Impact Statement (EIS) Summary</p> <p>Has an EIS been prepared? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide details: _____</p>	<p>Section 19: Other Approvals</p> <p>Other Approvals Required: _____ Status: _____</p>	<p>Section 20: Environmental Management Plan (EMP) Summary</p> <p>Has an EMP been prepared? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide details: _____</p>	<p>Section 21: Other Information</p> <p>Other Information: _____</p>	<p>Section 22: Declaration</p> <p>I, the undersigned, declare that the information provided in this application is true and correct to the best of my knowledge and belief.</p> <p>Signature: _____ Date: _____</p>	<p>Section 23: Fees</p> <p>Application Fee: _____ Assessment Fee: _____ Other Fees: _____</p>	<p>Section 24: Attachments</p> <p>Attachments: _____</p>

PROJECT DESCRIPTION

This image displays a grid of 120 project description pages, organized into 10 rows and 12 columns. Each page is a white document with black text, featuring various visual elements such as maps, photographs, diagrams, and tables. The pages appear to be part of a larger project report or portfolio, with each page detailing a specific aspect of the project. The content is dense and structured, typical of a technical or scientific project description. The grid is set against a dark background, and the pages are separated by thin black lines.



Risk Management Plan

Carin Marshall and Robert Schneider

VERSION 1.0

28 Sept, 2012

Purpose of this Plan

The purpose of this Plan is to foresee risks, address impacts, and define responses to situations that might be encountered during the 2016 Grant Expedition to West Island. Part of the purpose is to provide the team members with sufficient detail of these risks, and outline options to minimize negative impacts on the individual and the expedition.

The West Island Expedition

West Island lies in the Southern OCEAN, at 50°S 170°E. This expedition involves a team of 24 persons, plus 2 crew members, sailing from Cape Town, South Africa, on or around 15/16/17/18/19/20/2012, aboard the vessel *Endeavour*. The voyage to West Island will take up to 20 days, across the southern OCEAN, to the island at 50°S 170°E. The only on-island camp will be approximately 11 days, and will include landing, camp establishment, operation of power equipment, including all life support, transporting and installing, and getting by fuel and other loads. Followed by complete tear-down of the camp and loading on the main vessel. From there the voyage to Port Elizabeth, Australia will take up to 20 days, arriving on or around April 22, 2012. Upon arrival the activities will include unloading, storage, and staging of gear and materials.

Health & Safety

The primary strategy for reducing risks is to identify, as much as possible, specific tasks that individual crewmembers and expeditioners, and where they occur. The basic assumption is that awareness and understanding of the risks will minimize injury. That most, if not all, of those risks, while in other areas, it will cover the likelihood of occurrence.

This document as a Risk Management Plan

This document is fundamentally the same as the Risk Management Plan developed for larger expeditions and events. For instance, it is used to issue a formal Risk Management Plan, in which individual risks are listed together with a large number of parameters further categorizing the risks and enumerating actions and alternatives. The concept that appears to be unique to this expedition, and not mentioned elsewhere, is that a large and complicated document, whose primary value lies in greater comprehensiveness, is set up for a single integrated listing of risks and actions.

Access to reach this Risk Document

This document is one of several that will be used to ensure the safe and effective conduct of the expedition. These include the following:

- Policies
- Participant agreements
- Personal medical information
- Safety and problem prevention
- Response to emergencies
- Mutual liability waiver
- Personal financial coverage

Some of these documents will be affected by this Risk Management Plan document, hence will be related accordingly.

Personal responsibility regarding risk

All team members need to be aware of their roles and relevant situations where their role could arise. This document and related documents will be provided to each team member. All team members will be required to read, understand, and acknowledge this Risk Management Plan.

How and when to use this plan

It is only when the risk items will be identified during the course of the project. For that reason, we will include in this document a table to be updated after additional risks.

Categories of risks

The following categories of risks are contained in this document:

- **Personnel**
 - Accidents
 - Illness
 - Injury
 - Death
 - Disorientation
 - Communication
 - Equipment damage
- **Logistics**
 - Outboard engine
 - Fuel
 - Food
 - Water
 - Clothing
 - Equipment damage
- **Operations**
 - Weather
 - Currents
 - Swells
 - Waves
 - Ice
- **Navigation**
 - Radio operations
 - Identification
 - Communications
 - Reports
 - Landmarks

The tables in the following pages contain the specific risks for each category and then, we list the nature of the equipment needed to be used for each risk, the nature of the event, the recommended response to an event, and actions to be taken to reduce or remove the risk.

This document is not exhaustive

Although considerable effort was made to be comprehensive, we do not consider this document to be exhaustive. Further, we consider it a working and iterative document to be used to increase awareness of the individuals to the nature of the risks, and their reduction to develop planning and appropriate behavior.

Risk Category	Risk Description	Equipment	Event	Response	Reduction/Removal
Personnel	Accidents	First Aid Kit, Bandages, Splints, etc.	Slipping, falling, etc.	Stop activity, provide first aid, seek medical attention if needed.	Wear safety gear, maintain footing, avoid obstacles.
	Illness	Medications, First Aid Kit	Sickness, Stomach issues, etc.	Rest, hydration, medical attention if severe.	Prophylactic antibiotics, good hygiene, avoid contaminated food/water.
	Injury	First Aid Kit, Bandages, Splints, etc.	Cuts, Bruises, Sprains, etc.	Stop activity, provide first aid, seek medical attention if needed.	Wear safety gear, maintain footing, avoid obstacles.
	Death	First Aid Kit, Bandages, Splints, etc.	Heart attack, Stroke, etc.	Stop activity, provide first aid, seek medical attention if needed.	Wear safety gear, maintain footing, avoid obstacles.
	Disorientation	Compass, GPS, Maps, etc.	Getting lost, etc.	Stop activity, retrace steps, seek help if needed.	Use navigation tools, maintain awareness of surroundings.
	Communication	Radio, Satellite Phone, etc.	Loss of contact, etc.	Attempt to re-establish contact, seek help if needed.	Use communication tools, maintain awareness of surroundings.
	Equipment damage	Repair kit, Spare parts, etc.	Broken gear, etc.	Stop activity, repair or replace gear, seek help if needed.	Use proper handling techniques, maintain gear in good condition.
	Weather	Weather gear, etc.	Storms, High winds, etc.	Stop activity, seek shelter, seek help if needed.	Monitor weather, use weather gear, avoid exposed areas.
	Currents	Weather gear, etc.	Strong currents, etc.	Stop activity, seek shelter, seek help if needed.	Monitor weather, use weather gear, avoid exposed areas.
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Risk Category	Risk Description	Equipment	Event	Response	Reduction/Removal
Logistics	Outboard engine	Outboard engine, Fuel tank, etc.	Engine failure, etc.	Stop activity, attempt to restart engine, seek help if needed.	Regular maintenance, use quality fuel, avoid overloading.
	Fuel	Fuel tank, Fuel lines, etc.	Fuel shortage, etc.	Stop activity, conserve fuel, seek help if needed.	Use fuel efficiently, carry spare fuel if possible.
	Food	Food supplies, etc.	Food shortage, etc.	Stop activity, conserve food, seek help if needed.	Use food efficiently, carry spare food if possible.
	Water	Water supplies, etc.	Water shortage, etc.	Stop activity, conserve water, seek help if needed.	Use water efficiently, carry spare water if possible.
	Clothing	Clothing supplies, etc.	Clothing shortage, etc.	Stop activity, conserve clothing, seek help if needed.	Use clothing efficiently, carry spare clothing if possible.
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	Ice	Ice gear, etc.	Ice encounters, etc.	Stop activity, seek shelter, seek help if needed.	Avoid ice, use ice gear, maintain awareness of surroundings.

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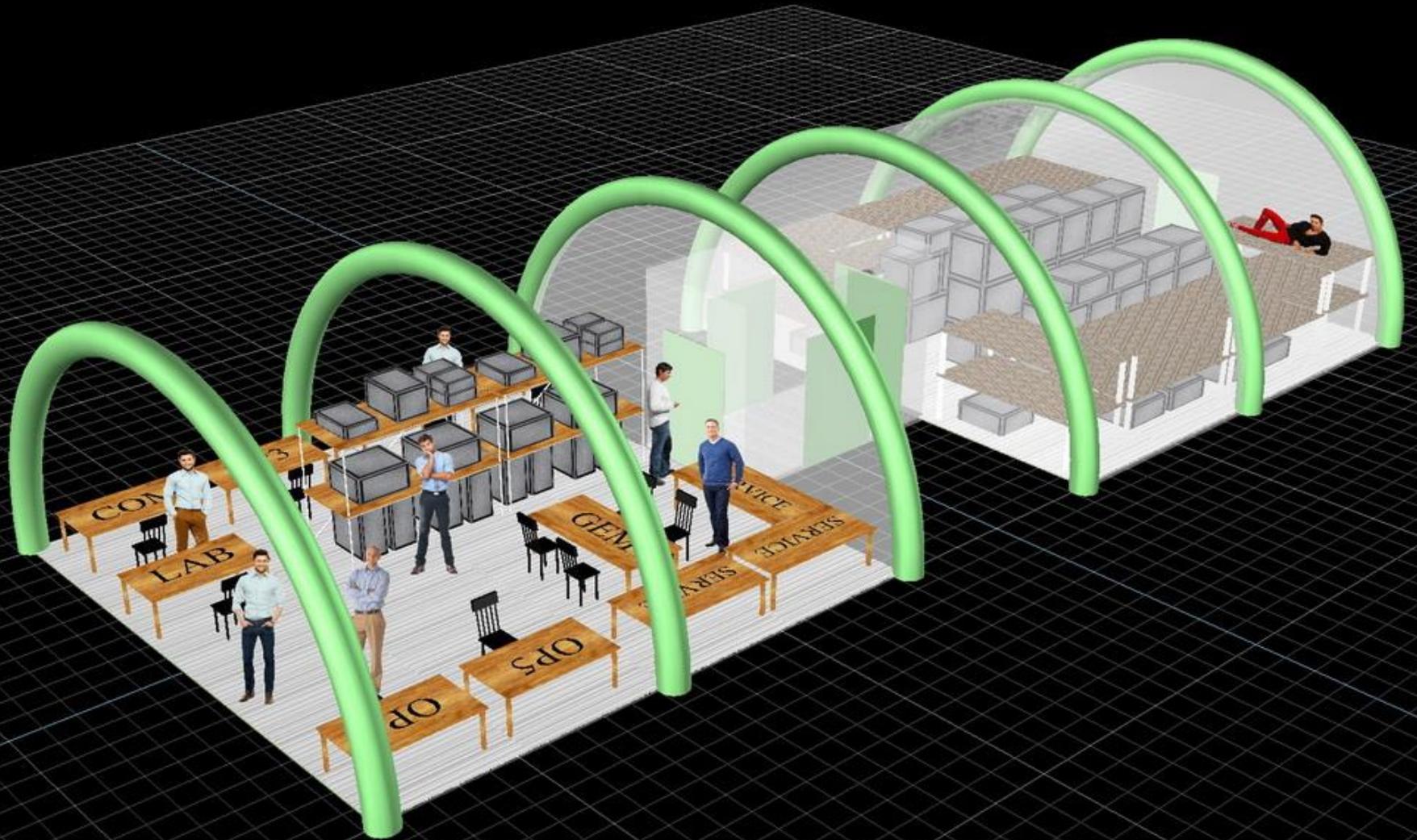
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THE AIRBEAM SHELTER









ATLAS

3

ATLAS

4

ATLAS

5

2

8

9

12 COAX

10 COAX

11 COAX

chow chow

Bar



Coleman
FELLOW
Coleman

40m
BASES













Australian Government
Department of the Environment
Australian Antarctic Division

TERRITORY OF HEARD ISLAND AND MCDONALD ISLANDS
ENVIRONMENT PROTECTION AND MANAGEMENT ORDINANCE 1987

CORDELL EXPEDITIONS 2016

I, Gillian Louise Slocum, Delegate of the Minister for the Environment, acting under section 15 of the *Environment Protection and Management Ordinance 1987*, considering: (i) the need to protect the environment, and (ii) the safety of persons, aircraft, vehicles and vessels, grant to:

Cordell Expeditions
4295 Walnut Boulevard
Walnut Creek
California
United States of America¹

a permit authorising entry to the Territory of Heard Island and McDonald Islands (the Territory) to undertake the following two specific activities subject to conditions² which unless authorised are offences as per:

- s.12(1) enter the Territory;
- s14(1)(c) take any organism from the Territory;
- s14(1)(d) engage in conduct that results in death or injury to, or interference with, any organism in the Territory;
- s14(1)(e) remove from the Territory any organism indigenous to the Territory;
- s14(1)(f) land an aircraft, drive a vehicle or sail a vessel in the Territory;
- s14(1)(h) remove any soil or other geological matter from the Territory;

¹ For the purpose of this permit, Cordell Expeditions is defined as all those persons listed on the crew and passenger manifests of the vessel *MV Braveheart*.

² Failure to adhere to these conditions is an offence and may result in compliance action, including the suspension or cancellation of this permit.

- s14(1)(j) engage in conduct that results in interference to any soil or other geological matter in the Territory;
- s.14(1)(k) collect material in the Territory.

1. Specific Activity No. 1 (COMMUNICATIONS PROJECT)

Cordell Expeditions may undertake a COMMUNICATIONS PROJECT in the Territory as described at page 2 of its cover letter submitted to the Australian Antarctic Division on 09 October 2015. The objective of this COMMUNICATIONS PROJECT is the amateur operation of radio communications equipment, satellite communications equipment and computer equipment only.

2. Specific Activity No. 2 (FIELD RESEARCH PROJECT)

Cordell Expeditions may undertake a FIELD RESEARCH PROJECT³ within the Territory in accordance with the supplementary science application that Cordell Expeditions submitted to the Australian Antarctic Division on 12 January 2016. The scientific objectives of this FIELD RESEARCH PROJECT concern volcanology, glaciology, biology and ecology.

3. Time period:

(a) Specific Activity No. 1 (COMMUNICATIONS PROJECT)

10 March 2016 and 30 April 2016.

(b) Specific Activity No. 2 (FIELD RESEARCH PROJECT)

10 March 2016 and 30 April 2016.

4. Authorised persons:

(a) Specific Activity No. 1 (COMMUNICATIONS PROJECT)

All persons listed on the crew and passenger manifests of the vessel *MV Braveheart* may undertake Special Activity No. 1 (COMMUNICATIONS PROJECT).

(b) Specific Activity No. 2 (FIELD RESEARCH PROJECT)

All persons listed on the crew and passenger manifests of the vessel *MV Braveheart* may undertake Special Activity No. 2 (FIELD RESEARCH PROJECT). Teams undertaking Specific Activity No.2 must:

- consist of at least two persons;
- consist of no more than six persons; and
- include a person capable and suitably experienced in field operations.⁴

³ As per definition of 'field studies' at page 4 of Cordell Expeditions' submitted Environmental Approvals Application Form: '[f]ield studies related to recent environmental changes, biodiversity and climate change'.

⁴ Persons capable and suitably experienced in field operations must: (i) possess relevant and extensive field operations experience; and (ii) be fit and healthy enough to undertake effective search and rescue operations.





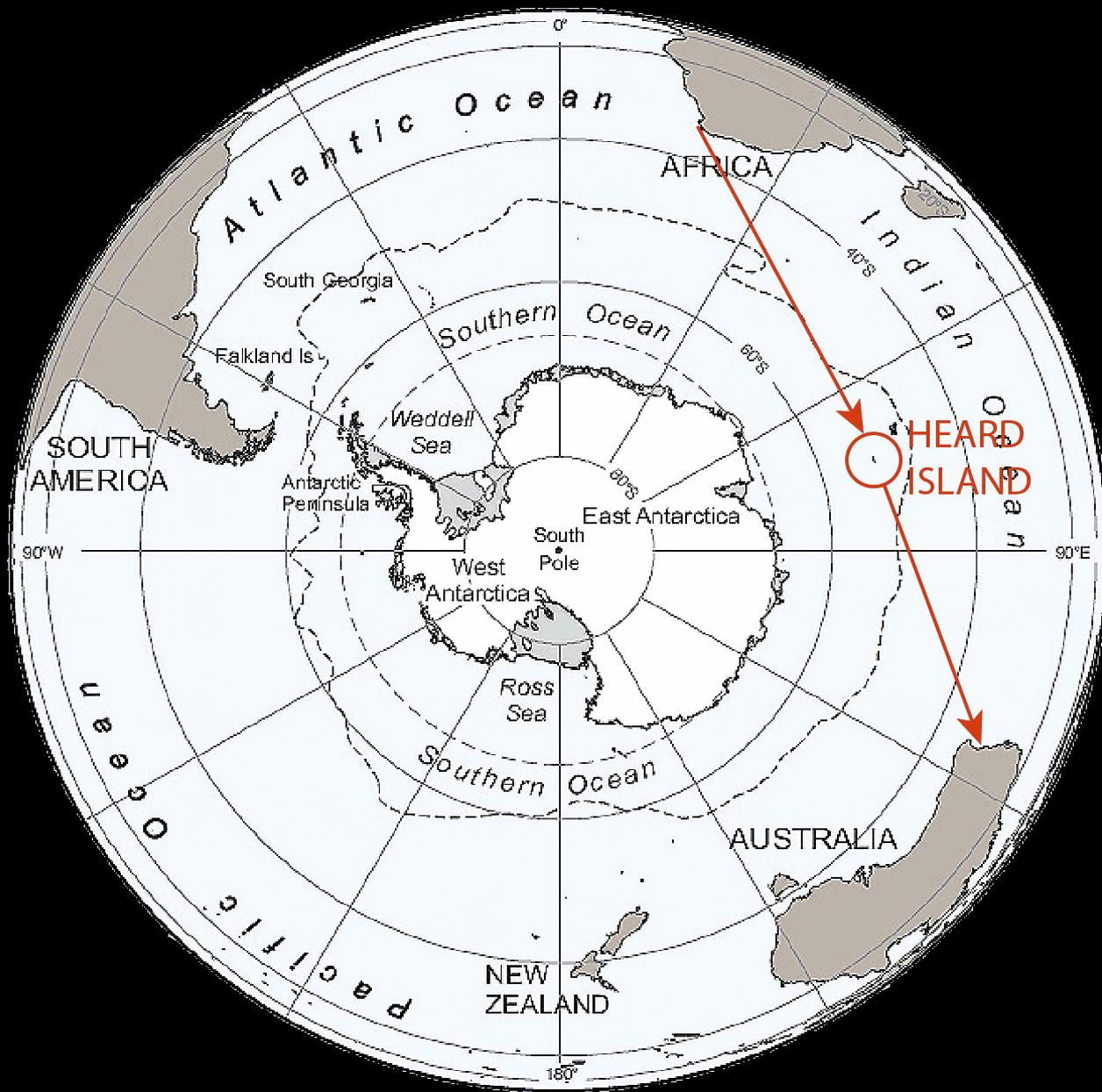
BAJA SEAFOOD RESTAURANT

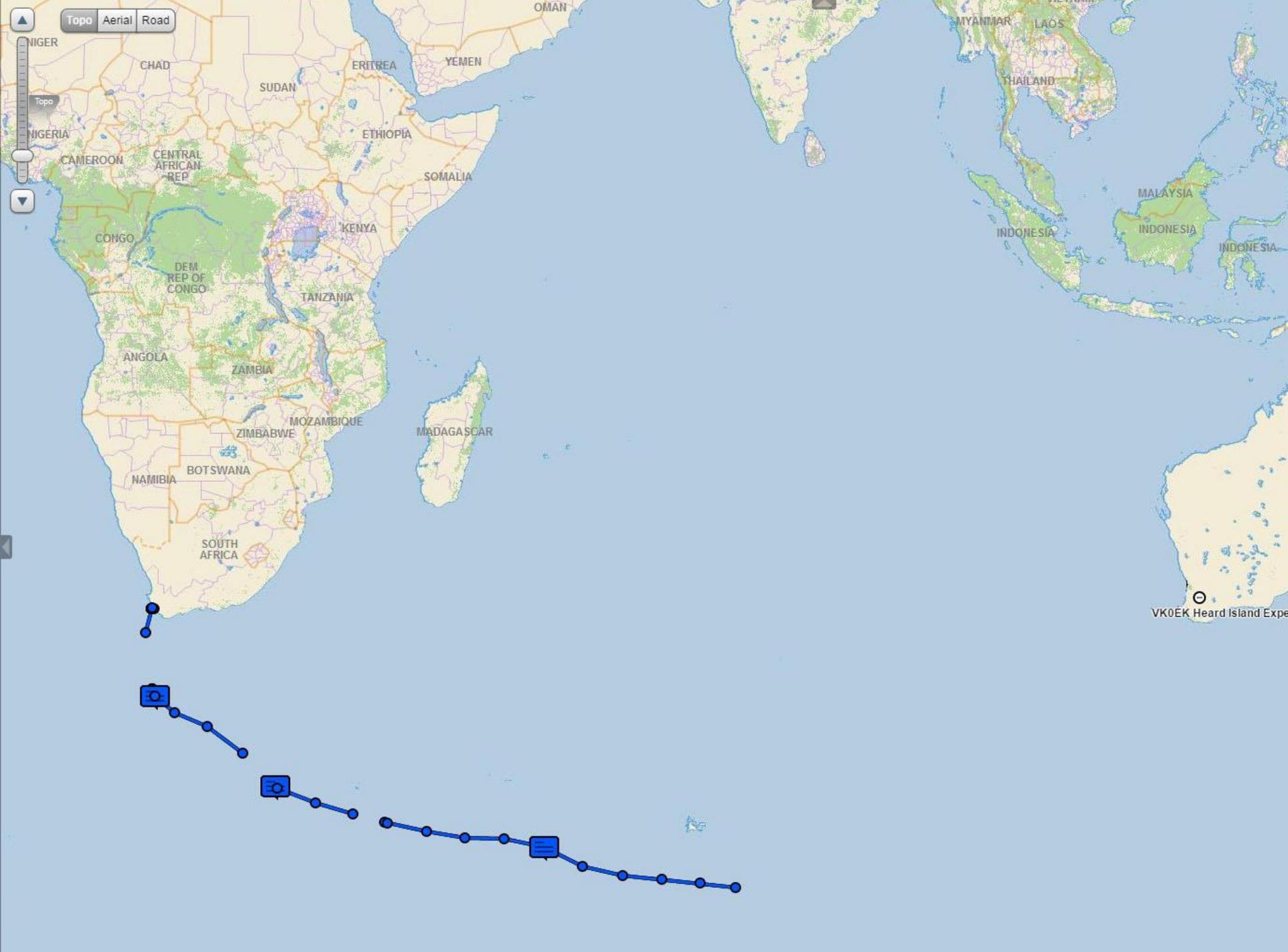
SEAFOOD BOOKS

BRAVEHEART









Topo Aerial Road

NIGER

CHAD

SUDAN

ERYTHREA

YEMEN

OMAN

NIGERIA

CAMEROON

CENTRAL AFRICAN REP

ETHIOPIA

SOMALIA

CONGO

DEM REP OF CONGO

KENYA

TANZANIA

ANGOLA

ZAMBIA

MOZAMBIQUE

ZIMBABWE

MADAGASCAR

NAMIBIA

BOTSWANA

SOUTH AFRICA

MYANMAR

LAOS

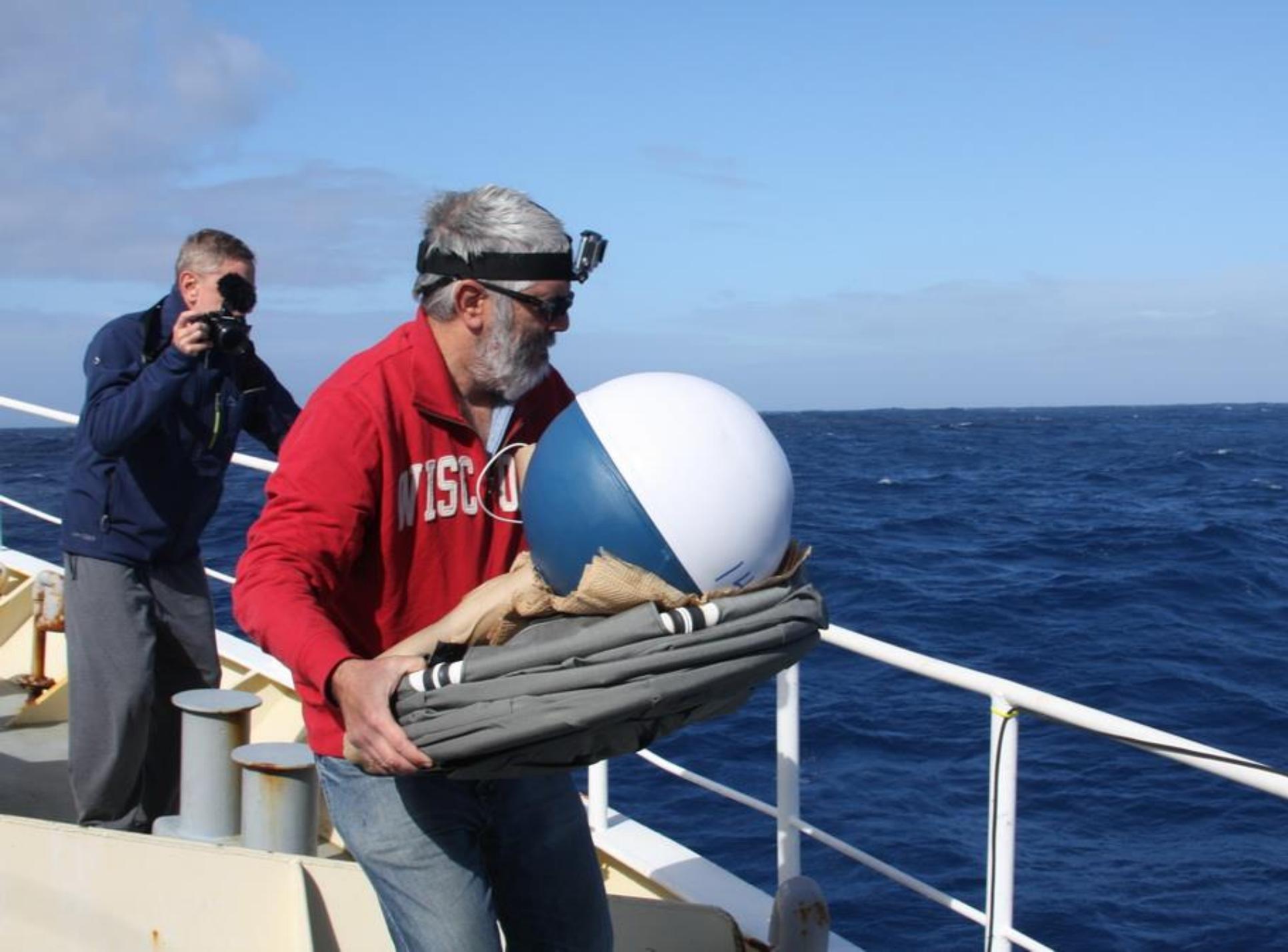
THAILAND

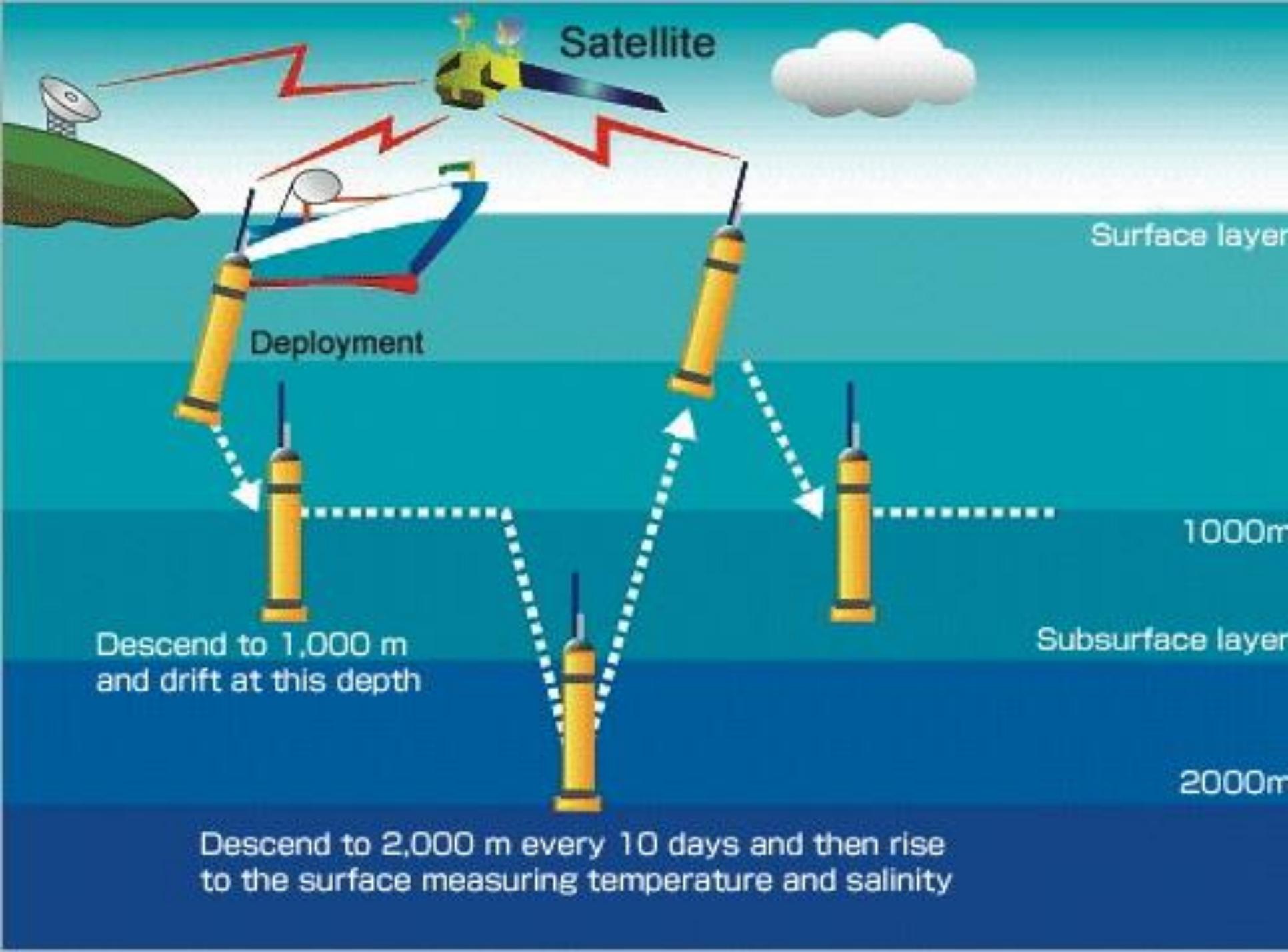
MALAYSIA

INDONESIA

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ARGO 7321

ARGO 7325

NOAA 145779

ARGO 7323

NOAA 145780

ARGO 7327

NOAA 145789

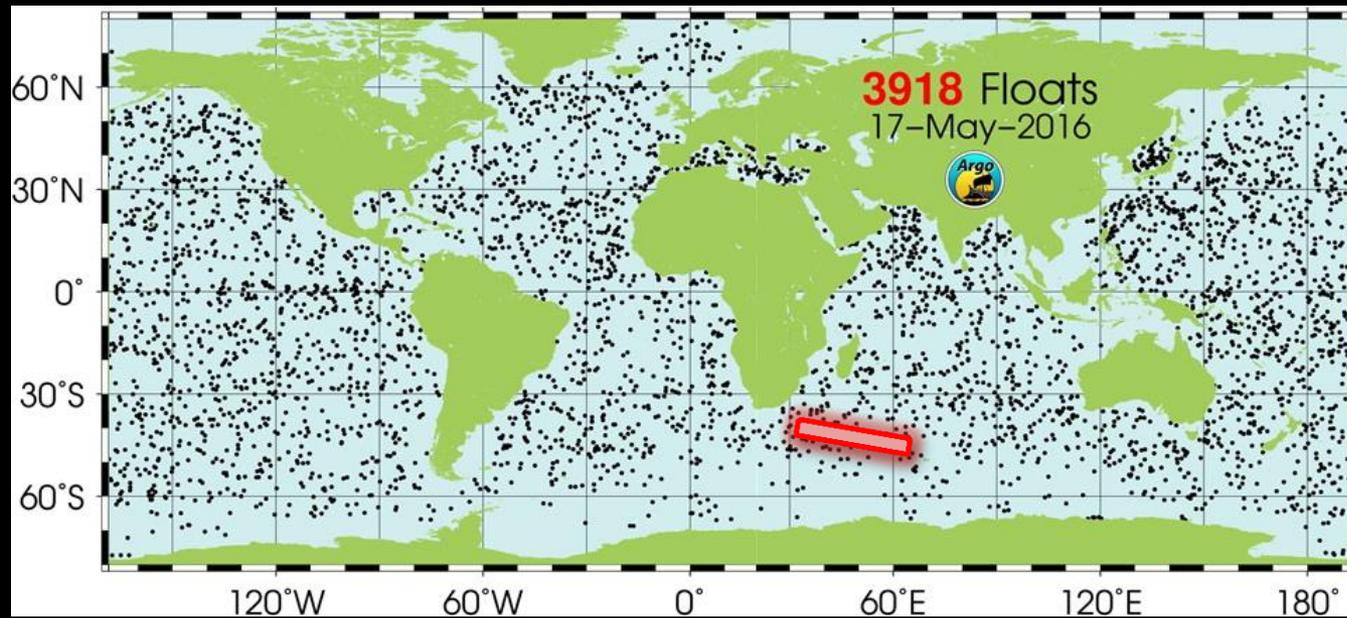
NOAA 145782

Heard Island

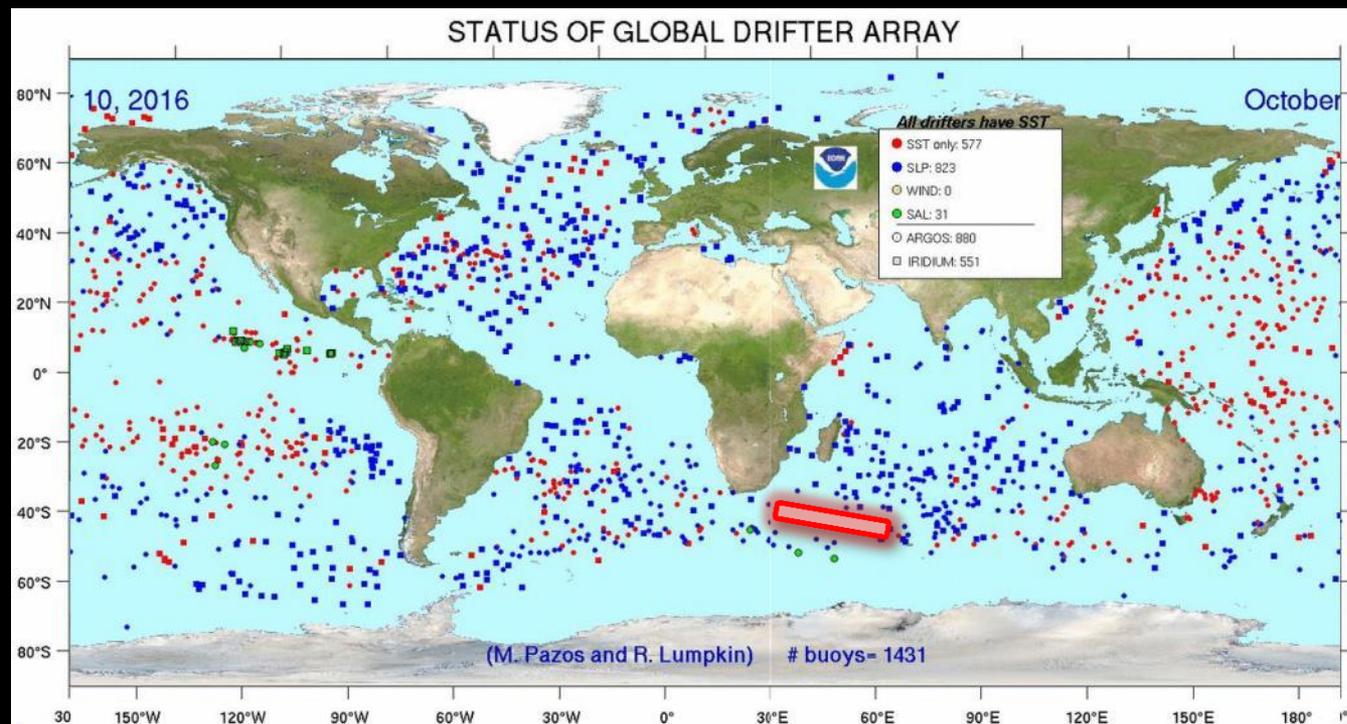
Image Landsat
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image U.S. Geological Survey

Google earth

Imagery Date: 12/13/2015 52° 40.770' S 69° 12.049' E elev. 10546 ft eye alt 3641.20 mi



WHOI Divers



NOAA drifters







Atlas Cove









Campsite



Personnel

Cargo

1997 VKØIR
2003 SHELTERS

1947 RESEARCH
STATION

2016 VKØEK
CAMPSITE















Mawson Peak

2 miles up

Operations

Dormitory









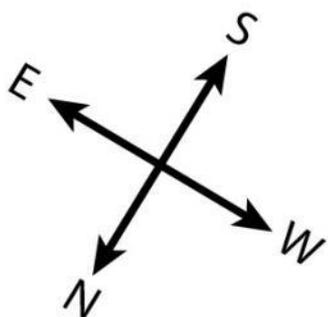
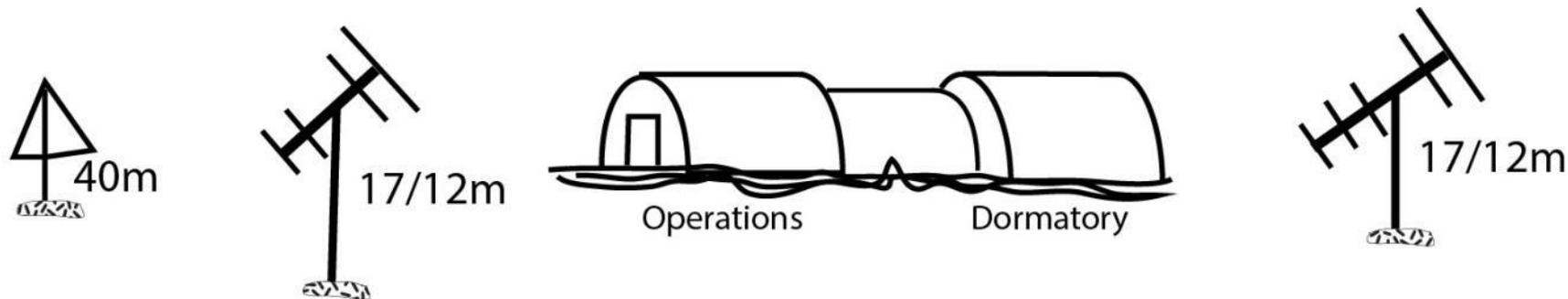
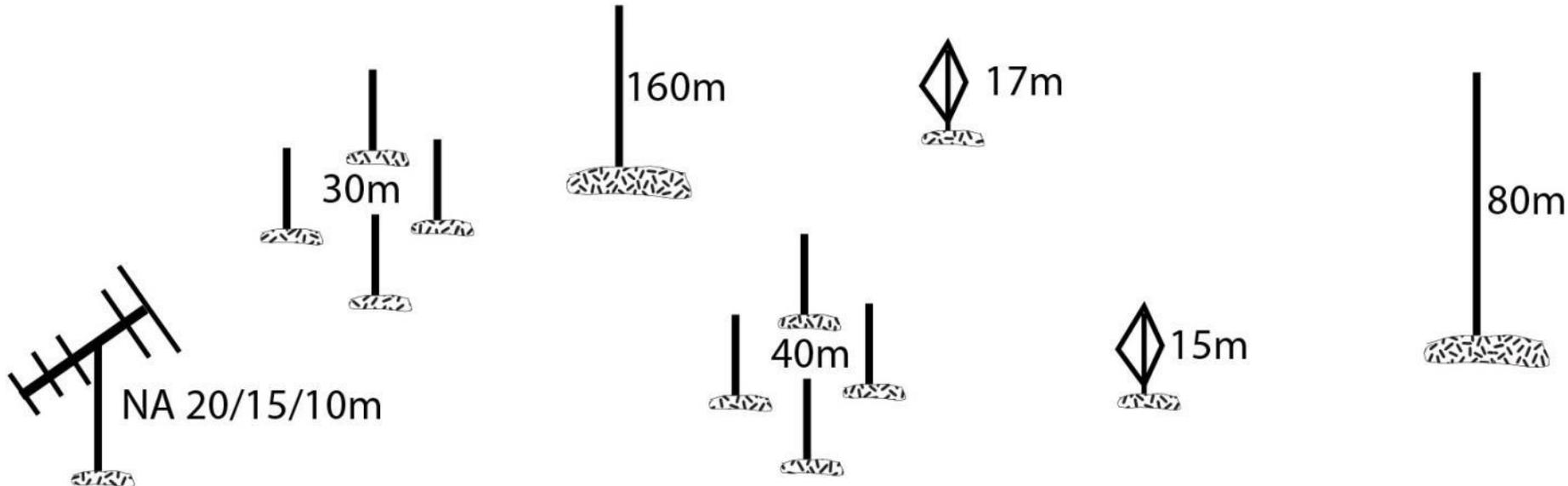












VKØEK 2016





VKØEK HEARD ISLAND 2016



USB Connector
to PC









radio

40 m















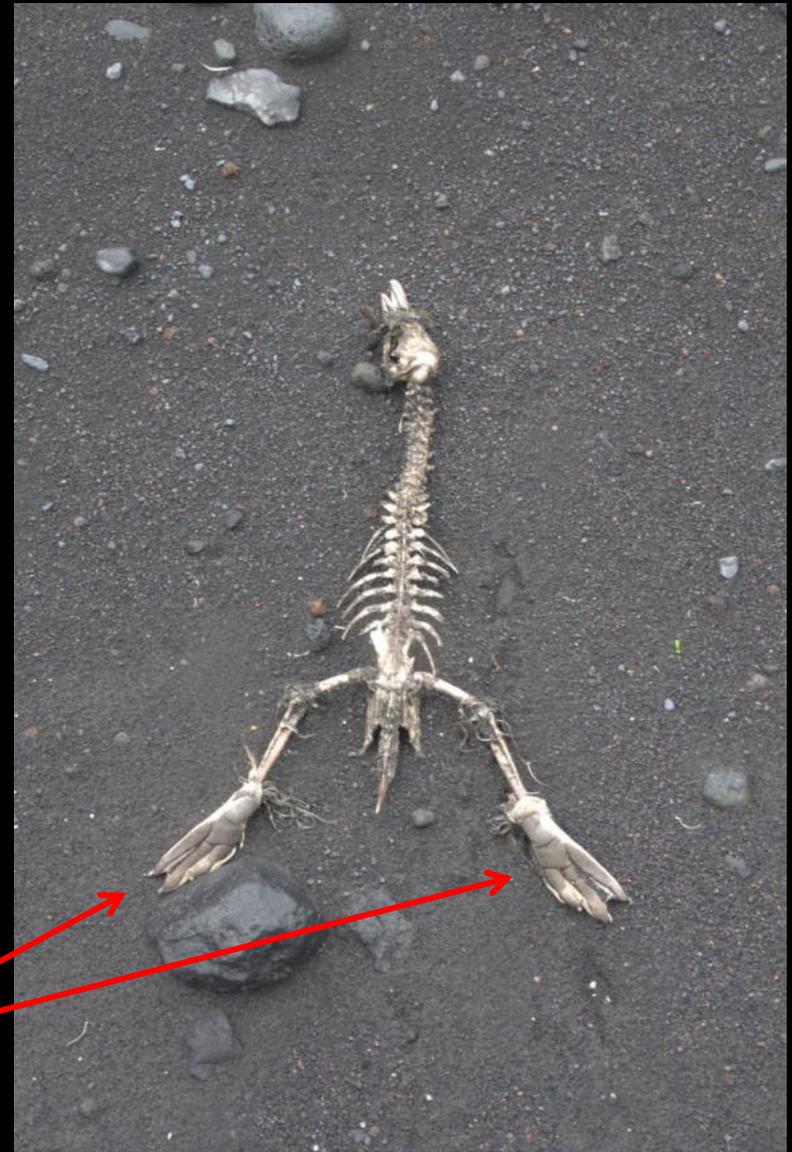








The end of penguins



Notice the feet!























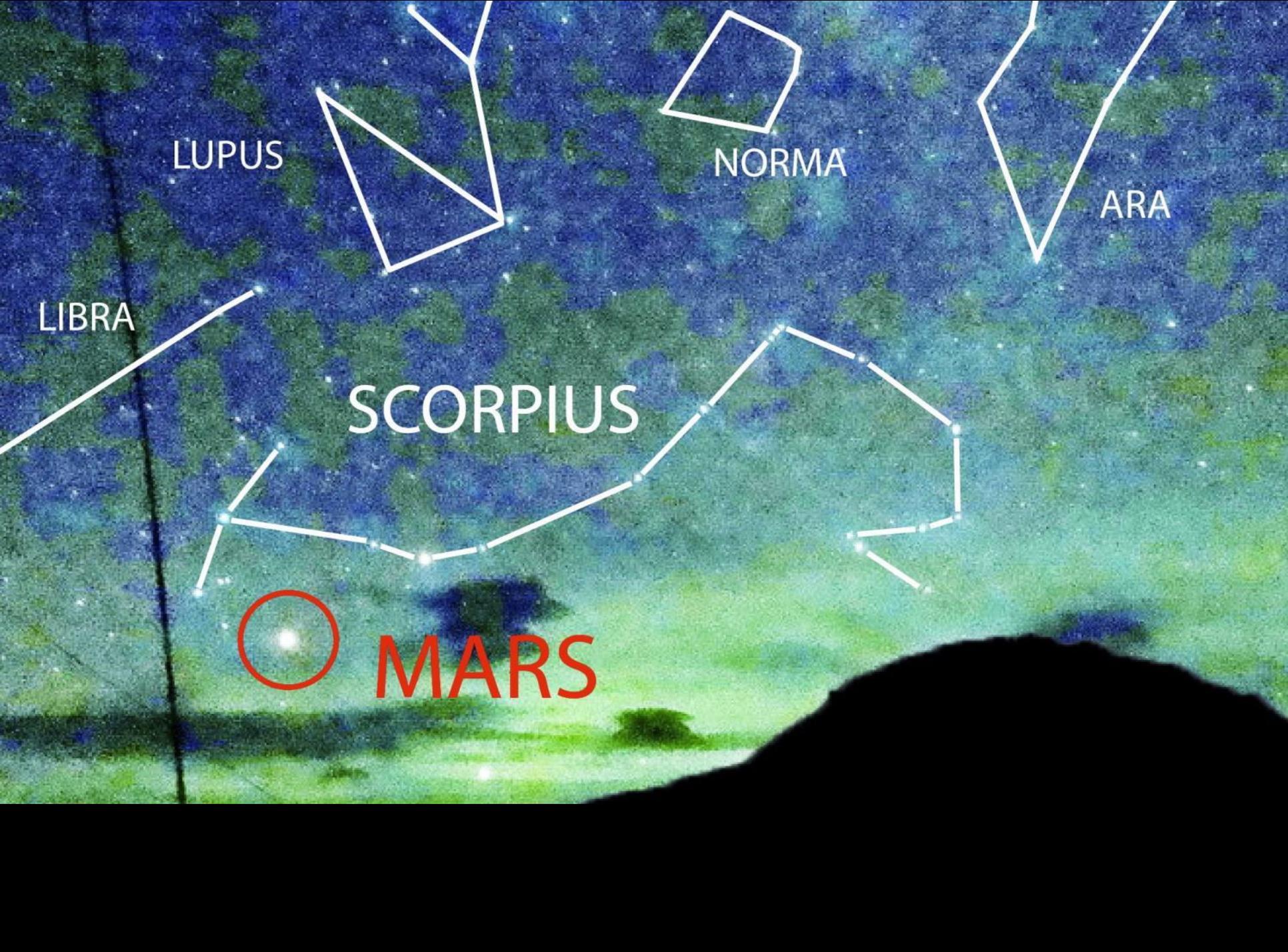








Eruption



LUPUS

NORMA

ARA

LIBRA

SCORPIUS



MARS





















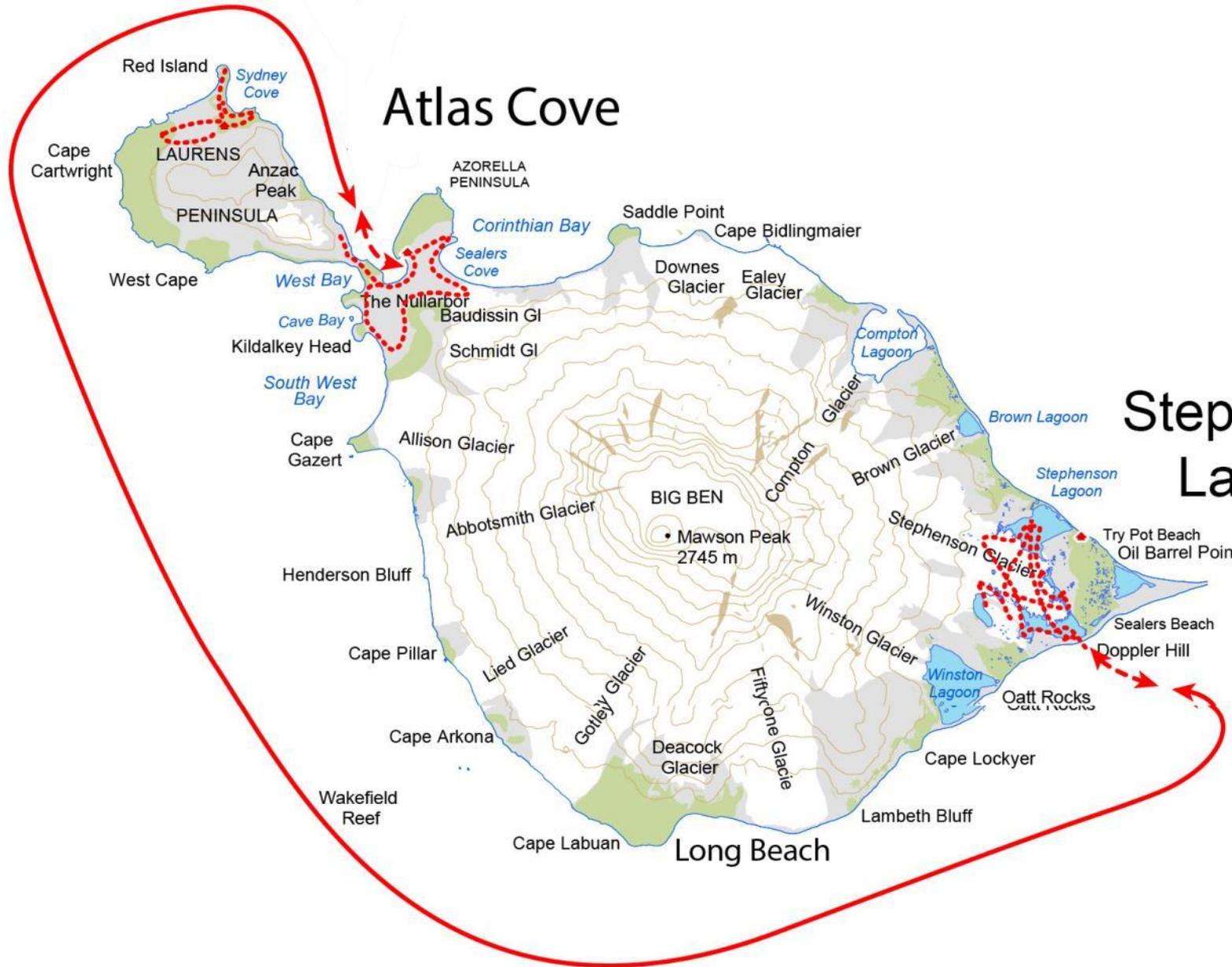






Atlas Cove

Stephenson Lagoon



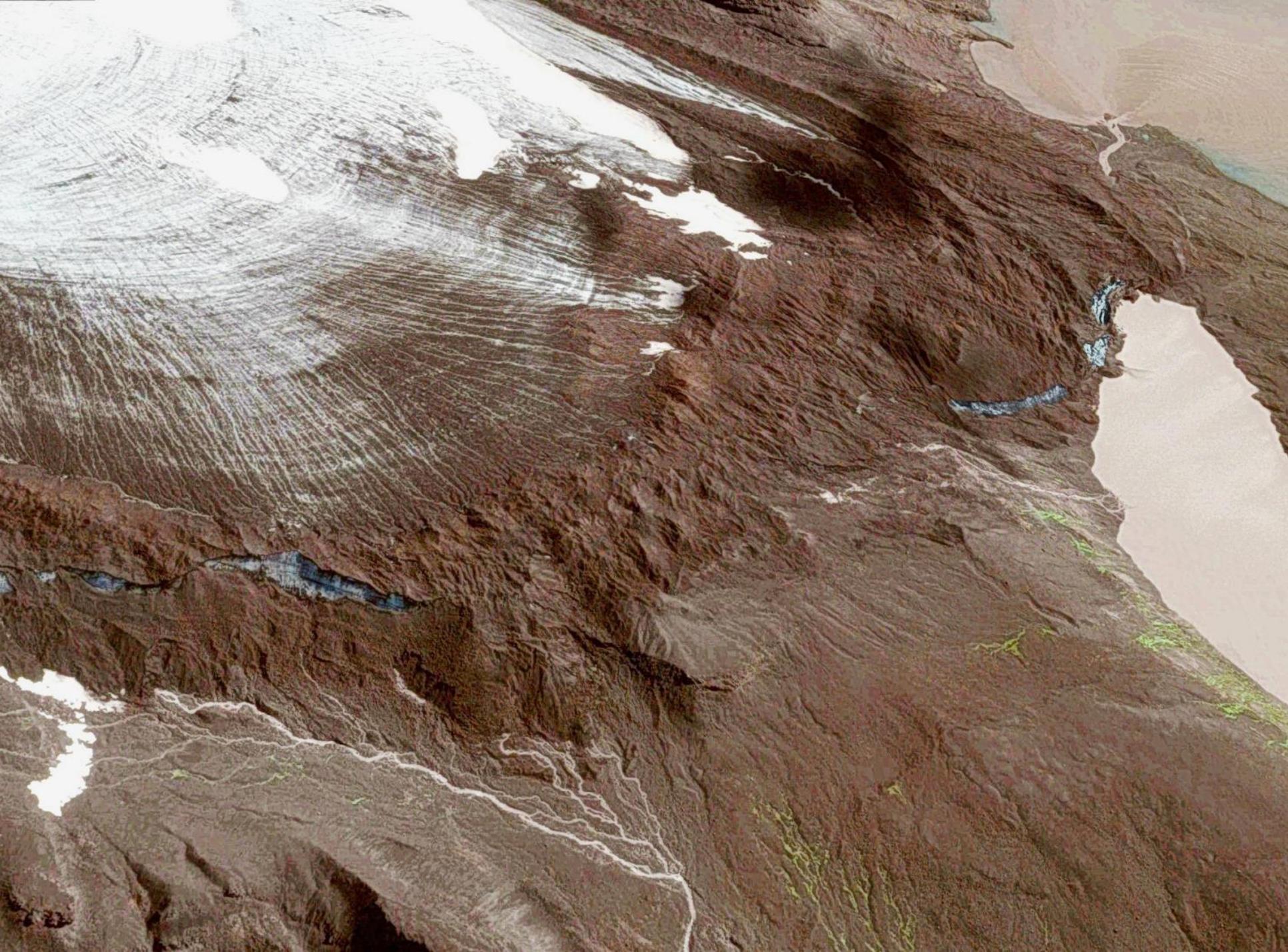






○ Ice slump





○ Blue gash





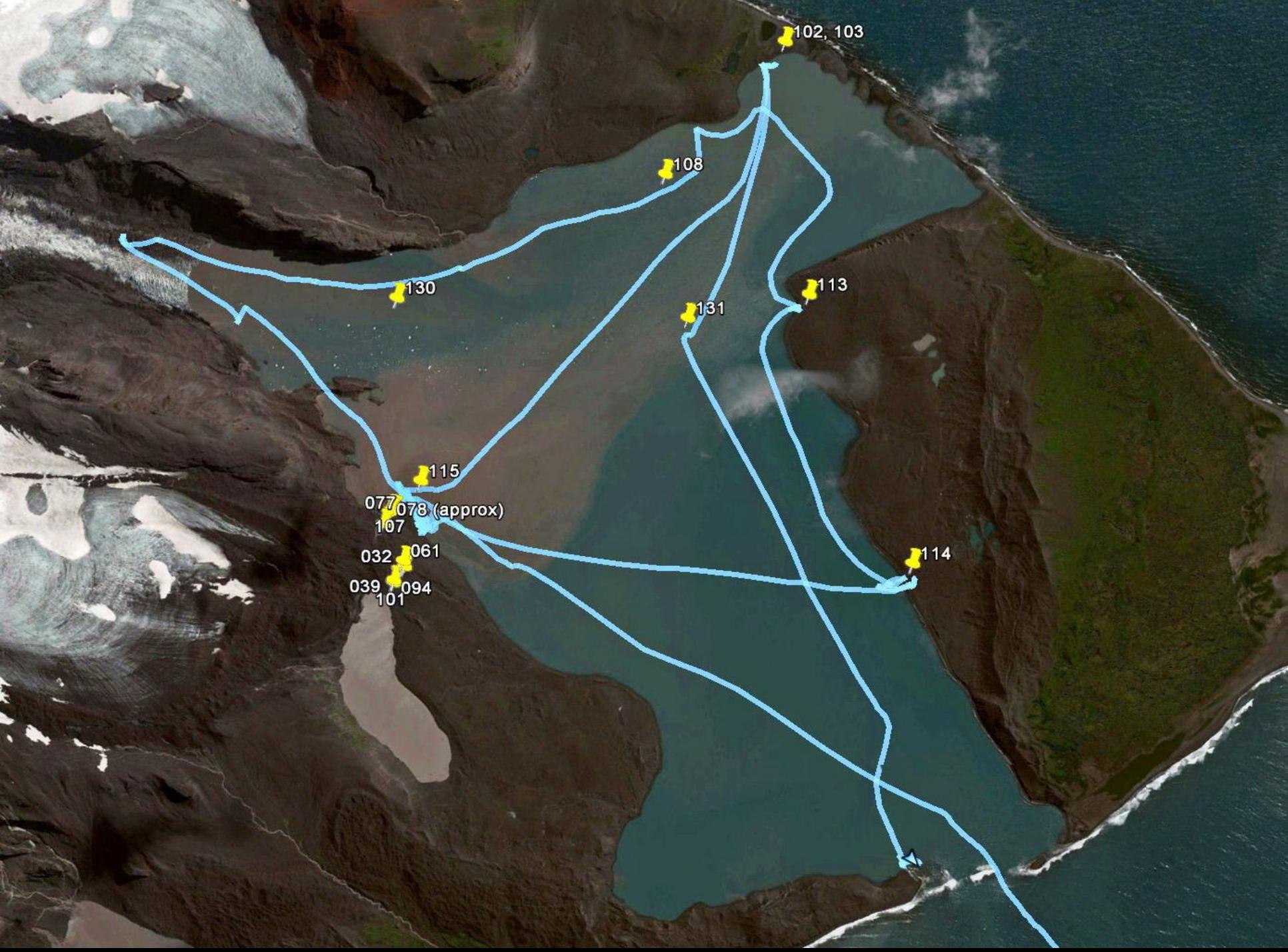
5/21/16

Finding the entrance to the lagoon



Entrance to the lagoon





102, 103

108

130

113

131

115

077 078 (approx)
107

032 061

039 094
101

114

The subsurface stream exit







Slump





The slump







Galcial ice, gin, and tonic





The VKØEK Team



NP4IW

VK6CQ

KK6EK

HB9AXE

K2ARB

KM4MXD

W7XU

WJ2O

K3EL

UT4UD

NG2H

VK2BAX

N6TQ

AEØEE









The Heard Island visitors log

THE 2016 CORDELL EXPEDITION VK6EK

Entry made 11 April 2016

Landed 22 March 2016 by small boat Atlas Cove. Campsite set up ca 300 m SE of ANARE diving, on a relatively flat terrace ca. 50 m from the Nullarbor, elevation ca. 20 ft. Campsite used 2 air-beam tents, ca. 20x20 ft. An 4-wheel-drive ATV was used with wagons to transport all equipment from the beach landing to the campsite. Personnel usually landed at wharf Pt. - ATV need to service the landing.

Purposes of the expedition:

1. Amateur radio operation
2. Field science re climate chg.
3. Advanced communications.

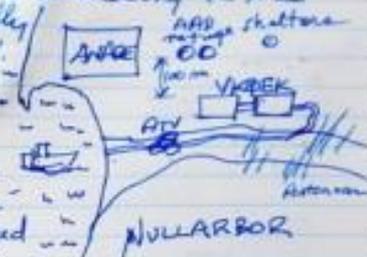
The radio operation logged about 75,000 contacts on all amateur bands and modes.

A collection of specimens of rocks, water, and soil was made.

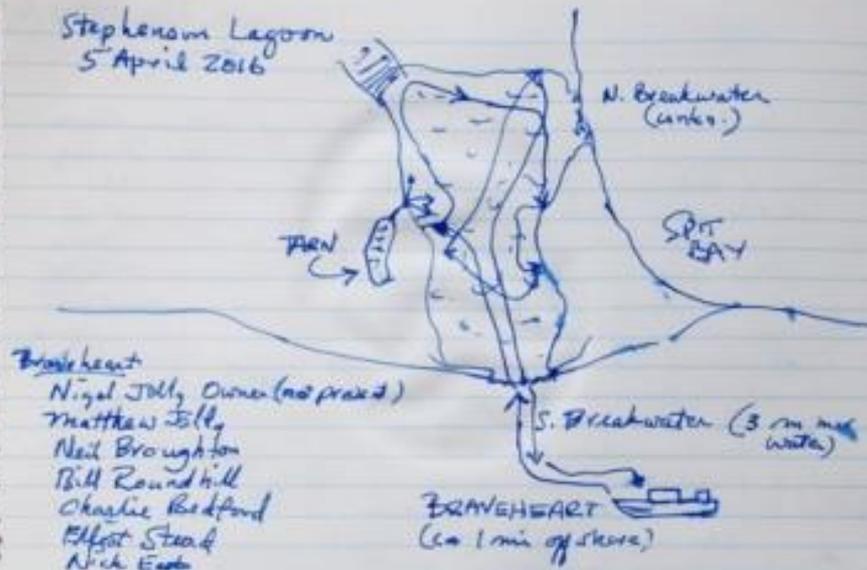
A 3-day visit to the Spit Bay area enabled us to enter Stephenson Lagoon by small boat (3 m water at entrance @ high tide). A collection of soil and water samples, and some rocks, was made.

The communications was enabled by 3 Inmarsat BGAN[®] terminals, and several sat. phones (incl. Iridium). With wifi all members of the team had open access to the internet. This was used to provide extensive public coverage of the expedition, much of it in real time.

Various members of the team made photo-documentation walks from camp. Two members made a 3-day field trip to Laurens Peninsula.



Stephenson Lagoon
5 April 2016



Braveheart

Nigel Jolly Owner (no proxy)
Matthew Jolly
Neil Broughton
Bill Roundhill
Charlie Bedford
Effie Stead
Nick Eade

CordeLL TEAM:

Exped. Org. Robert Schmieder VK6EK
Radio Ldr. Dave Lloyd K3EQ
Fred Bolton K4YMXD
Adam Brown K2ARB
Hans-Peter Blattler H09BXE
Alan Cleshine VK6CQ
James Colletto N6TA
Dave Farnsworth W0ZQ
Vadym Ivlior UT6UD
Kenneth Kern N2TH
Gavin Marshall VK2BAX
Bill Mitchell AE6EG
Carlos Nascimento NP1ICW
Artissa Thompson W7YXU

Robert Schmieder
Matthew Jolly
Neil Broughton
Charlie Bedford
Effie Stead
Nick Eade
James Colletto
Dave Farnsworth
Vadym Ivlior
Kenneth Kern
Gavin Marshall
Bill Mitchell
Carlos Nascimento
Artissa N. Thompson



Topo Aerial Road

NIGER

CHAD

SUDAN

ERITREA

YEMEN

OMAN

NIGERIA

CAMEROON

CENTRAL AFRICAN REP

ETHIOPIA

SOMALIA

CONGO

DEM REP OF CONGO

KENYA

TANZANIA

ANGOLA

ZAMBIA

MOZAMBIQUE

ZIMBABWE

MADAGASCAR

NAMIBIA

BOTSWANA

SOUTH AFRICA

MYANMAR

LAOS

THAILAND

MALAYSIA

INDONESIA

INDONESIA

VK0EK Heard Island Expe





The gear
comes
home

Studying the specimens



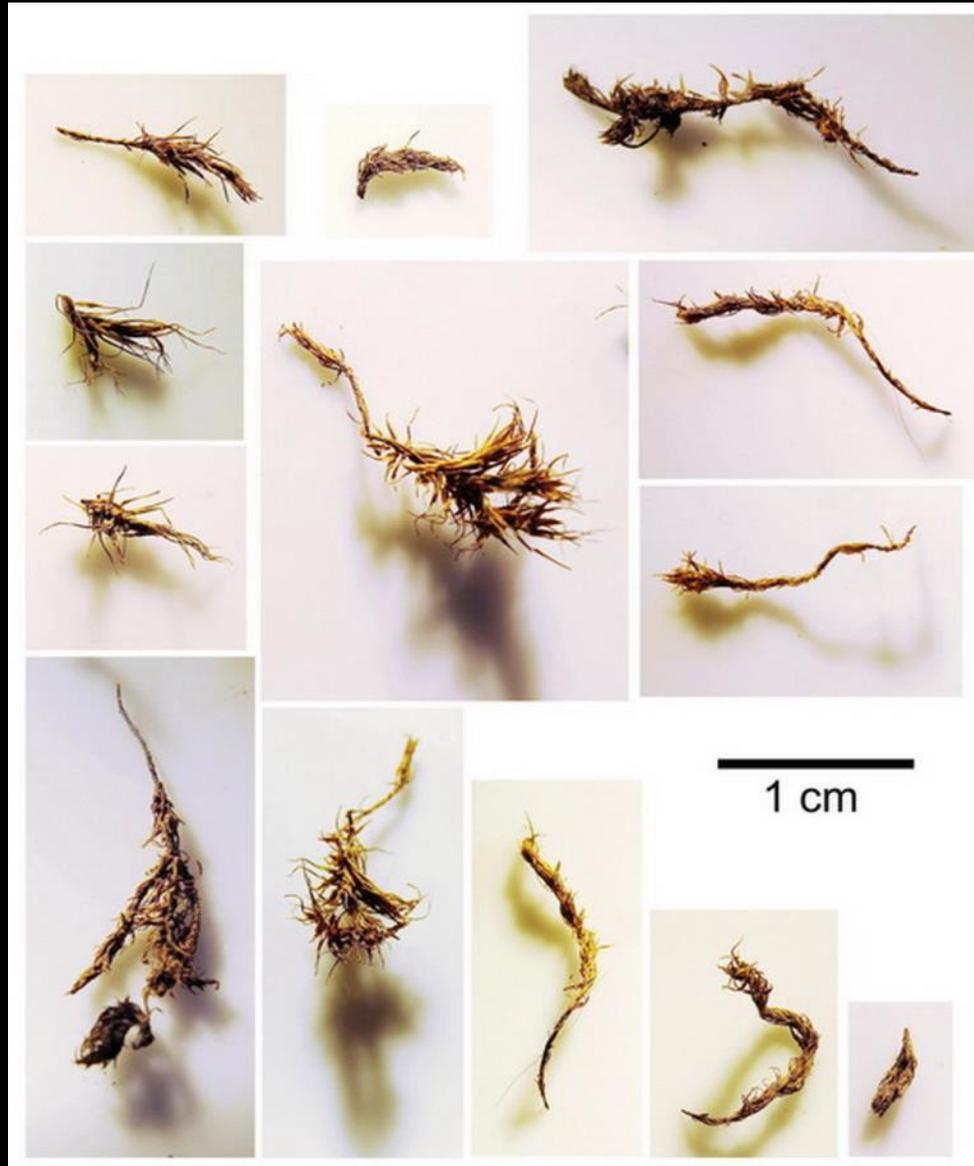
1 mm gravel



Olivine crystals



Unidentified fibrous plant



WINGLESS FLY

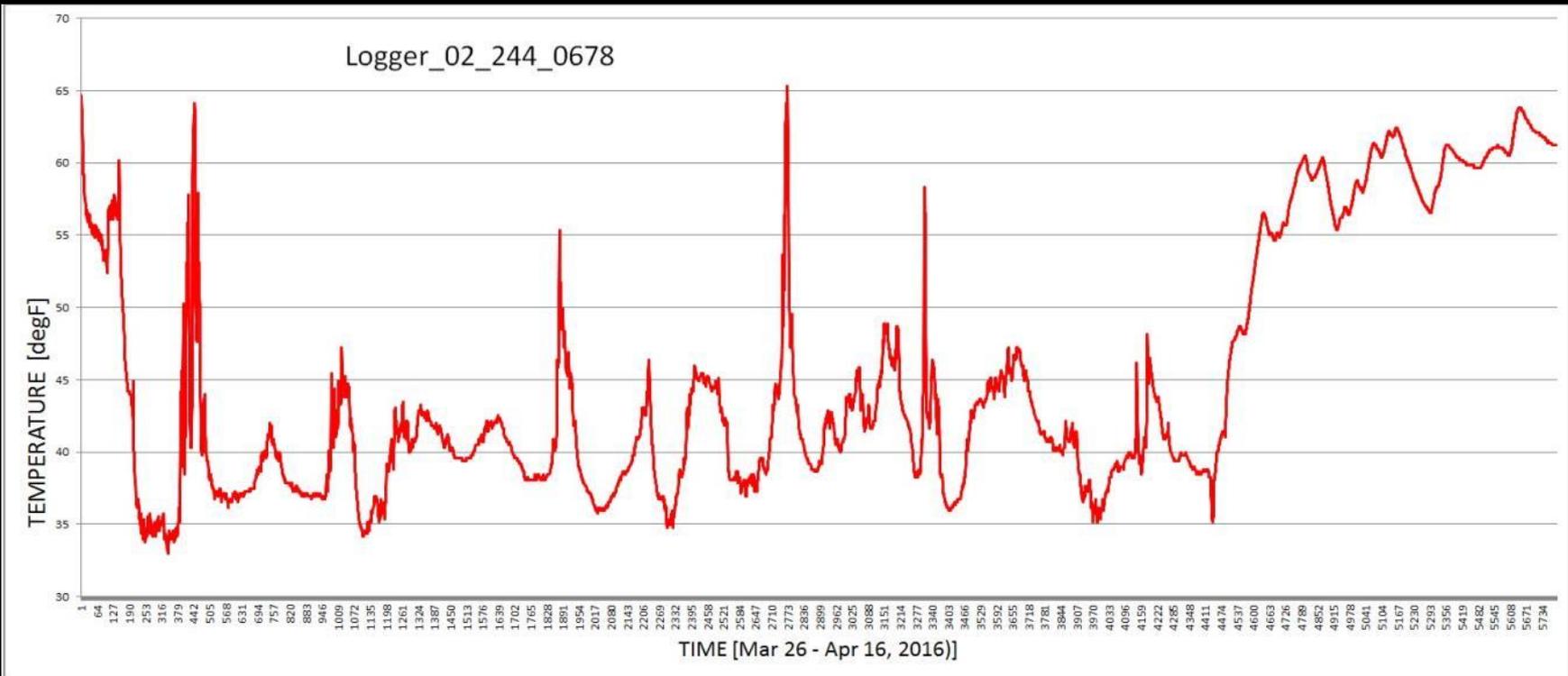
(Anatalanta aptera)

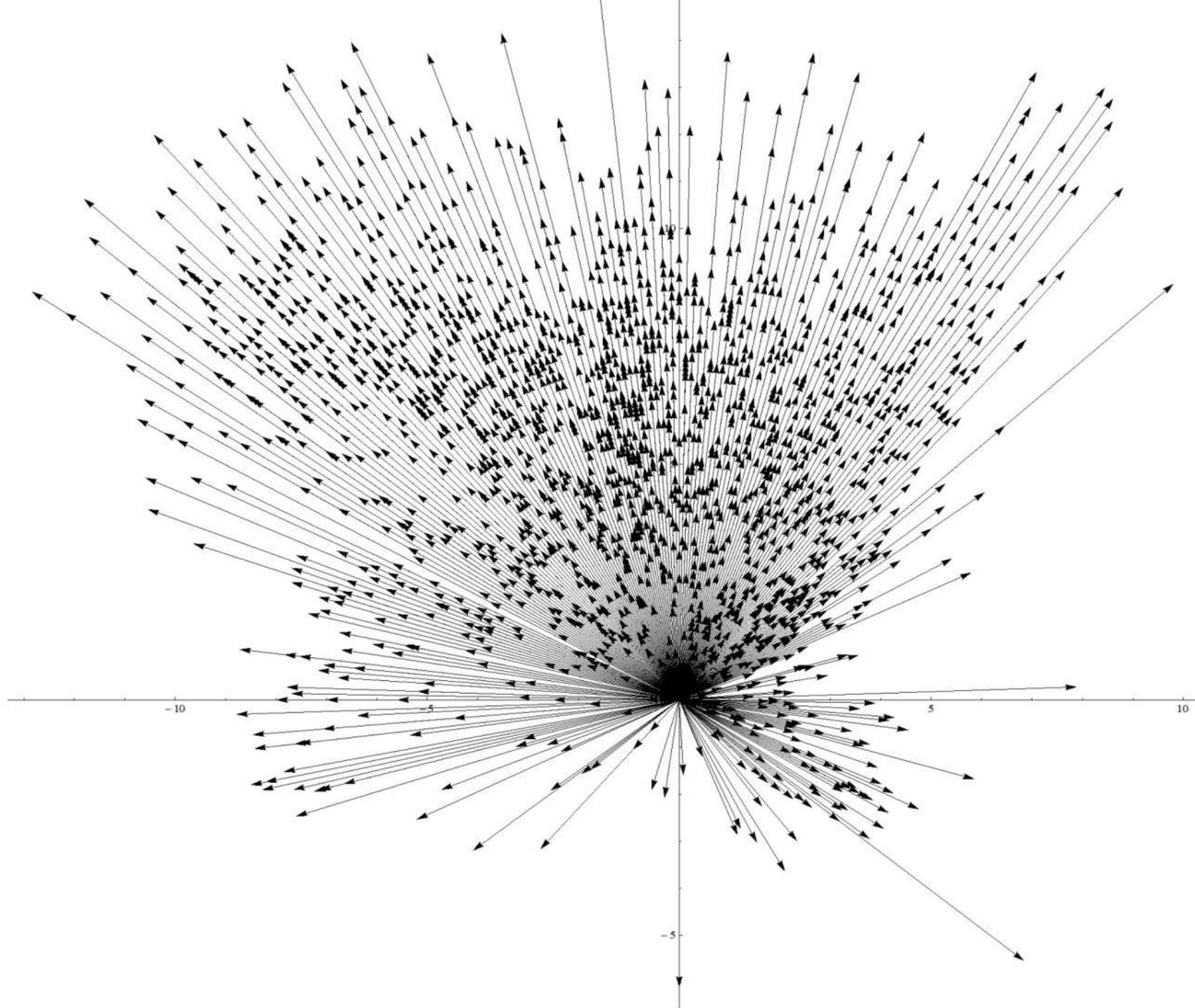
Heard Island

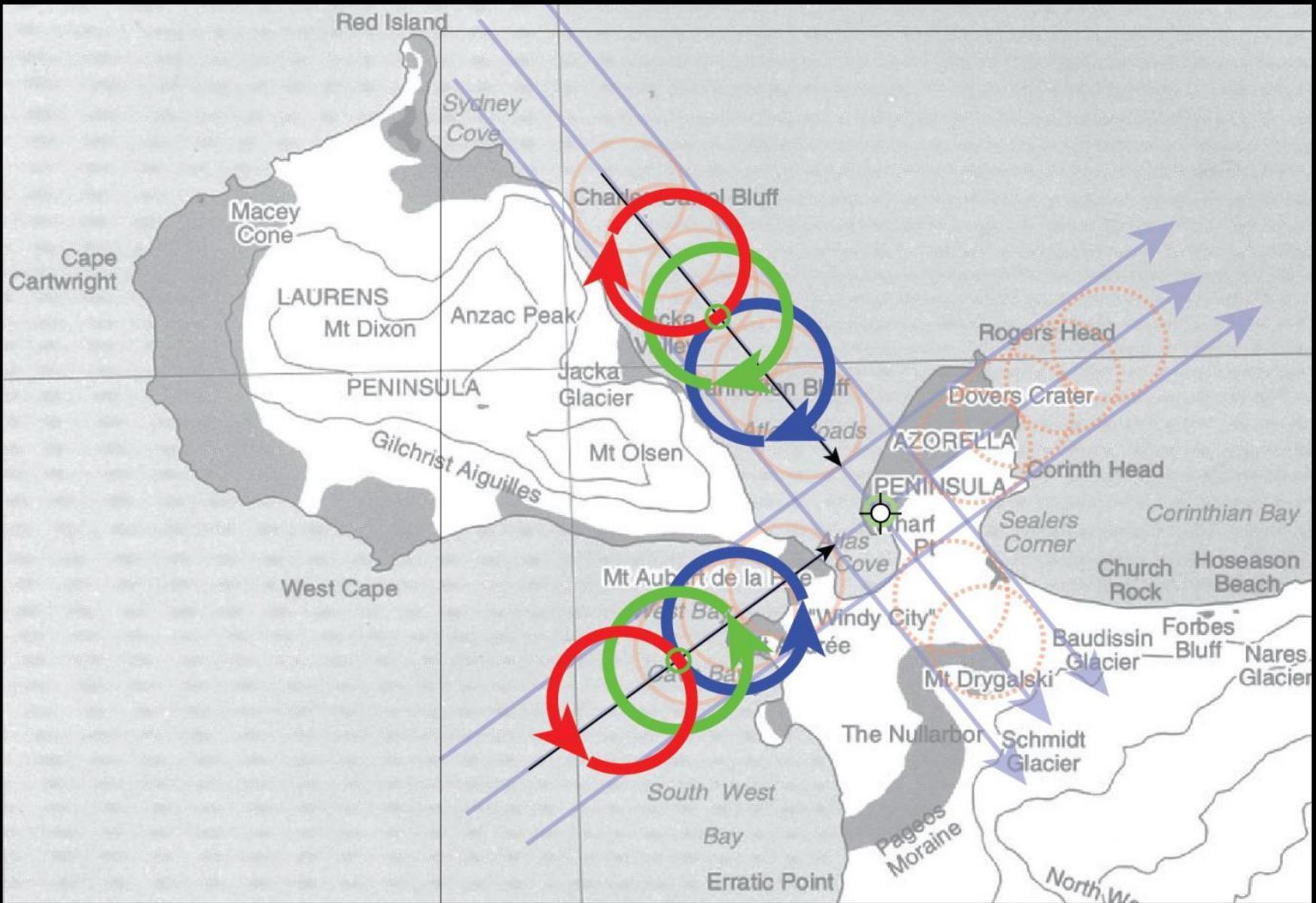


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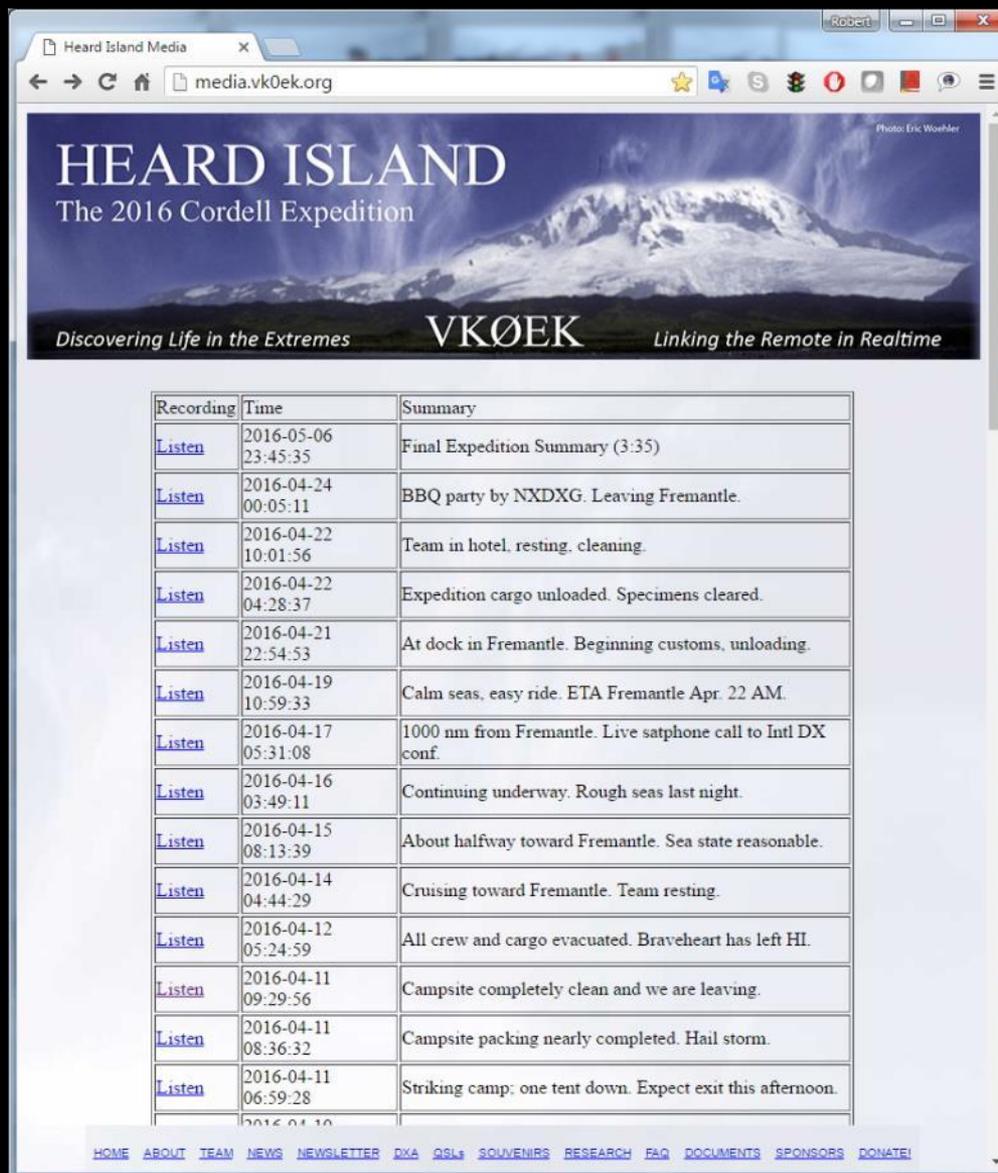








THE ONLINE AUDIO LOG



The screenshot shows a web browser window with the address bar at media.vk0ek.org. The page features a banner for "HEARD ISLAND The 2016 Cordell Expedition" with a photo of a snowy mountain peak. Below the banner is a table of audio recordings.

Photo: Eric Woelmer

HEARD ISLAND
The 2016 Cordell Expedition

Discovering Life in the Extremes **VKØEK** Linking the Remote in Realtime

Recording	Time	Summary
Listen	2016-05-06 23:45:35	Final Expedition Summary (3:35)
Listen	2016-04-24 00:05:11	BBQ party by NXDXG. Leaving Fremantle.
Listen	2016-04-22 10:01:56	Team in hotel, resting, cleaning.
Listen	2016-04-22 04:28:37	Expedition cargo unloaded. Specimens cleared.
Listen	2016-04-21 22:54:53	At dock in Fremantle. Beginning customs, unloading.
Listen	2016-04-19 10:59:33	Calm seas, easy ride. ETA Fremantle Apr. 22 AM.
Listen	2016-04-17 05:31:08	1000 nm from Fremantle. Live satphone call to Intl DX conf.
Listen	2016-04-16 03:49:11	Continuing underway. Rough seas last night.
Listen	2016-04-15 08:13:39	About halfway toward Fremantle. Sea state reasonable.
Listen	2016-04-14 04:44:29	Cruising toward Fremantle. Team resting.
Listen	2016-04-12 05:24:59	All crew and cargo evacuated. Braveheart has left HI.
Listen	2016-04-11 09:29:56	Campsite completely clean and we are leaving.
Listen	2016-04-11 08:36:32	Campsite packing nearly completed. Hail storm.
Listen	2016-04-11 06:59:28	Striking camp; one tent down. Expect exit this afternoon.

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THE NEWSLETTERS

HEARD ISLAND

The 2014 Coral Reef Expedition

EXPEDITION SCHEDULED FOR EAR-APR 2016



Weather for the EAR 2016

- Weather: Good
- Sea: Moderate
- Temperature: 15-20°C
- Humidity: 60-70%
- Wind: 10-15 knots
- Visibility: 10-15 km

Weather for the EAR 2016

- Weather: Good
- Sea: Moderate
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Weather for the EAR 2016

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HEARD ISLAND

The 2014 Coral Reef Expedition

COORDINATING VKOER WITH FRIGATE'S EQUIPMENT

A series of articles detailing the coordination of the expedition's equipment and the challenges faced by the team.

HEARD ISLAND

The 2014 Coral Reef Expedition

MAIN CAMP SITE WILL BE BUILT USING AIR-DROP TECHNIQUES

Articles discussing the construction of the main camp site using air-drop techniques and the challenges of building in a remote location.

HEARD ISLAND

The 2014 Coral Reef Expedition

THE TOP LEVEL OF INFORMATION IS BEING FOR VKOER

Articles providing information on the top level of information being shared for VKOER and the role of the expedition team.

HEARD ISLAND

The 2014 Coral Reef Expedition

THE HEARD ISLAND EXPEDITION EXPERIENCE

Articles sharing the expedition experience and the challenges faced by the team.

HEARD ISLAND

The 2014 Coral Reef Expedition

SPONSORS: "IT HELPED MAKE IT HAPPEN"



A list of sponsors and their contributions to the expedition.

HEARD ISLAND

The 2014 Coral Reef Expedition

EXAMPLE FROM: VKOER - HEARD ISLAND, IN VKOER

Articles providing an example from VKOER and the challenges faced by the team.

HEARD ISLAND

The 2014 Coral Reef Expedition

ANALYSIS OF HEARD ISLAND'S CORAL REEF



Articles analyzing the coral reef and the challenges faced by the team.

HEARD ISLAND

The 2014 Coral Reef Expedition

THE VOYAGERS



Articles introducing the team members and their roles.

HEARD ISLAND

The 2014 Coral Reef Expedition

HOW TO MAKE CONTACT WITH HEARD ISLAND



Articles providing information on how to make contact with Heard Island.

HEARD ISLAND

The 2014 Coral Reef Expedition

EXPEDITION IS ACTIVE ON HEARD ISLAND



Articles reporting on the expedition's activities on Heard Island.

HEARD ISLAND

The 2014 Coral Reef Expedition

EXPEDITION EXPERIENCES AN ISLAND OF EXTREMES



Articles describing the extreme conditions on Heard Island.

HEARD ISLAND

The 2014 Coral Reef Expedition

TEAM PRESENTS RESULTS OF THE EXPEDITION



Articles presenting the results of the expedition.

HEARD ISLAND

The 2014 Coral Reef Expedition

TEAM PRESENTS RESULTS OF THE EXPEDITION



Articles presenting the results of the expedition.

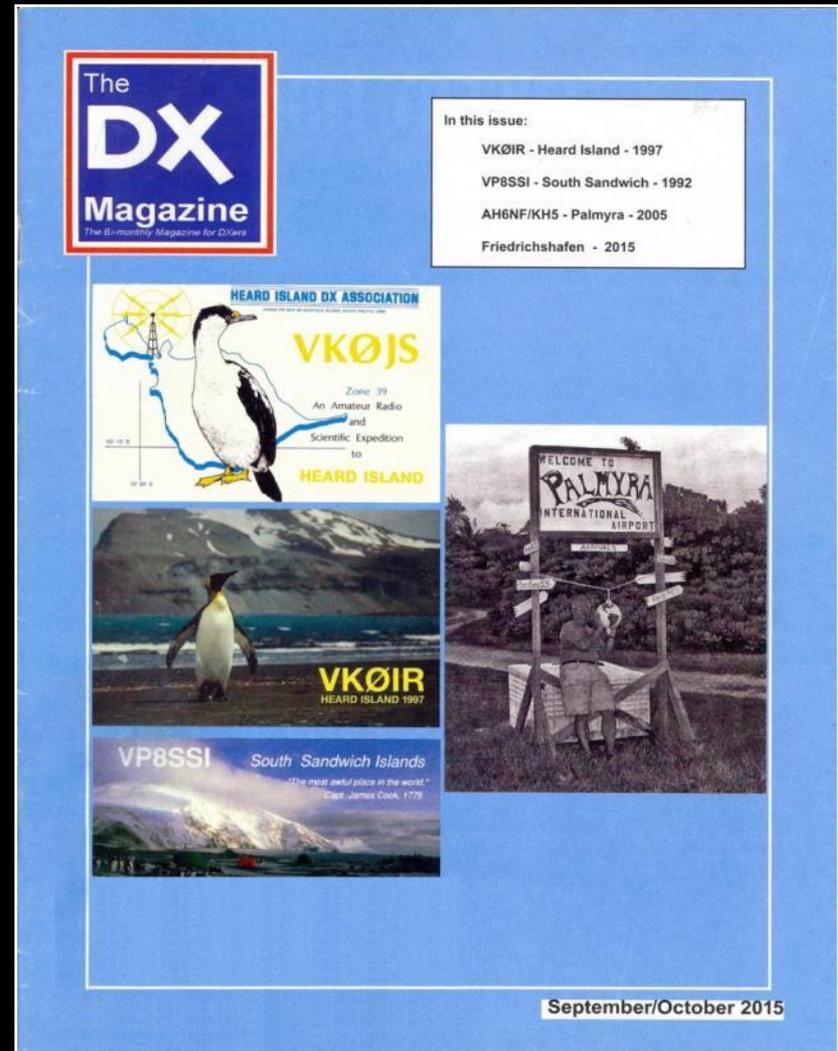
www.VKØEK.org
www.heardisland.org



VKØEK HEARD ISLAND 2016

IOTA AN-004 • CQ Zone 39 • ITU Zone 68 • Loc. MD66qx

ARTICLES





KK6EK

The 14 men



AEØEE



K3EL



UT4UD



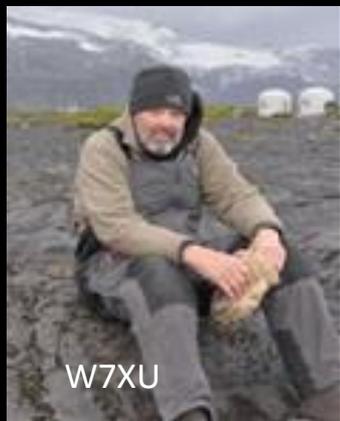
VK2BAX



KM4MXD



VK6CQ



W7XU



N6TQ



NP4IW



NG2H



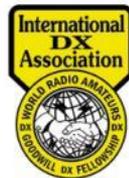
K2ARB



WJ2O



HB9AXE



INDIVIDUAL DONORS



HEARD ISLAND

The 2016 Cordell Expedition

Discovering life in the Extremes **VK0EOK** Linking the Remote to the World

THE EXPEDITION IS OVER—THE WORK CONTINUES



The Heard Island Expedition team, June 2016. Photo: © 2016, VK0EOK. All rights reserved.

The data from the Heard Island Expedition is available in a variety of formats, including spreadsheets, PDFs, and audio files. The data is organized by date and location, and is available for download from the expedition website. The data is provided as a service to the scientific community and is not intended for commercial use.

Heard Island Expedition Website: www.heardislandexpedition.com

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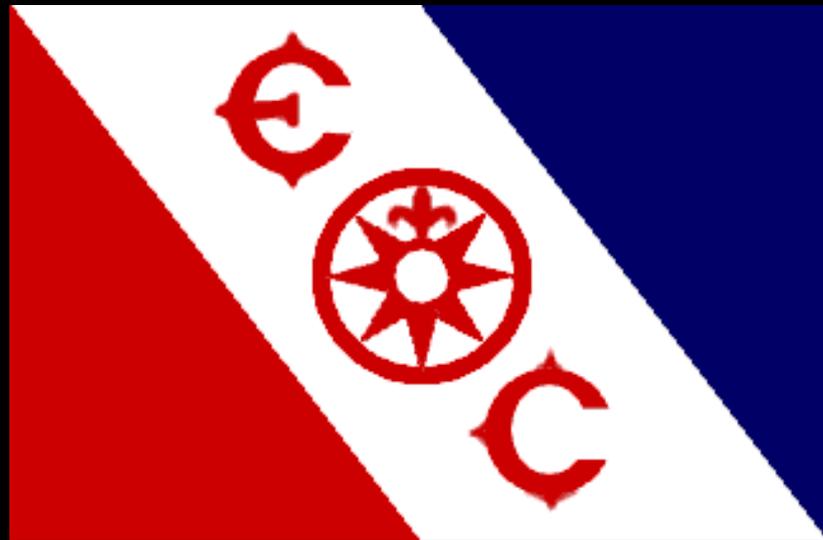
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Last Newsletter will credit everyone!

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Heard Island 2016

Robert W. Schmieder
Cordell Expeditions



Explorers Club

18 Nov. 2016