

HEARD ISLAND

The 2016 Cordell Expedition

Photo: Eric Woehler

Discovering Life in the Extremes

VKØEK

Linking the Remote in Realtime

EXPEDITION IS ACTIVE ON HEARD ISLAND

Multi-disciplinary expedition is first in almost two decades

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INSIDE THIS ISSUE

The main campsite..... 1

Operations..... 2

Activities..... 3

Online access..... 4

1

The main operations site of the 2016 Cordell Expedition to Heard Island lies at the foot of the 9000-ft. peak of Big Ben. The dark area between the volcano and the campsite is a featureless plain of volcanic cinders. The array of antennas around the site provides the capability to make amateur radio contacts on all major bands and modes, using the callsign VKØEK. Just inside the window of the op tent (left) are the satellite terminals that provide full connection to the internet, enabling real-time upload of the radio log and its display on the web page [DXA](#), as well as effectively unlimited communications via social media. In the distance another load of cargo is being transported to the site using the 4-wheel drive vehicle. Near the peak of Big Ben an elevated vent is emitting dark fumes, which follows the full-scale eruption two months earlier.

CORDELL EXPEDITIONS ESTABLISHES OPERATIONS ON HEARD ISLAND



(Above) The historic ANARE Research Station is now a ruin, nearly completely blown away by the fierce winds that sweep across the island. This is the last of about a dozen building that were used year-round during 1947-55. This zone is now off-limits, so the Cordell group located its campsite about well outside its boundaries (see satellite image, above right). The ground around the campsite is bare lava rock, with little vegetation. The green area is mostly Azorella moss and other plants. (Above) The refuge shelters installed by the Australian Antarctic Division about 15 years ago are not being used by this expedition.



(Above) This 2014 satellite image shows the location of the campsite at Atlas Cove. The location was chosen to be near the flat floodplain known as the Nullarbor, in order to be accessible for the all-terrain vehicle used for transportation, and to have most efficient antennas for the radio operation. Heard Island measures about 20 miles tip-to-tip, with a 9000-ft. active volcano called Big Ben at the center (see p. 3).

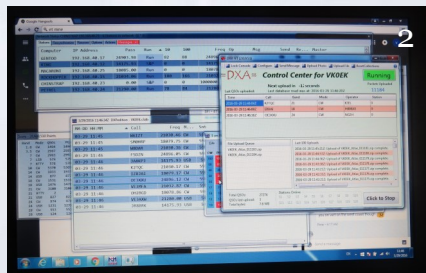
AMATEUR RADIO, FIELD SCIENCE, AND INFORMATION TECHNOLOGY



(Above) The operating tent: Galley left foreground, satellite communications left rear, radio operating positions right. (Above right) The communications center, including 3 Inmarsat BGAN terminals, the DXA gateway computer, and various utility computers, printer, and handheld Iridium and Inmarsat satphones.

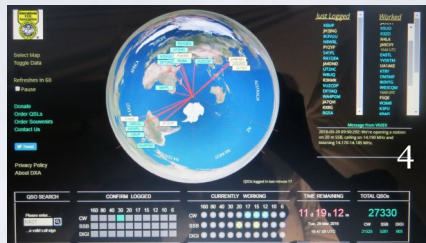


(Right) part of the antenna group on the Nullarbor, showing one of the four-square arrays and the 160-m vertical. The ground was often flooded with wind-blown seawater about 1 ft. deep.



(Left, top to bottom) What happens when you make a contact with VKØEK: (1) The operator logs the call in the N1MM+ logging network; (2) The DXA console assembles the QSOs over the previous 1 minute into a packet; (3) The packet is uploaded by the terminal to the server in the U.S.; (4) The server updates the database used to produce the DXA display at dxa.vkoeek.org.

(Below left) Venting from the summit of Big Ben. The entire edifice above the slope has built since the 1997 expedition. The vent is about 50 m in diameter. (Below right) The first scientific specimens of soil and glacial meltwater are obtained and logged. Yet to come are samples of the rocks from the volcano.



All photos in this issue by R. W. Schmieder

EXPEDITION IS GEOGRAPHICALLY HALFWAY

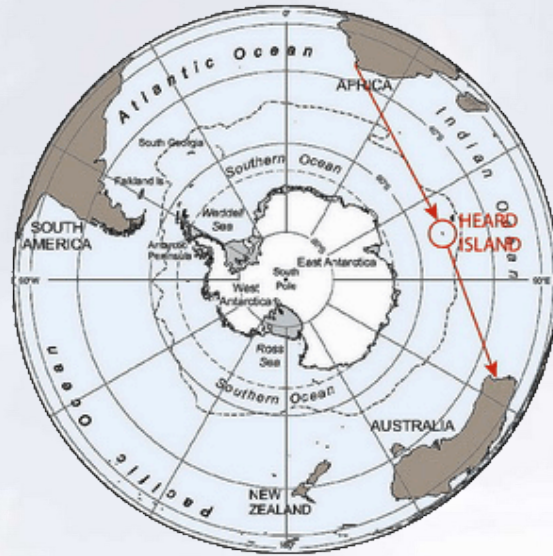


THE HEARD ISLAND PROJECT

The Heard Island Project is centered around an expedition to Heard Island, lying at 53°S 73°E in the Southern Ocean. The island is extremely isolated, and very seldom visited.

The project will include an ambitious amateur radio operation using the callsign **VKØEK**, and a variety of scientific investigations under the title "Discovering Life in the Extremes" and "Linking the Remote in Realtime."

The expedition team of 14 will sail on or around March 10, 2016, from Cape Town, South Africa, spend up to 21 days on Heard Island, and end the voyage at Fremantle, Western Australia.



Geographically, the expedition is at the halfway point between Cape Town, SA Fremantle, WA. To get the team on Heard Island requires a cruise of 10-12 days on both links, with a nominal stay of 20 days on Heard Island. The closest landmass to the present location is the Kerguelen Islands, about 250 nm to the northwest. About a thousand miles south is Antarctica. Although known as a subantarctic Island, at 53° S latitude Heard Island is south of the Antarctic convergence, the region that defines Antarctic conditions.

CORE COMMUNICATIONS LINKS

EXpedition site	http://www.heardisland.org
DXpedition site	http://www.vkoek.org
DXA	http://www.dxa3.org
QSLs	https://shop.vkoek.org
EXpedition souvenirs	https://shop.vkoek.org/souvenirs.html
DXpedition souvenirs	http://astridsembroidery.com/vkoek.html
AudioLog	https://media.vkoek.org
Donate	http://www.heardisland.org/HD_pages/HD_donations.html
Newsletter archives	http://www.heardisland.org/HD_pages/HD_newsletter.html
Newsletter subscribe	http://www.heardisland.org/HD_pages/HD_newsletter.php
Tracking the vessel	https://share.delorme.com/VKØEK
Buoy cams	http://www.ndbc.noaa.gov/buoycams.shtml
NOAA buoys	http://www.ndbc.noaa.gov/
ARGO buoys	http://argo.whoi.edu/



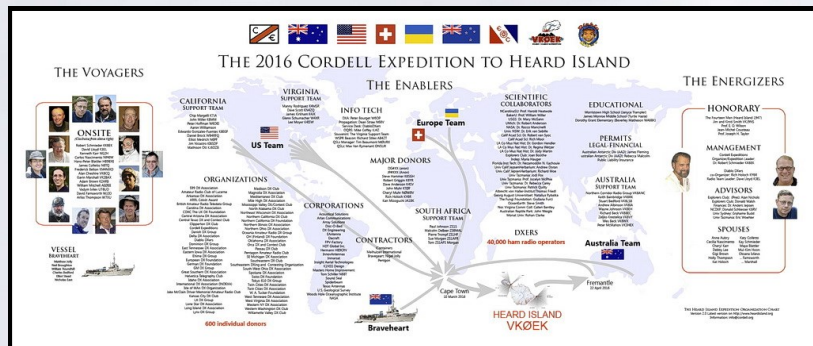
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THE HEARD ISLAND EXPEDITION ORGANIZATION CHART

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Past issues of the Newsletter are available for download [HERE](#).