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Jenny Thomas (SONA Data Manager)

Email: jenoma@bas.ac.uk



Southern Ocean Network of Acoustics - A circumpolar database of acoustic observations of the mid-trophic level in the Southern Ocean

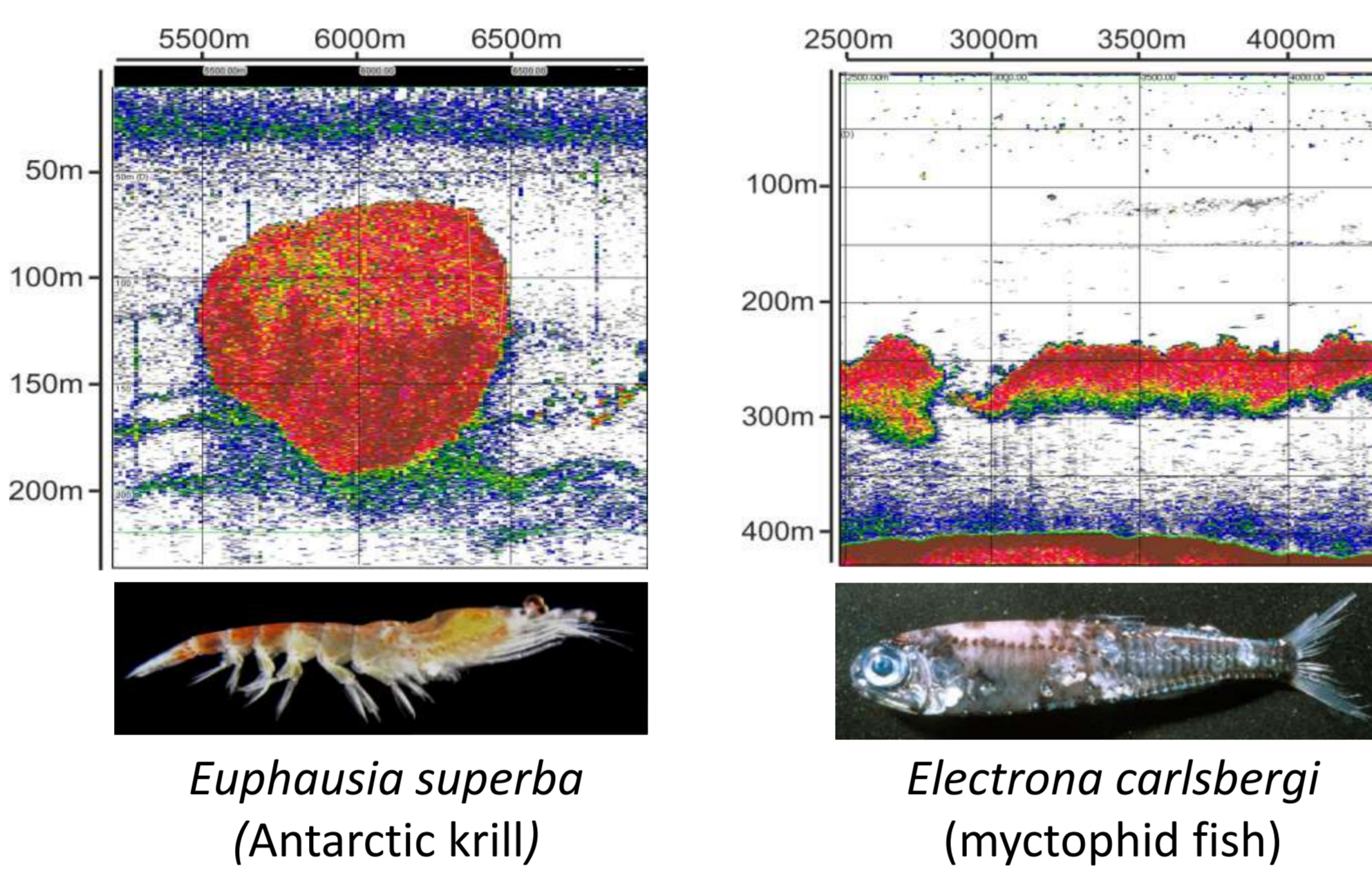
J. Thomas¹, S. Fielding¹, A. J. Tate¹, M. Cox², R. Kloser³, T. Ryan³, R. Downie³, G. Keith³, P. Brehmer⁴, N. Behagle⁴, G. Skaret⁵, R. Korneliussen⁵, R. O'Driscoll⁶, A. Dunford⁶, P. Escobar⁶, C. Reiss⁷, A. Cossio⁷

¹British Antarctic Survey (BAS), Natural Environment Research Council, High Cross, Madingley Road, Cambridge, CB3 0ET, UK; ²Australian Antarctic Division, 203 Channel Highway, Kingston, Tasmania 7050, Australia; ³CSIRO Marine and Atmospheric Research, PO Box 1538, Hobart 7001, Australia; ⁴Institut de Recherche pour le Développement, UMR195 Lemar, BP 70, Campus Ifremer, 29280 Plouzané, France; ⁵Institute of Marine Research, PO Box 1870 Nordnes, N-5817 Bergen, Norway; ⁶National Institute of Water and Atmospheric Research Ltd., PO Box 14-901, Kilbirnie, Wellington, New Zealand; ⁷Antarctic Ecosystem Research Division, NOAA Fisheries, Southwest Fisheries Science Center, La Jolla, CA 92037, USA.

The Southern Ocean is undergoing significant change. Understanding and predicting how the marine ecosystem responds to this change is a globally relevant issue that requires circumpolar scale analyses and multidisciplinary observations. SONA represents a group of scientific institutes and industrial partners who have united to establish a circumpolar database of acoustic observations of the mid-trophic level in the Southern Ocean.

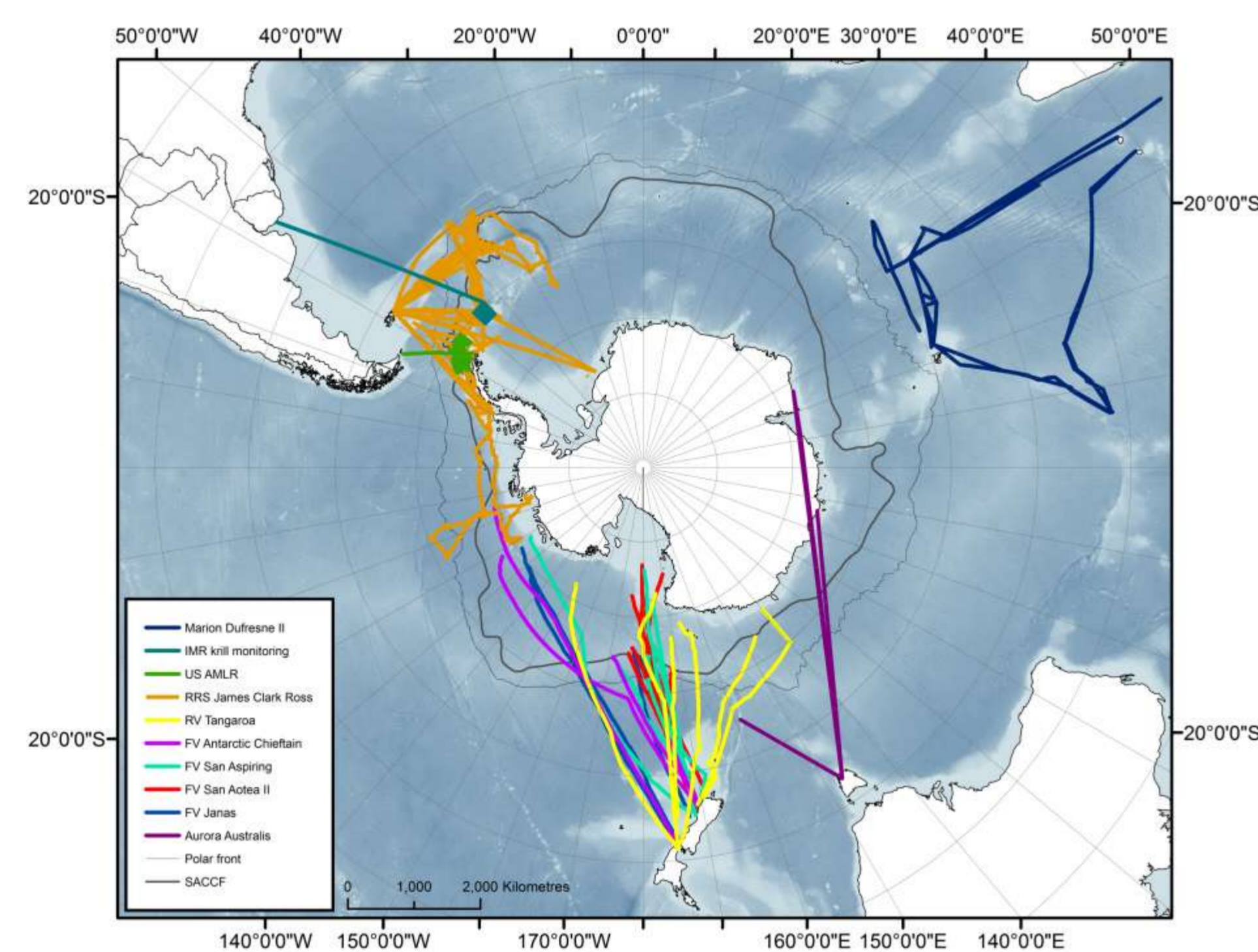
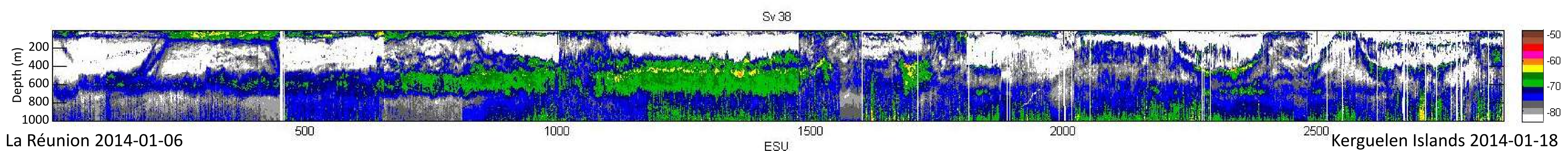
METHODS

Acoustic observations offer a cost-effective way to collect high resolution data on pelagic organisms. SONA focuses on geo-referenced calibrated water column backscatter (S_v in dB re 1 m⁻¹) collected from an existing international network of scientific research and commercial fishing vessels on transit in the Southern Ocean. Existing metadata protocols and data processing routines (e.g. ICES WGFAS, CCAMLR ASAM and IMOS BASOOP) are used to generate comparable data.



AIMS

1. Lead, coordinate and support the Antarctic scientific community in creating an **open access database** of acoustic observations of the mid-trophic level.
2. Develop and adopt **common standards and methodologies** for acoustic data collection and metadata.
3. Implement a **self-sustaining long-term acoustic observing strategy** framed within the international observing and modelling communities (e.g. SOOS, CCAMLR, ICED).

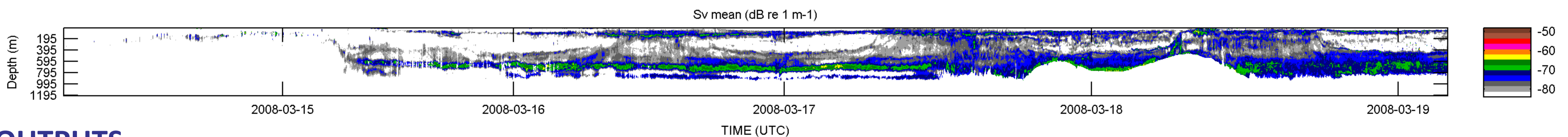
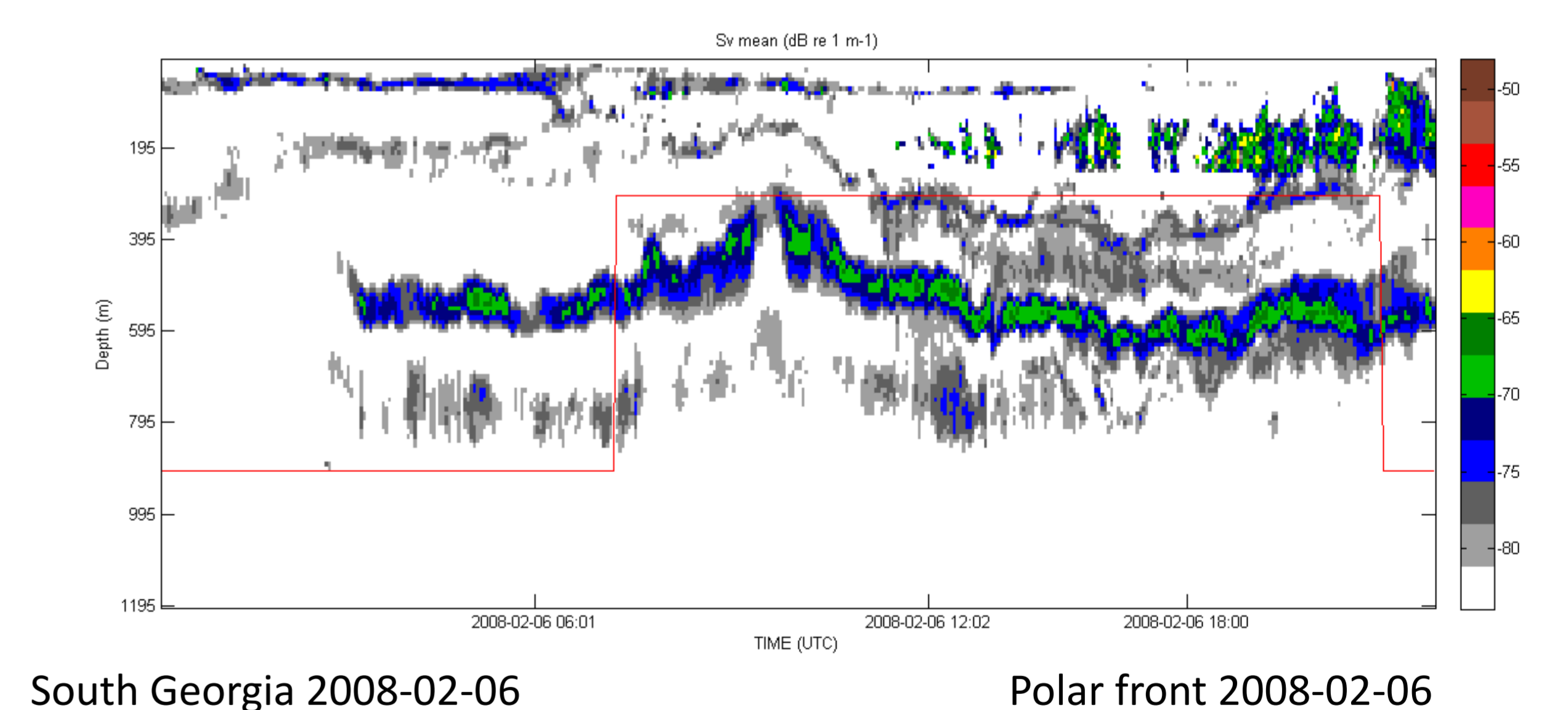


Top: 38 kHz echogram (Marion Dufresne), La Réunion to Kerguelen, Indian Ocean

Left: Cruise tracks that contribute acoustic backscatter to SONA

Right: 38 kHz echogram (RRS James Clark Ross), South Georgia to Polar front, Atlantic Ocean

Bottom: 38 kHz echogram (Tangaroa), Pacific Ocean



OUTPUTS

IMOS processing routines used – see <http://imos.org.au/basoop.html>

DATA DISCOVERY: Data will be available (for non-commercial use) to the scientific community as well as the general public (levels of access defined by SONA members), through a fully searchable online web-portal.

SONA is endorsed by the Southern Ocean Observing System (SOOS) and data will be discoverable through the SOOS Metadata Portal (hosted by NASA GCMD) when it comes online later this year.

DATABASE: SONA is developing a database to bring together acoustic data from the Southern Ocean.

COMMON STANDARDS: The SONA website will link to adopted standards and protocols, as well as providing templates and tools for metadata, data collection and processing.

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