

Marine spatial planning: There is more traffic in the sea than you think!

First published 27th November 2015

Around 90% of trade worldwide is carried by ships across the oceans. Shipping is a crucial part of the economy of the modern world we live in. The Falklands are no exception and most goods are transported by ships. So you know that there are ships visiting the Islands to deliver food, materials, petrol, kero, tourists etc. and to export Falklands' products to the world. But, with the remoteness of the Islands, shipping traffic passing by should be minimal, right? Obviously it is not the English Channel here! Yet, with an estimated 50,000 large ships going around the globe at any given time (with this number increasing at great rates), what do we know about what's going on around the Falklands, if ships pass by, how many, what kind and where?

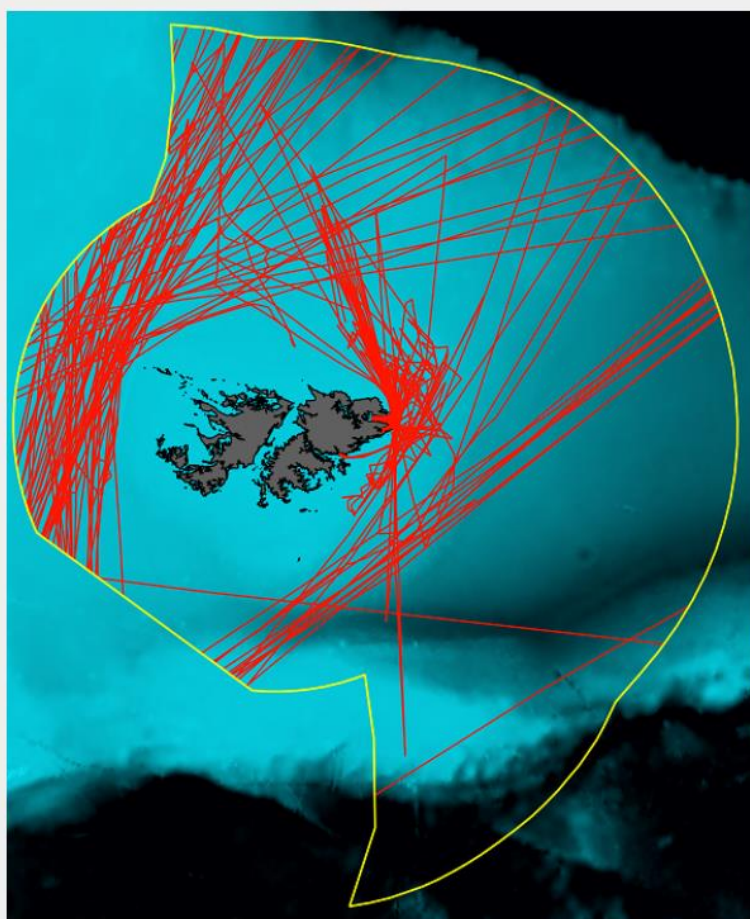


The oil product tanker JASON (105 m in length) in Port Williams.

Shipping data are of utmost importance for Marine Spatial Planning (MSP) because ship traffic is a major source of safety risks from collision or grounding and also of environmental risks (oil spills). In the previous Penguin News, the MSP team introduced what MSP is and the type of information we are collecting to provide scientific tools and advice to manage the marine environment in the long-term. Surprisingly, prior to the start of the MSP project, there was no long term recording of data on shipping activities. Sure has been running a system to monitor shipping traffic since 2013, but solely to display real-time ship locations online for ship-spotters; the data were deleted. This system is called AIS (or Automated Identification System). Ships are equipped with it and transmit information via radio signals picked up by land stations. Sure has 3 such stations across the Falklands. The information given includes the ship identity, the time and its GPS location. Working with Mark Street at Sure, the data has now been extracted and saved at SAERI every 3 months. The MSP project now has one year of hourly shipping locations to analyse. And what a mine of information that is!

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Ship locations are used to map their paths across Falklands' waters. Over 1,100 different ships and boats entered these waters and a significant shipping route west of the Islands was uncovered. Most ships were on route to somewhere else and included oil tankers, container ships, bulk carriers, reefers and cruise ships, but no wine tankers (such a thing *does* exist!) to the despair of some SAERI colleagues. The largest ship that travelled through the Falklands' waters in the last year was the crude oil tanker APOLYTARES, 335m long (more than 3 times the length of a rugby field), that passed 50km east off Beauchêne Island; another of similar size passed within 30km of the Jason Islands. In total, 75 different oil tankers were recorded but only 4 actually delivered to the Falklands or refuelled the Falklands' fishing boats.



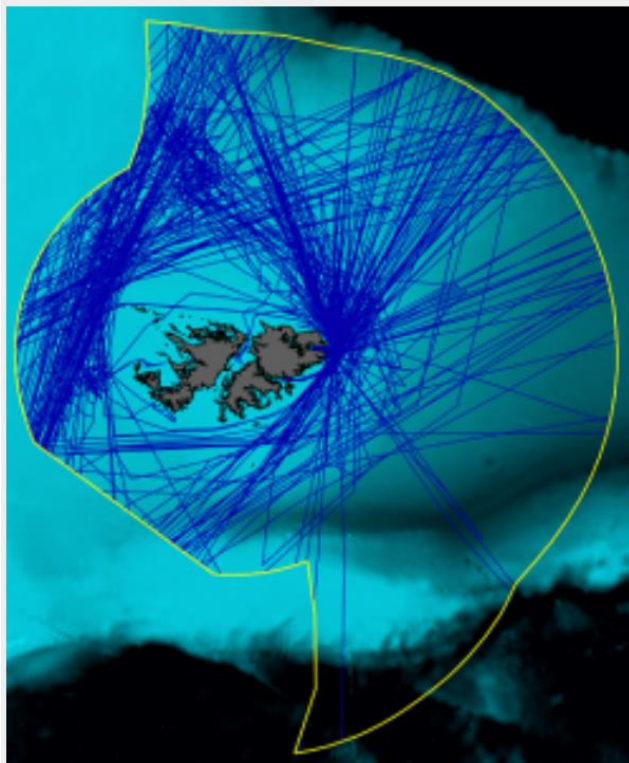
Paths of oil tankers

On the left are all paths of oil tankers that were recorded in Falklands' waters (area bordered in yellow) between May 2014 and May 2015. The paths around Stanley, Berkeley Sound and in the North are tankers for local delivery and re-fuelling of fishing boats at sea, and supplying the oil rig that was then north of East Falkland.

Over that year, 220 different cargo ships, including reefers working with the fishing boats at sea, were also recorded. The largest cargo ships that travelled were bulk carriers of 300m in length and travelled as close as 10km from the Jason Islands and

8km from Beauchêne. The SCOUT, a 93m cargo ship that delivers goods to the Islands from South America was recorded several times, travelling within 2km of the Jason Islands. Boats also regularly sail within 1 to 2 km from Volunteer Point.

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Paths of cargo ships

On the left, paths of all cargo ships that were recorded in Falklands' waters (area bordered in yellow) between 2014 and May 2015. These include reefers but not the oil rig supply boats or the Concordia Bay (local delivery ship).

The shipping data and analyses now provide some scientific tools to identify areas of potential need for monitoring or management. The area of the Jason Islands is particularly sensitive because there is a significant amount of traffic in the western shipping route. Ships may take short cuts through or close to the islands. Further

analyses will be conducted and these shipping data can be combined with data on other activities or areas of value to provide FIG with an overview of potential issues, and help make strategic, informed decisions owing that activities will increase in the marine environment in the future. This is the type of benefits Marine Spatial Planning can provide.

For more information, questions or interest in being involved in MSP in the Falkland Islands, Dr Augé can be contacted at SAERI by phone 27374 or email AAuge@env.institute.ac.fk.

Written by Dr Amélie Augé, spatial ecologist at SAERI, leading researcher and manager of the 2-year Darwin Plus-funded project 'Marine Spatial Planning for the Falkland Islands'. This article was published in the Penguin News on 30 October 2015, ending an MSP series of 4 articles.