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Glider usage within FASTNET

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Publication date:
2015

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Citation for published version (APA):
Porter, M., Dumont, E., & Inall, M. (2015). *Glider usage within FASTNET*. (SAMS Internal reports; No. 289).
Scottish Association for Marine Science.

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Glider usage within FASTNEt

January 2015

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Internal Report No. 289

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As of August 2014 we have had 3 glider missions as part of the FASTNEt project. We have had near continuous glider operations from June 2012 until now, with more planned for the future. The 3 missions have been in the Celtic Sea, The Malin Shelf and the Faroe-Shetland Channel and have been run by pilots at NOC, MARS, UEA and SAMS. Here each mission will be shown separately with information about their time line, location and the current state of the data. If you have any questions about the gliders please contact Marie at marie.porter@sams.ac.uk.

The Gliders used within FASTNEt

Seagliders

SG 156 (Talisker)
SG 545 (Ardbeg)
SG 525 (Fomalhaut)
SG 550 (Eltanin)
SG 510 (Orca)
SG 603 (Laphroaig)
SG 604 (Jura)
SG 606 (Knockando)

Slocums

Unit 194 (Hilts)
 Unit 345 (Cabot)
 Unit 330 (Bellamite)
 Unit 331 (Coproliite)
 Unit 352 (OMG)
 Unit 304 (Ammonite)

Campaign 1 – The Celtic Sea

Campaign 1 used 5 gliders and sampled perpendicular to the slope in the Celtic Sea. The OMG glider was deployed for 10 days during the cruise D376 and collected microstructure shear and temperature data alongside the usual CTD data. The campaign plan was to have 2 gliders in the water at all times but the failure of one Seaglider (Ardbeg) meant that this was not possible.

Campaign time line – June 2012 – January 2013

	June			July				August			September			October →			January		
Talisker																			
Bellamite																			
Coproliite																			
Hilts																			
OMG																			

Campaign tracks

In general the gliders ran a cross-slope line. Coproliite was taken off this track in order to cross a canyon on the slope and for recovery. Hilts was also taken off this track to monitor the tops of some large canyons.



The current state of the data

All data from this mission has been corrected and quality controlled (Seaglider data by Marie and Slocum data by Matthew Palmer, Dmitry Aleynik and Marie Porter). It has not yet reached BODC in its completed state, but will be in the near future. In the meantime, if you require this data please contact Marie who can provide it in a .mat format, split into transects and profiles. Oxygen and colour data are available until September but these have not been corrected in any way.

The data from the OMG glider has been processed and is available from Matthew Palmer, however this will soon be available from BODC. The OMG mission has been written up by Matthew and is currently in review, the rest of the campaign is currently being written up by Marie. Estelle Dumont has completed a technical report for Talisker which is available.

Campaign 2 – The Malin Shelf

Campaign 2 was run using a total of 11 gliders, each with a separate flight path and sampling strategy. As can be seen in the time line, there has been a number of failed missions. As with campaign 1, the OMG glider was run for 2 weeks alongside the summer cruise, JC88.

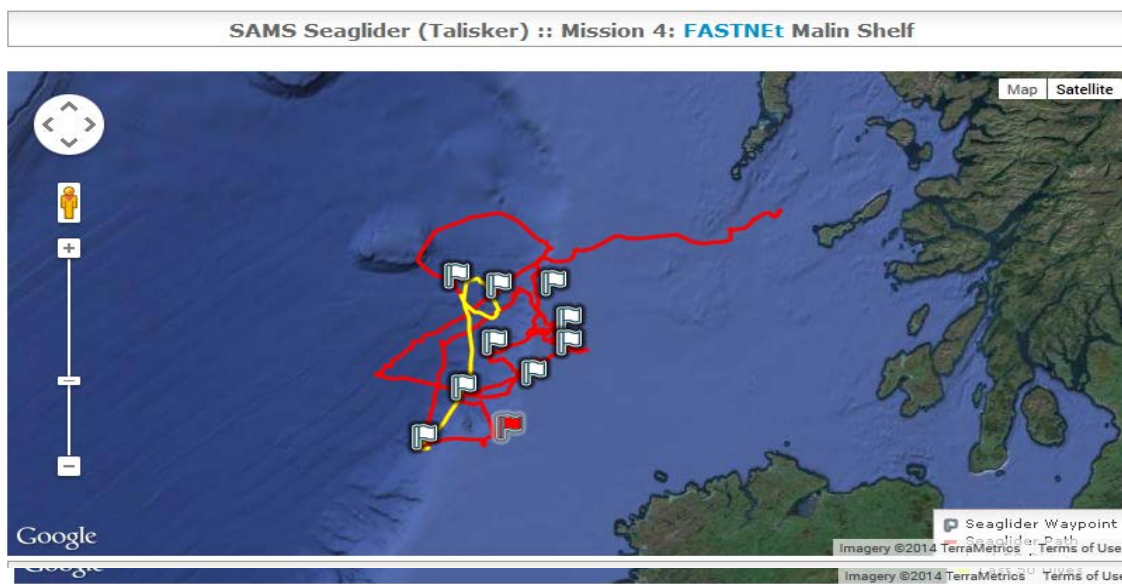
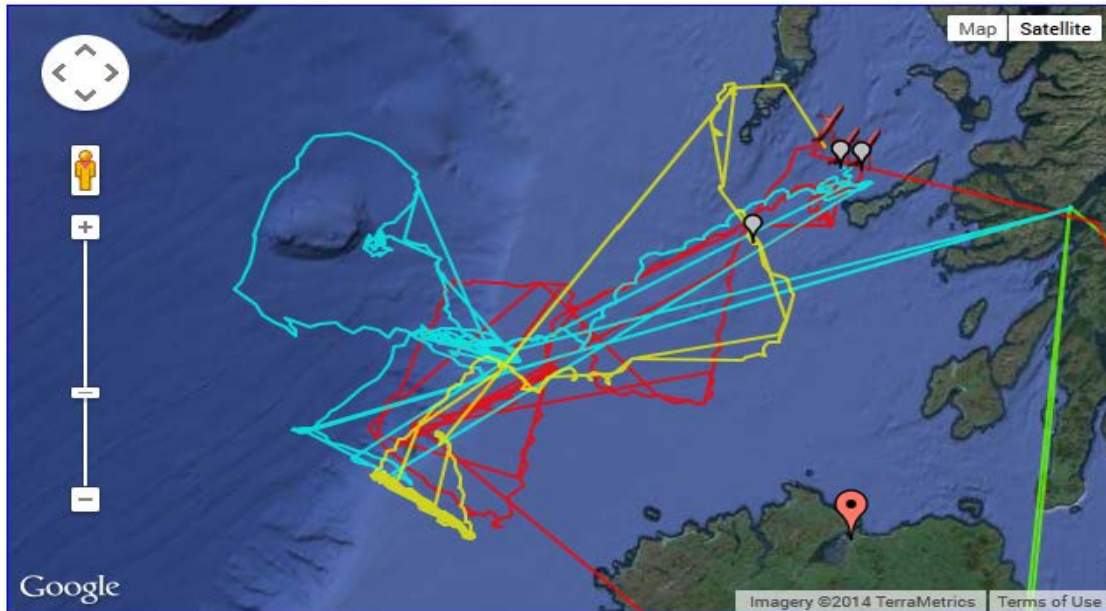
Campaign time line – April 2013 – August 2014

	April	May	June	July	August	September	October	November	December →	April	May	June
Ammonite												
Bellamite												
Coprolite												
Hilts												
Cabot												
Fomalhaut												
OMG												
Eltanin												
Talisker												
Ardbeg												
Laphroaig												

If you would like more information about any of the individual glider missions please contact Marie.

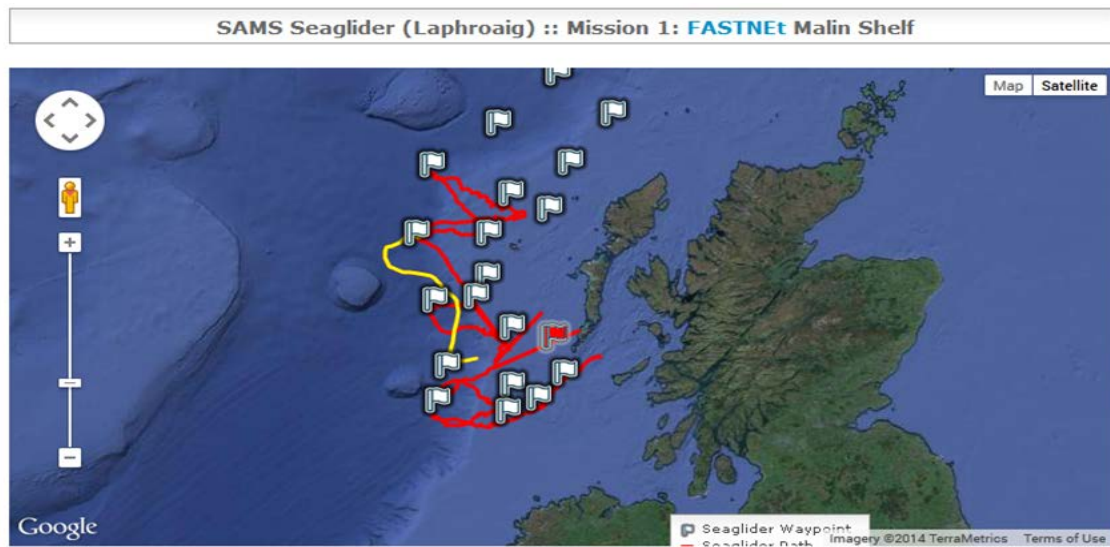
Campaign tracks

Bellamite, Coprolite, Unit 345. I am sorry that I do not have the specific labels for this plot but if you need to know they can be added.



Ardbeg and Talisker. These missions were run in parallel

Laphroaig. The data collected during the latter half of this mission have been noisy and we are yet to work out if this is fixable or the reason for it, please do not rely on this data being made available.



The current state of the data

The data have not yet all been processed. Matthew Palmer and David S are working up the Slocum data (Ammonite, Bellamite, Hiltz and Cabot). Matthew is currently processing the data collected by the OMG glider. Marie has worked up the Seaglider data for Talisker and Ardbeg we are yet to identify the causes of the problems within Laphroaig's data. Please contact the listed person for any extra information or data. Technical reports are available for Talisker, Ardbeg and Laphroaig.

Campaign 3- The Faroe-Shetland Channel May 2014-August 2014

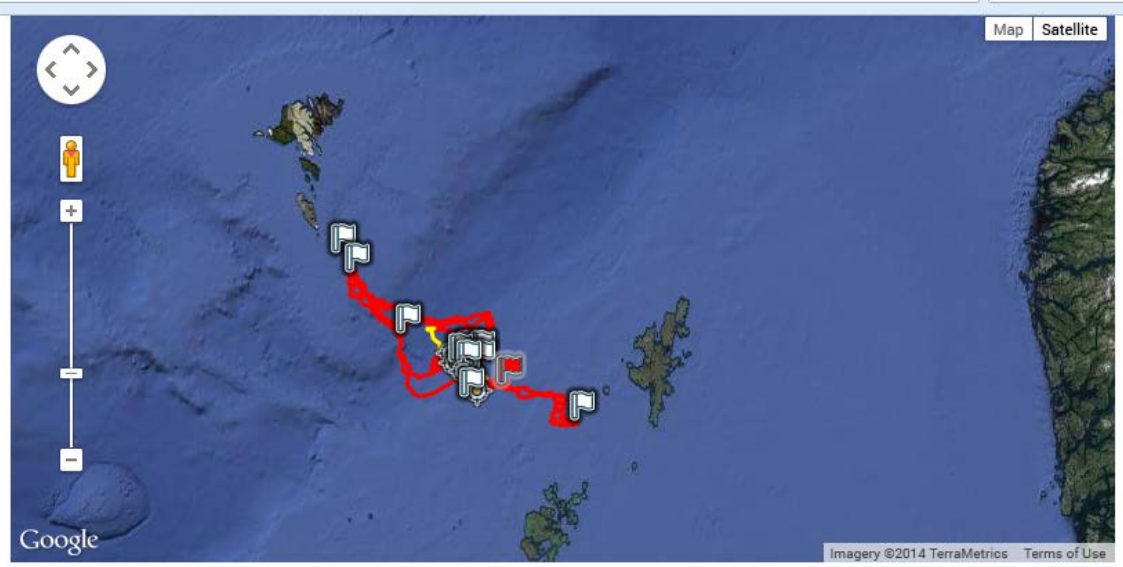
Campaign 3 used 2 Seagliders (Knockando and Orca) and patrolled across the Faroe-Shetland Channel. It spent 15 days as an approximate, virtual mooring at 4.5 W, 60.35N. Keeping position at

this point was challenging due to the presence of a large eddy, which also disrupted passage across the channel. During its mission Orca developed a GPS fault that led to an aborted mission after 11 days in the water.

Campaign time line - May 2014 - August 2014

	May →				August		
Knockando							
Orca							

Campaign tracks



These are the tracks for Knockando I do not currently have the data for Orca.

Current State of the data

The data from Knockando has not yet been looked at and is still entirely in its raw format. Rob Hall from UEA has begun to process Orca's data and has this archived at UEA.