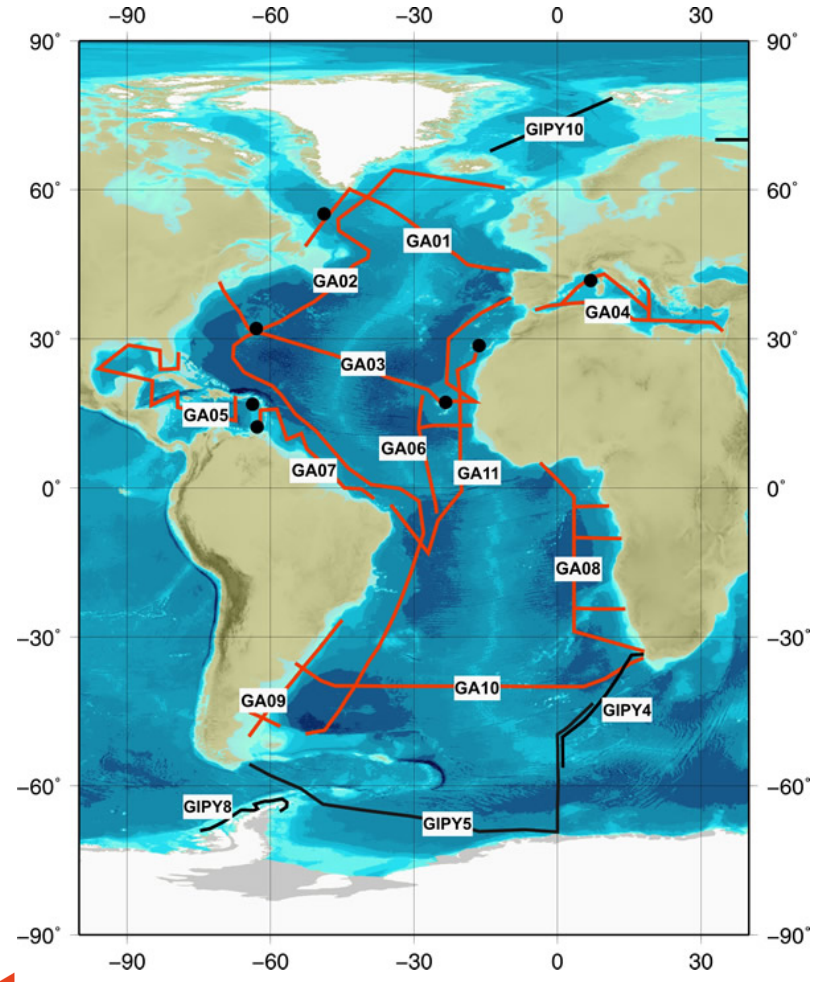
UK Highlights



Two Sections

Subtropical Atlantic GA06

40°S GA10

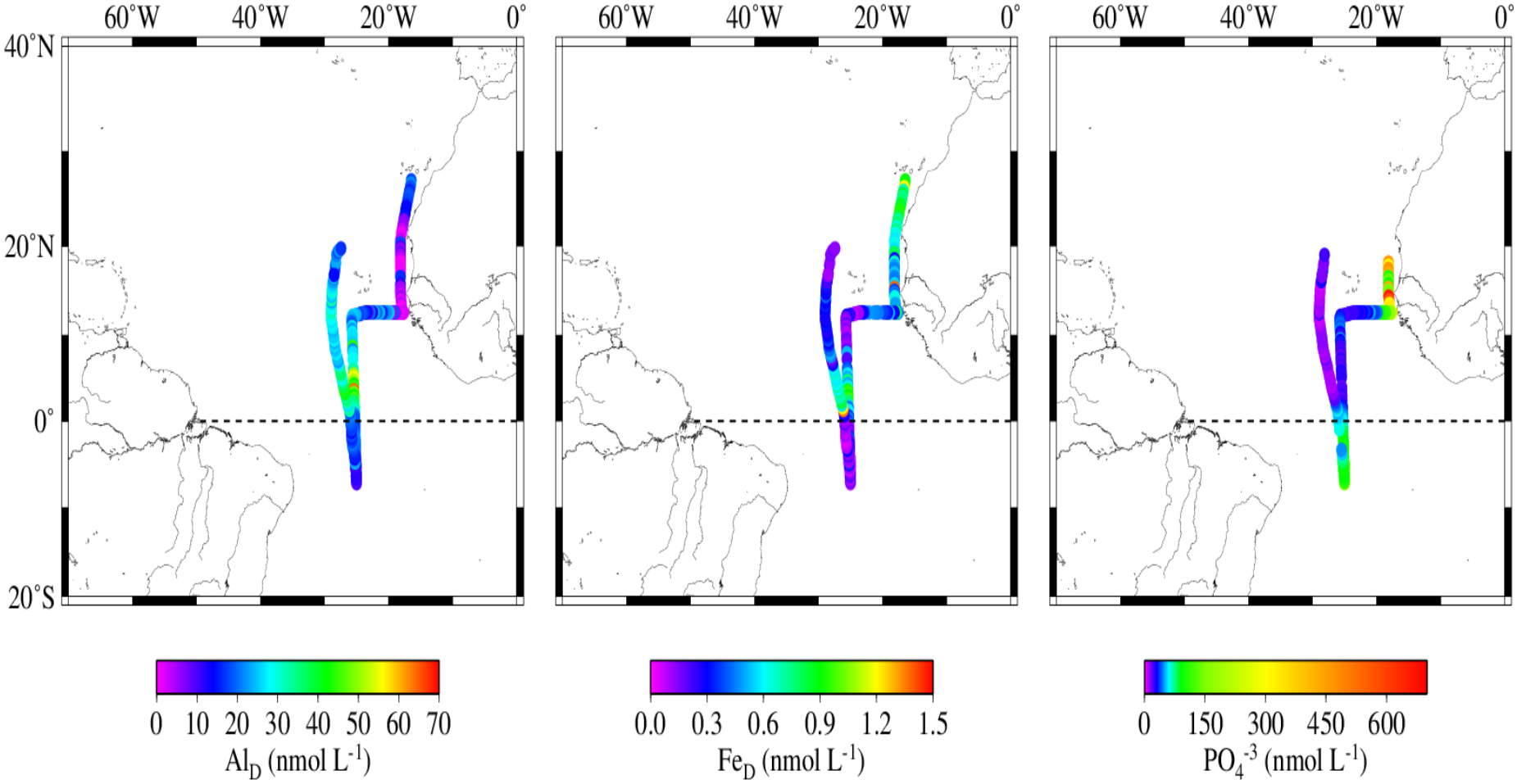
NATURAL ENVIRONMENT RESEARCH COUNCIL

UK GEOTRACES

UK GEOTRACES Cruise GA06
February-March 2011

Key Parameters	**Measured**
Fe	Yes
Al	Yes
Zn	Yes
Mn	Yes
Cd	Yes
Cu	Yes
$d^{15}N$	Yes
$d^{13}C$	No
^{230}Th	Yes
^{231}Pa	Yes
Pb isotopes	Yes
Nd isotopes	No
stored samples	No
Particulates	Yes
Aerosols	Yes

UK GEOTRACES Cruise GA06
February-March 2011



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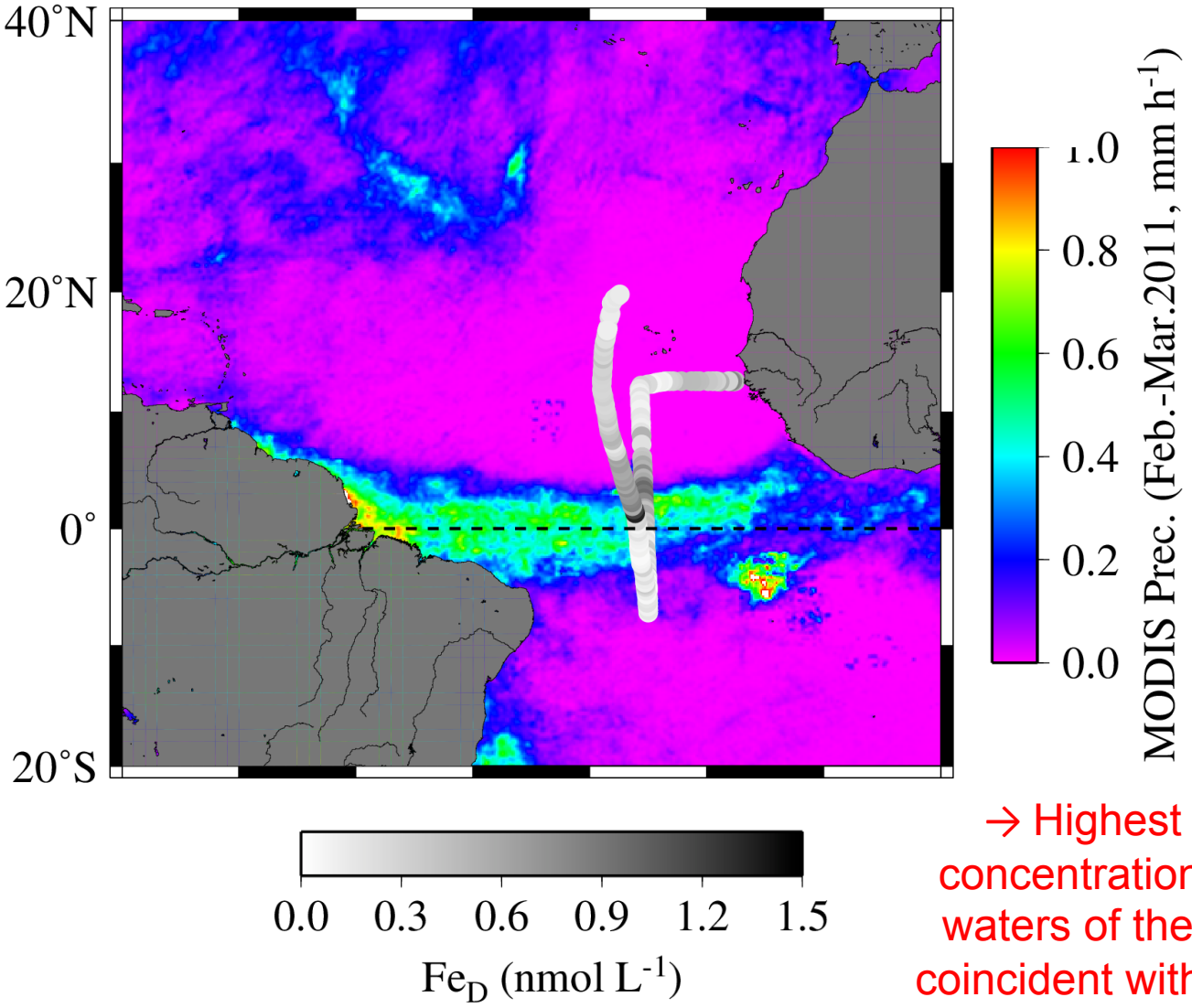
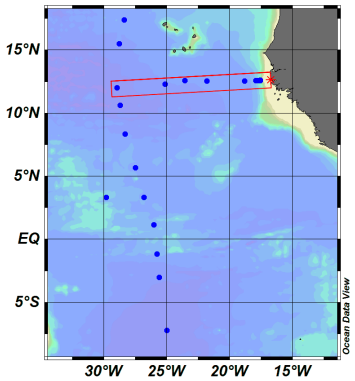
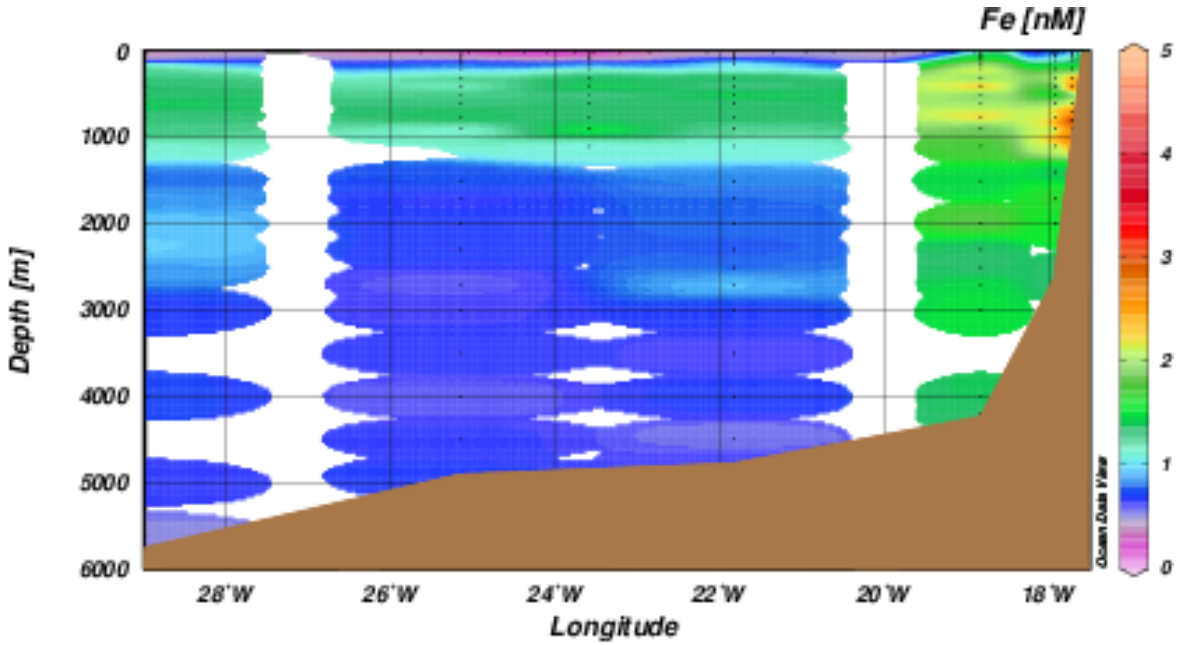
Precipitation and dissolved Fe

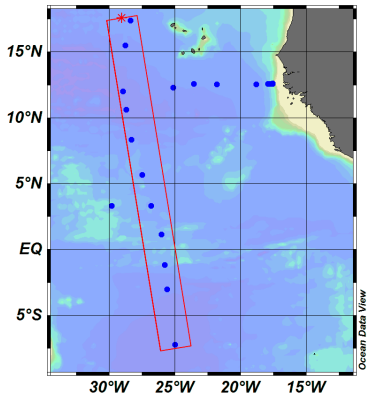


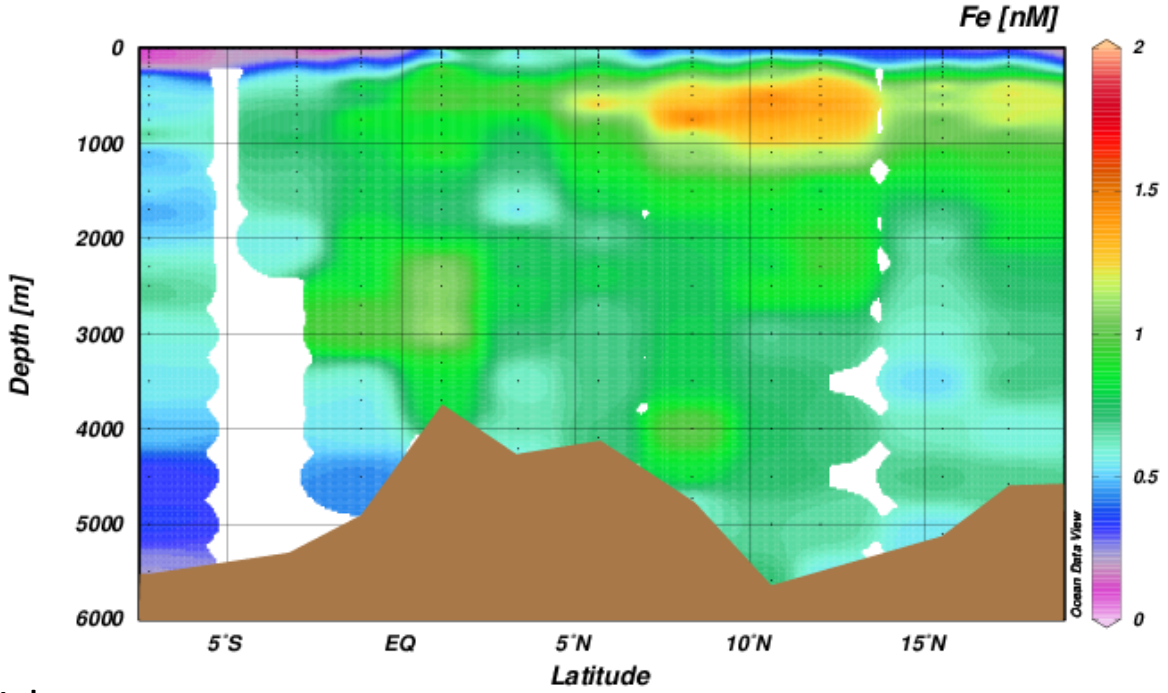
→ Highest dissolved Fe and Al concentrations observed in surface waters of the (sub-)tropical Atlantic coincident with areas of the ITCZ and high rainfall

Fe: hybrid distributions (recycling and scavenging)









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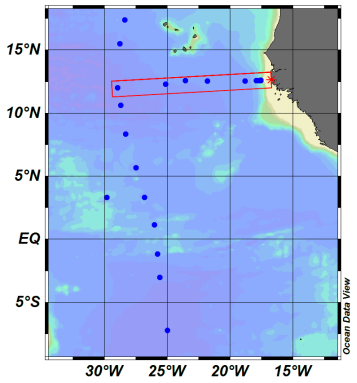
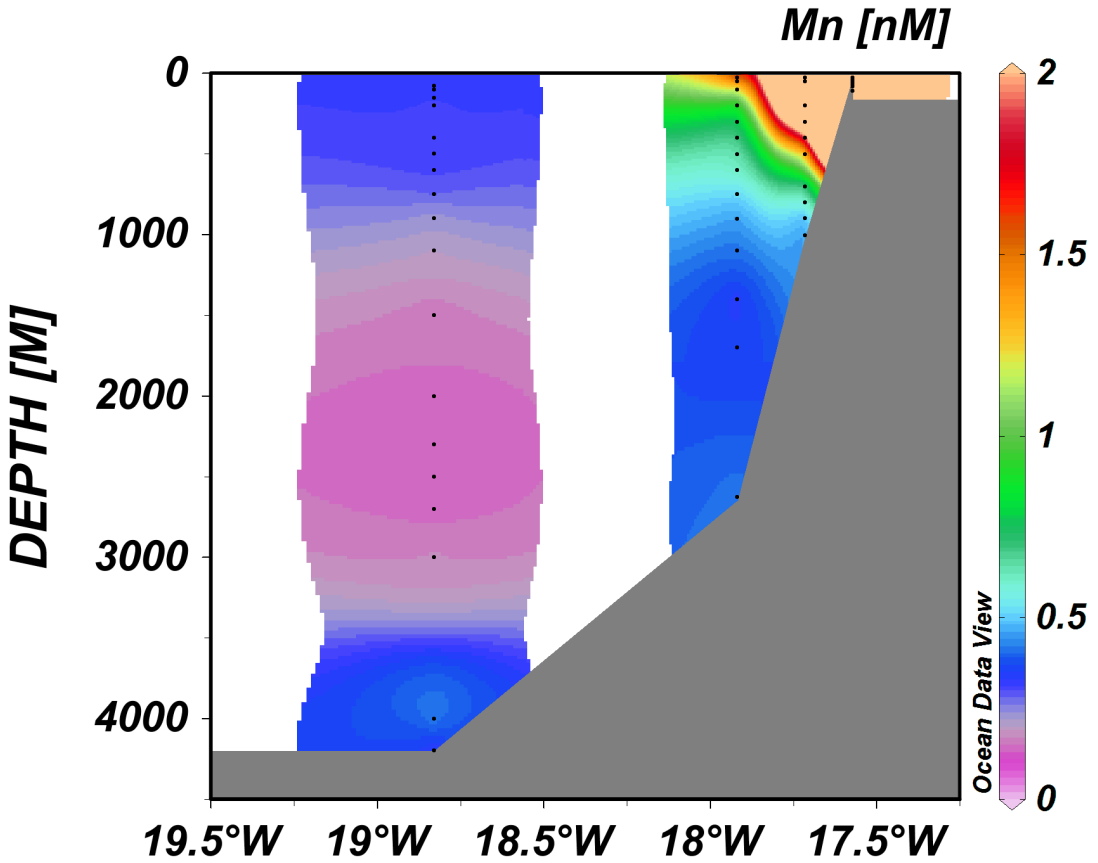
Mn: tracer of benthic inputs





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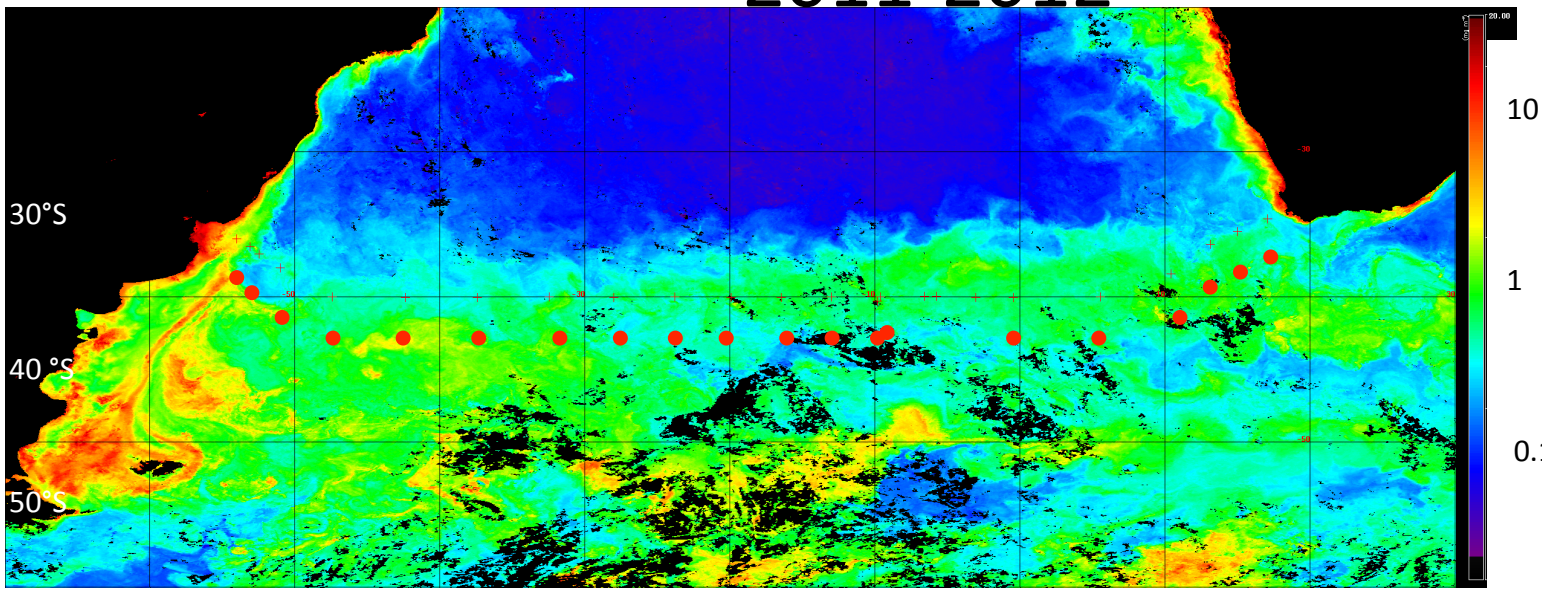
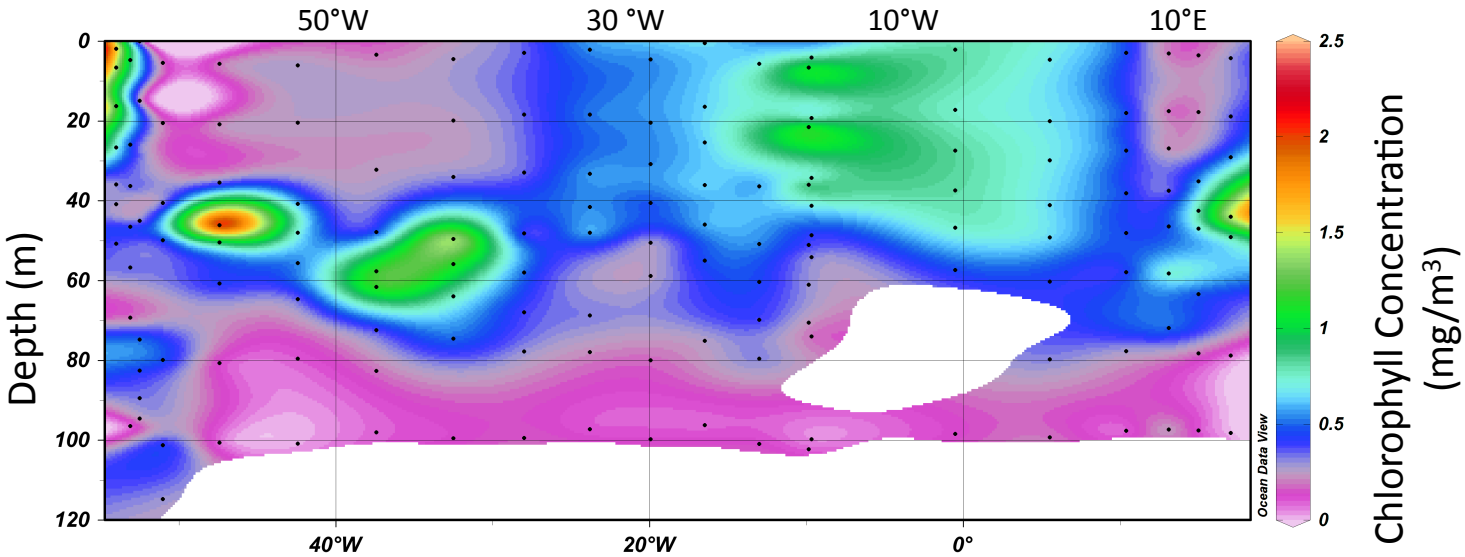
UK GEOTRACES Cruise GA10 December-January 2011-2012



NASA MODIS January 2012 Chlorophyll

Chlorophyll Concentration (mg/m^3)



Chlorophyll Concentration (mg/m^3)

JC068 Bottle Data: Chlorophyll Concentration

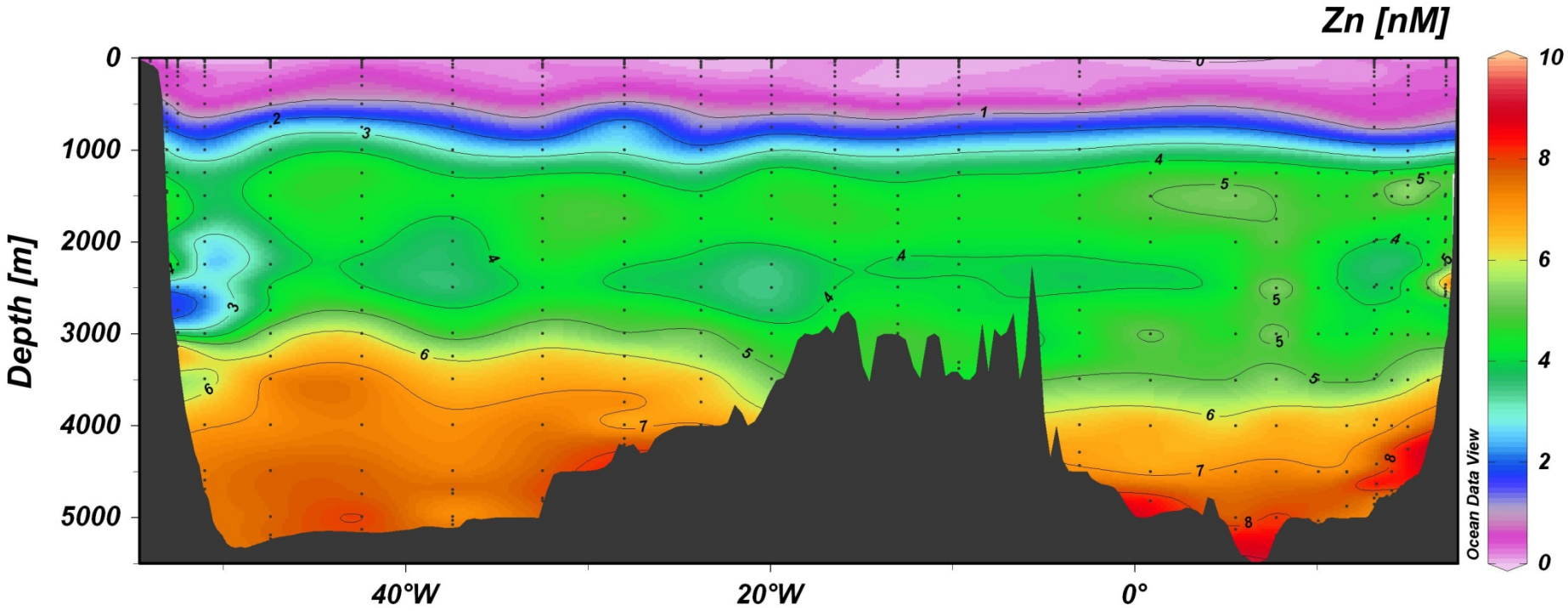
Tom Browning, Heather Bowman

Gough Island

UK GEOTRACES Cruise GA10 December-January 2011-2012

Key Parameters	**Measured**
Fe	Yes
Al	Yes
Zn	Yes
Mn	Yes
Cd	Yes
Cu	Yes
$d^{15}N$	Yes
$d^{13}C$	Yes
^{230}Th	Yes
^{231}Pa	Yes
Pb isotopes	Yes
Nd isotopes	Yes
stored samples	Yes
Particulates	Yes
Aerosols	Yes

GA10+GA 10a Dissolved zinc



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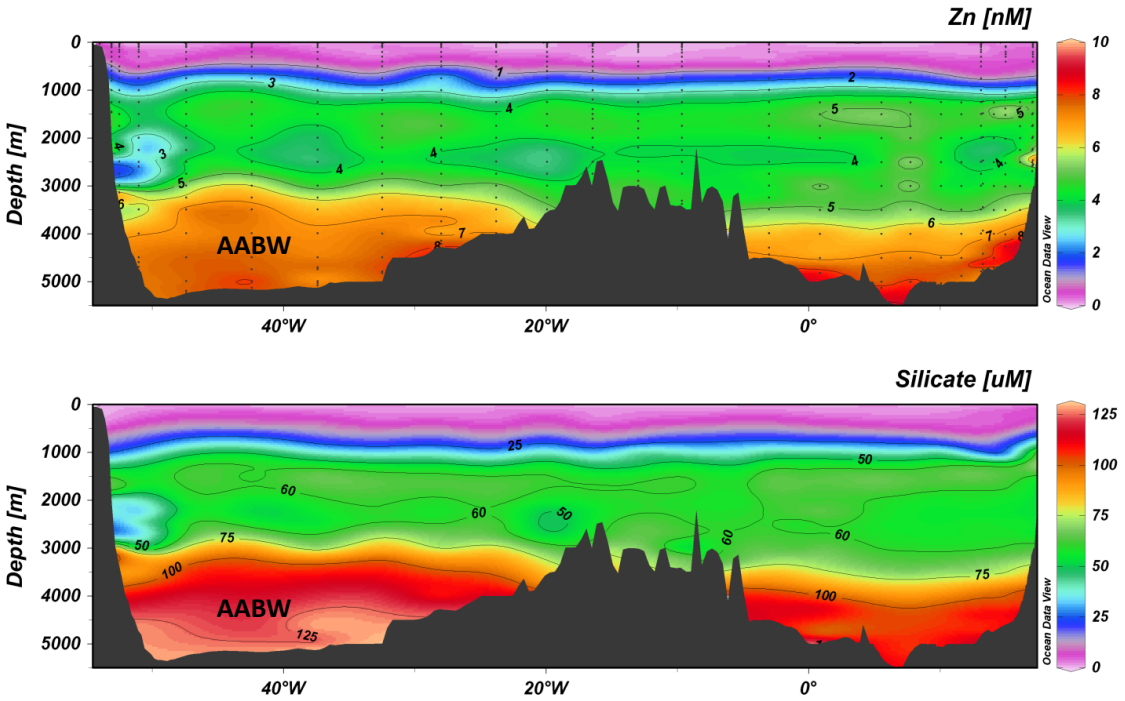
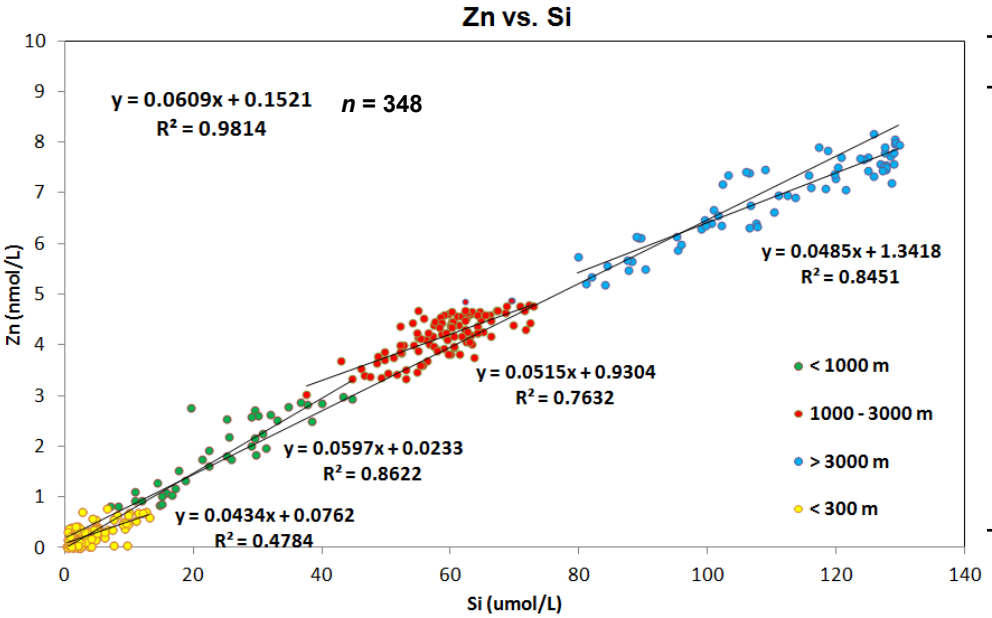
Zn vs. Si



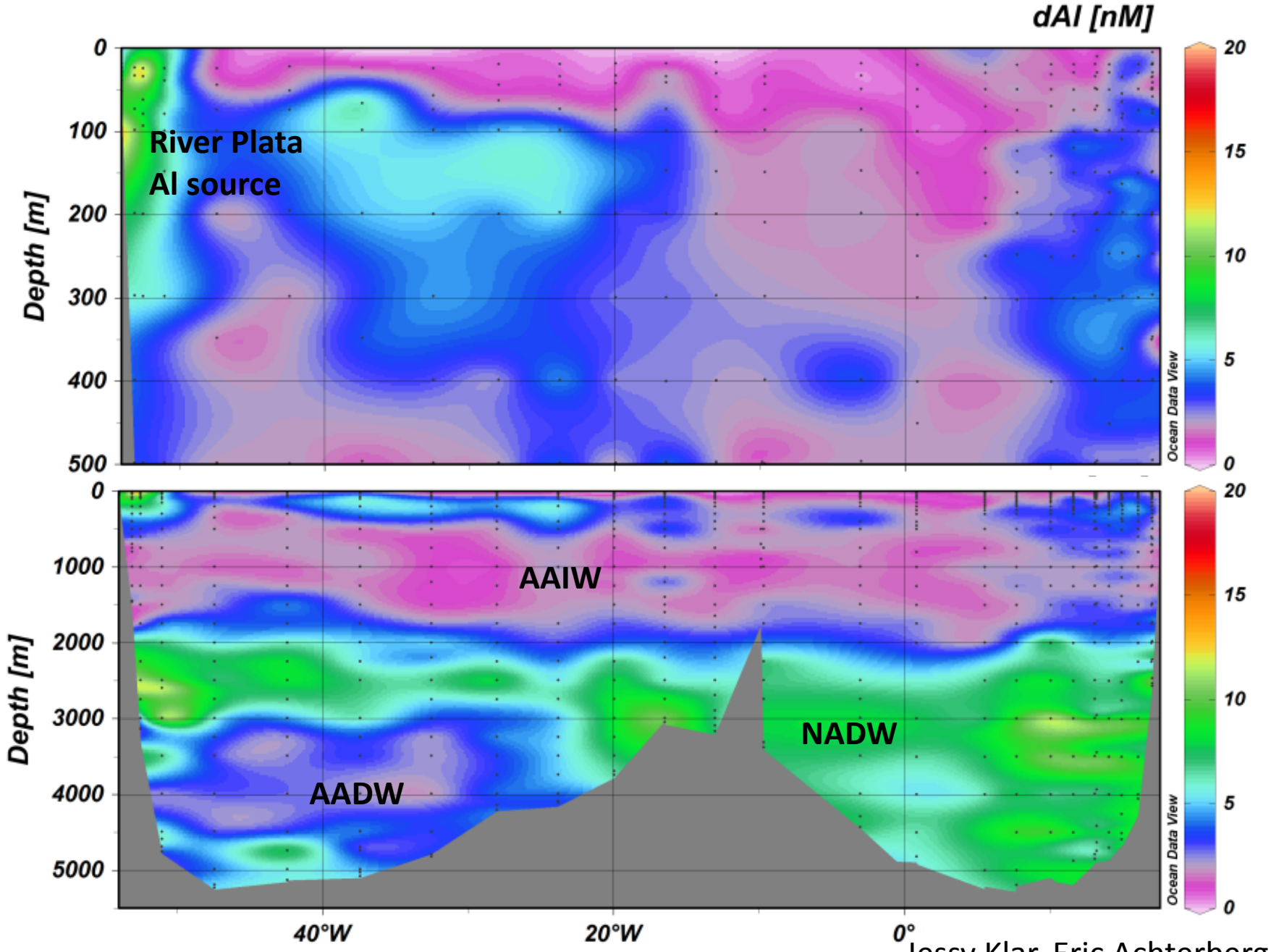
- Surface ratio lower due to biological uptake.
- Deep water (> 3000 m) ratio suggests a slight underestimation of dZn by up to 6 % in South Atlantic bottom waters.



Location	*Slope*	*R^2*	*n*	*Reference*
Global deepwater >1000 m	0.052	0.988	211	Marchitto et al. (2000)
North Pacific	0.054	0.992	43	Bruland (1980)
Drake Passage	0.059	0.941	10	Martin et al. (1990)
Southern Ocean	0.040	0.859	130	Croot et al. (2011)
Polar Front 49° 59´ S	0.038	0.828	11	Löscher et al. (1999)
South Atlantic	**0.061**	**0.981**	**348**	**This study**

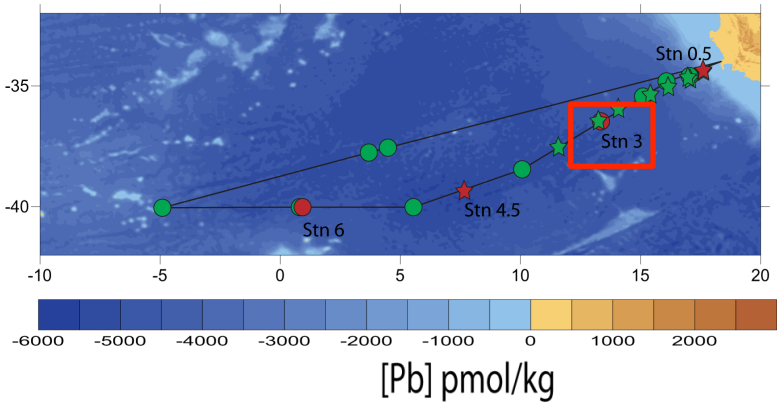
Neil Wyatt, Angela Milne, Maeve Lohan

GA10+GA 10a dissolved Aluminium



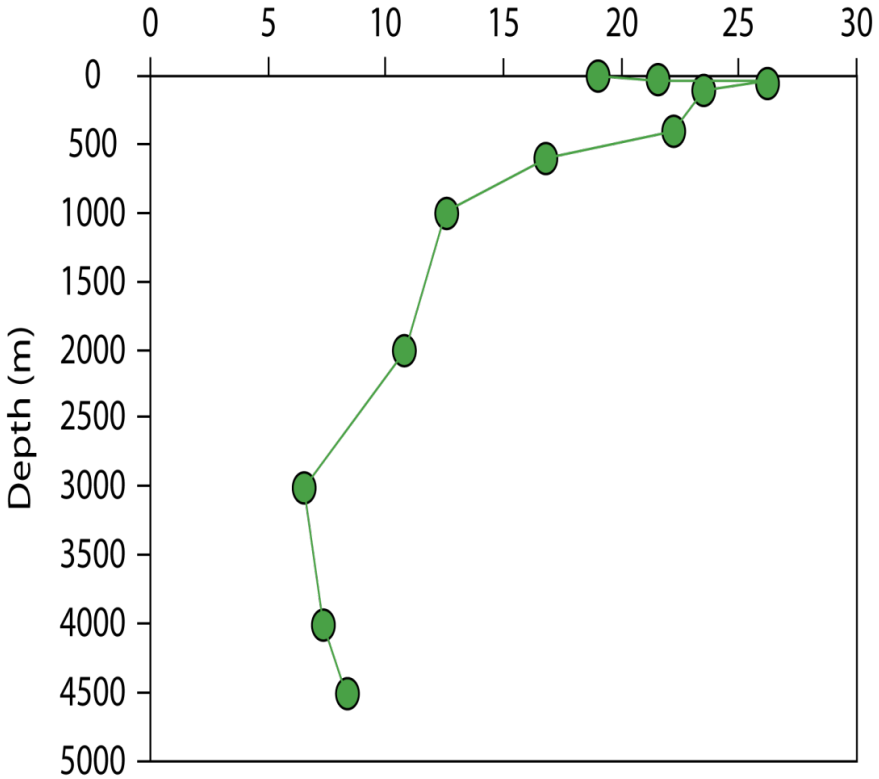
Jessy Klar, Eric Achterberg

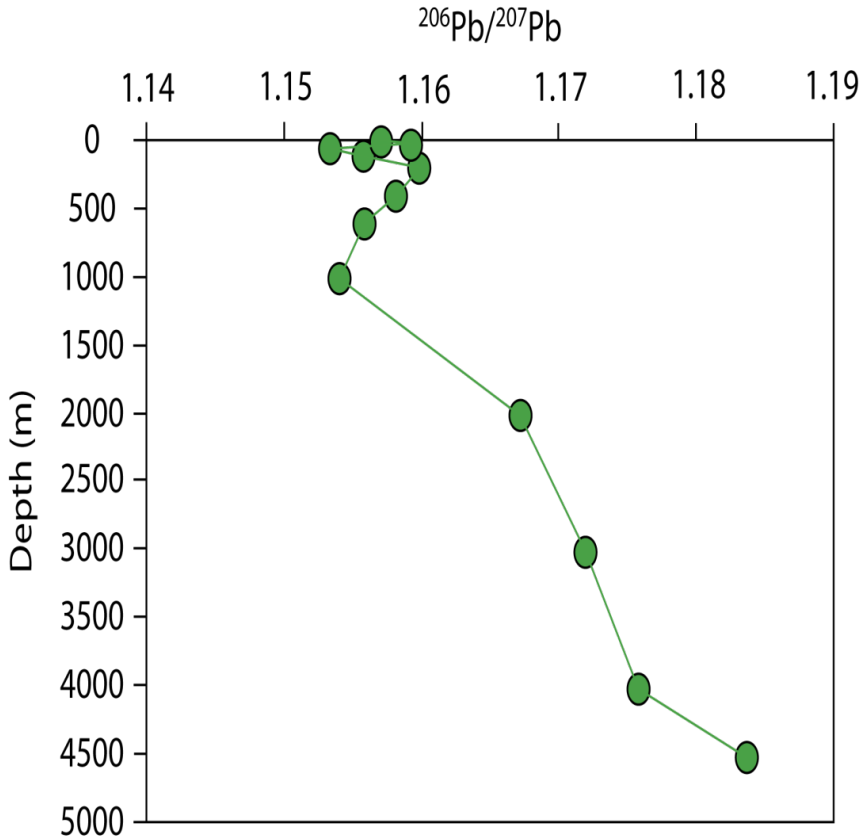
Pb Profile



- Lead concentrations decrease drastically with the depth

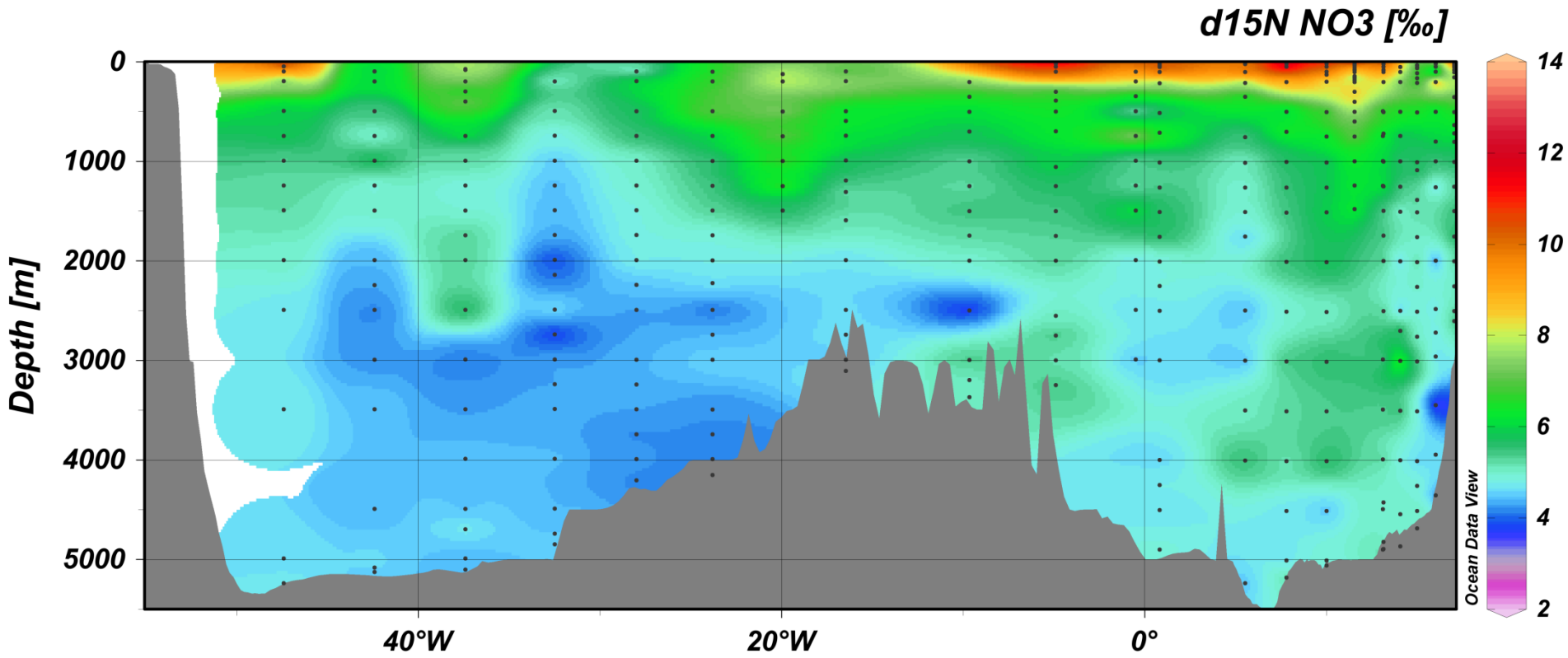
- Deep waters are characterized by higher isotopic compositions





Maxene Paul, Mark Rehkmper, Tina van de Flierdt, Dominic Weiss

Deep water masses



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THE UNIVERSITY of EDINBURGH

Characterizing nitrate isotopes in South Atlantic water masses (40°S)

Robyn Tuerena, Raja Ganeshram, Anthony Fallick, Andrew Tait, Julie Dougans, Malcolm Woodward.

Other UK Highlights

- Baltic Cruise

- Standards and Intercalibration meeting (6-9th March 2012
- Trace metal Isotope Meeting (13-14th Sept 2012)
- Arctic 2015