



First Annual Science Meeting of the Shelf Sea Biogeochemistry research programme; 15-17 Jan 2014

FORESIGHT CENTRE: 1 Brownlow Street, Liverpool L69 3GL
www.foresightcentre.co.uk/Pages/Article.aspx?id=216

Associated pre-meetings

Tuesday 14 January

Celtic Seas Partnership workshop: "Supporting implementation of the Marine Strategy Framework Directive: Developing Integrated Coastal Zone Management (ICZM) guidelines and Ecosystem Services Assessment (ESA) tools". Contact: L.McGowan@liverpool.ac.uk

Wednesday 15 January (am)

Opportunity for SSB cruise planning meetings; arrangements via SSB consortium leaders and cruise leaders. Room(s) available in Foresight Centre.

SSB Annual Science Meeting schedule - with links to presentations

Wednesday 15 January (pm)

13.00 - Registration

14.00 Welcome [Phil Williamson](#) 10 min

14.10 Introductory overviews for main SSB components:

- WP1: Carbon and nutrient dynamics and fluxes over shelf systems (CANDYFLOSS) - [Jonathan Sharples](#) 10 min
- WP2: Biogeochemistry, macronutrient and carbon cycling in the benthic layer (BMCC) - [Martin Solan](#) 10 min
- WP3: The supply of iron from shelf sediments to the ocean - [Peter Statham](#) 10 min
- WP4: Integrative modelling for shelf sea biogeochemistry - [Icarus Allen](#) 10 min
- WP5: Data synthesis and management of marine and coastal carbon (DSMMACC) - [Keith Weston](#) 10 min

15.00 Tea/coffee 20 min

15.20 Other scientifically-relevant NERC research programmes and activities: existing links and new partnership opportunities

- Ocean-Shelf Edge Exchange: Fluxes across sloping topography of North East Atlantic (FASTNet) - [Mark Inall](#) 10 min
- NOC shelf edge cruise, autumn 2014; Sensors on gliders - [Stuart Painter](#) 10 min
- Macronutrient Cycles, including estuarine studies on fluxes and transformations - [Duncan Purdie](#) 10 min
- Integrated Coastal Sediment Systems (iCOASST) - [Alex Souza](#) 10 min
- Greenhouse gases emissions and feedbacks: Radiatively active gases from the North Atlantic region and climate change (RAGNARoCC) - [Richard Sanders](#) 10 min

**identify by surname, date and am or pm*

- Biodiversity and Ecosystem Services: A hierarchical approach to the examination of the relationship between biodiversity and ecosystem service flows across coastal margins – [Martin Solan](#) 10 min
- Marine Ecosystems – [Tom Webb](#) 10 min

16.30 **break** 10 min

16.40 Initial plenary, then breakout session #1, on linkages between observations and
-17.40 modelling. Focus on key knowledge gaps that the SSB programme should fill: are they covered by planned fieldwork and experiments? Is anything missing? Three groups (in Foresight Centre).

Physical mixing processes Chair: Laurent Amoudry Rapporteur: Charlie Thompson	Macro-benthos functional types Chair: Silvana Birchenough Rapporteur: Martin Solan	Iron biogeochemistry Chair: Maeve Lohan Rapporteur: Luca Polimene	60 min
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18.00 **Reception in Foresight Centre. Own arrangements for dinner**

Thursday 16 January

Chair: Tim Jickells

09.00 Summary feedback from breakout session #1 (one slide per group) 15 min

09.15 Guest lecture. Recent advances in our understanding of marine nitrogen dynamics – [Maren Voss](#) 45 min

10.00 NERC strategy and new research programmes – [Mike Webb](#) 15 min

10.15 **Coffee/tea** 30 min

10.45 SSB research cruises and associated logistics – [Malcolm Woodward](#) 15 min

11.00 *Session Chair: Jonathan Sharples*

Planning status for WP1 modules; presentations and discussions: 120 min

- Whole shelf data and air-sea CO₂ flux - [Richard Sanders](#)
- Boundary fluxes - [Matthew Palmer](#)
- Autotrophs - [Alex Poulton](#)
- Grazers - [Dan Mayor](#)
- Organic matter and remineralisation - [Claire Mahaffey](#)
- Moorings & underpinning physical measurements - [Jo Hopkins](#)

13.00 **Lunch** 60 min

14.00 *Session Chair: Martin Solan*

Planning status for WP2 modules; presentations and discussions: 120 min

- Biogeochemical cycling of sediment N, P, Si and C – [Dan Mayor](#)
- Role of sediments in C storage – [Henry Ruhl](#)
- Role of macrofauna and the impacts of natural and anthropogenic disturbance on sediment biogeochemical processes – [Jan Hiddink](#)
- Impacts of sediment resuspension and near-bed current flow on carbon and nutrient sediment-water exchange in diffusive and pumped sediments – [Charlie Thompson](#)

16.00 **Tea/coffee** 30 min

16.30 Initial plenary, then breakout session #2, on links between observations and
 -17.30 modelling. Focus on key knowledge gaps that the SSB programme should fill: are
 they covered by planned fieldwork and experiments? Is anything missing?
 Three groups (in Foresight Centre). *Additional notes appended.*

Nutrient & C cycling; pelagic & benthic Chair: Henry Ruhl Rapporteur: Darren Clark	Grazing and food quality Chair: Dan Mayor Rapporteur: Sari Giering	Benthic disturbance, biological & physical Chair: Jasmin Godbold Rapporteur: Jan Hiddink	60 min
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17.30- *Meeting for members of SSB Programme Executive Board, Programme Advisory*
 ~18.30 *Board and consortium lead PIs*

19.30 **Dinner** *Victoria Gallery & Museum, Ashton Street L69 3DR (5min from Foresight Centre)*

Friday 17 January

09.00 Summary feedback from breakout session #2 (one slide per group) 15 min

09.15 *Session Chair: Peter Statham.* Presentations by *Peter Statham*, [Simon Ussher](#) and [Walter Geibert](#) on planning status for WP3, including: 60 min

- Fe flux and isotopic signature from shelf sediments depend on physics and chemistry of sediments and water column
- Interaction with sediment particles and phytodetritus close to the seafloor modifies Fe fluxes to overlying water column
- Fe export from shelf to ocean is determined by fate of Fe species in the water column during transport
- Export of Fe to open ocean is driven by transport and mixing along isopycnals

10.15 Coffee/Tea

10.45 *Session Chair: Icarus Allen.* Presentation by [Icarus Allen](#)
 Planning status for WP4 components (Phase 1), presentations and discussions: 60 min

- SSB modelling tools
- Analysis of existing models
- Physical process modelling
- Pelagic process modelling
- Nutrient cycle modelling
- Benthic process modelling
- Data assimilation, Statistical evaluation/parameter fitting

11.45 *Session Chair: Keith Weston.* Presentation by [Keith Weston](#), [Johan van der Molen](#) & [Tiziana Lyuisetti](#) on planning status for WP5 modules: 60 min

- Carbon budget: temporal and annual variability
- Decadal to century-scale scenarios for carbon exchange and storage
- Carbon accounting

12.45 SSB data management and website - [Sean Gaffney](#) 15 min

13.00 Concluding plenary discussions 15 min

13.15 Lunch

14.00- *Joint wrap-up meeting for members of SSB Programme Executive Board,* 60 min
 15.00 *Programme Advisory Board and consortium lead PIs [re-scheduled to lunchtime]*