

Work shop scope and rationale

Baltic Earth Grand Challenge A2

“Land-Sea biogeochemical feedbacks in the Baltic Sea regions”
or “Biogeochemical functioning of the Baltic Sea”

Main points in Challenge Description:

- Post spring bloom controls and stoichiometry of PP
- Pathways and transformation of land-derived substances upon entering the Baltic Sea

WG-lead: *Gregor Rehder, Karol Kulinski, Ben Smith*



Work shop scope and rationale

„Give me three good reasons why I should do this“ (my daughter Rica, now 14 years old)

I will try to give you FIVE!



Work shop scope and rationale

I : Markus Meier, as the current head of the ISSG, asked us (Karol and myself) to do so

....

.... and we did not object!



Work shop scope and rationale

II : Marine Chemistry and Biogeochemistry, despite excellent people and high relevance of the topic, is not very well organized around the Baltic



Gregor, Sept. 2013



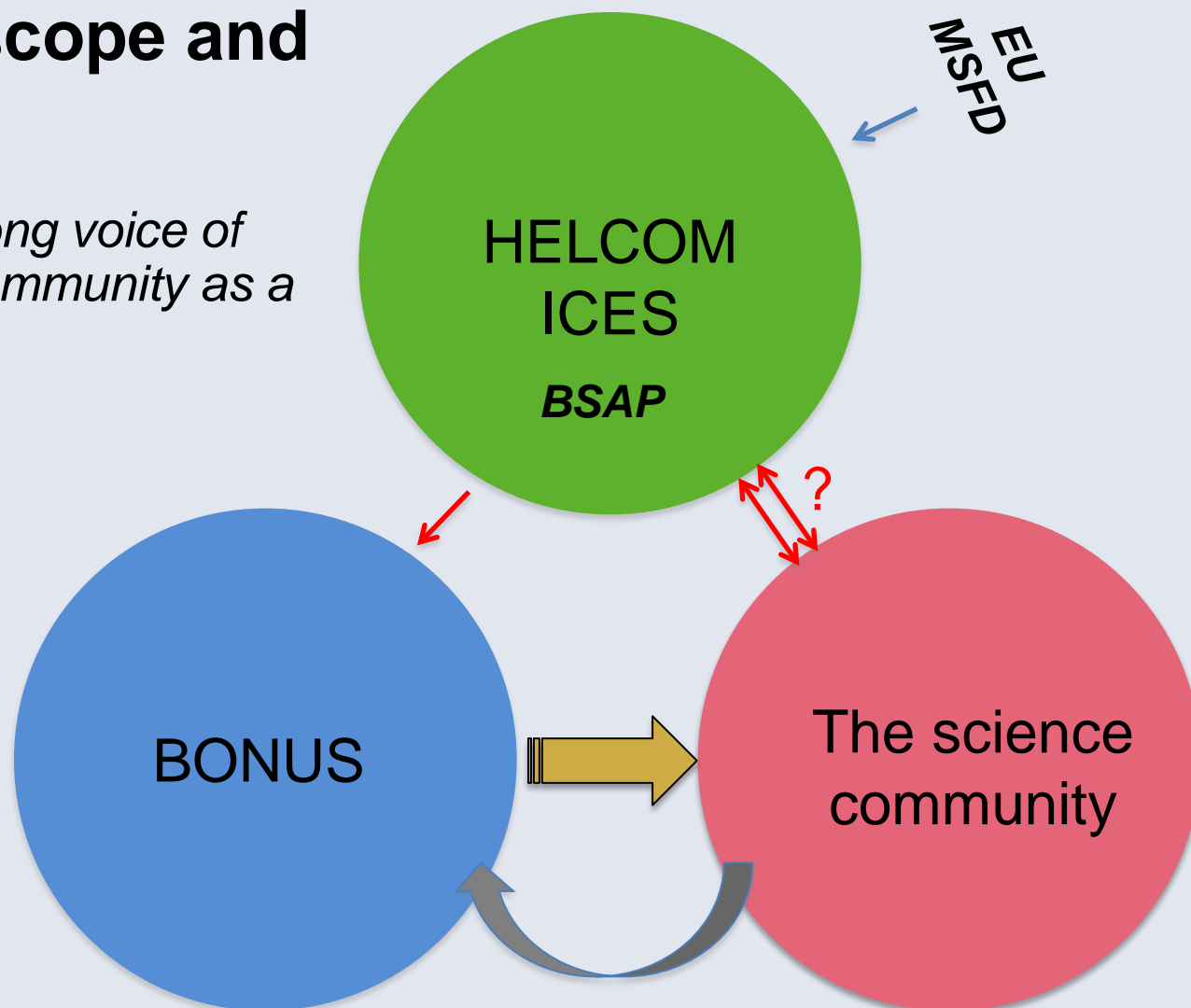
Olli, Sept. 2013



“The (9th) Baltic Sea Science Congress continues the tradition of high-quality scientific meetings of Baltic researchers representing the Conference of Baltic Oceanographers (CBO), Baltic Marine Biologists (BMB), and Baltic Sea Geologists (BSG)”.

Work shop scope and rationale

III : Need for a strong voice of the scientific community as a whole



Work shop scope and rationale

III : Need for a strong voice of the scientific community as a whole

... the new programme should take a holistic view on the Earth System of the Baltic sea region encompassing atmosphere, on land and in the sea and ... to ecosystem functioning (20th Baltex SSG minutes)

- Translation issues
 - „we need to get the salt balance right“
 - „we need a better prediction of hypoxia“
- Asking the right questions
- Opportunity to act rather than react
 - The Bonus proposal scheme



Quo vadis

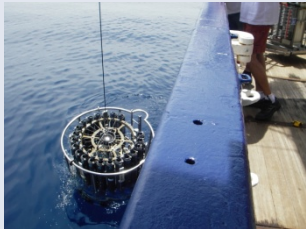
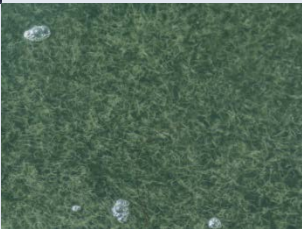
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Work shop scope and rationale

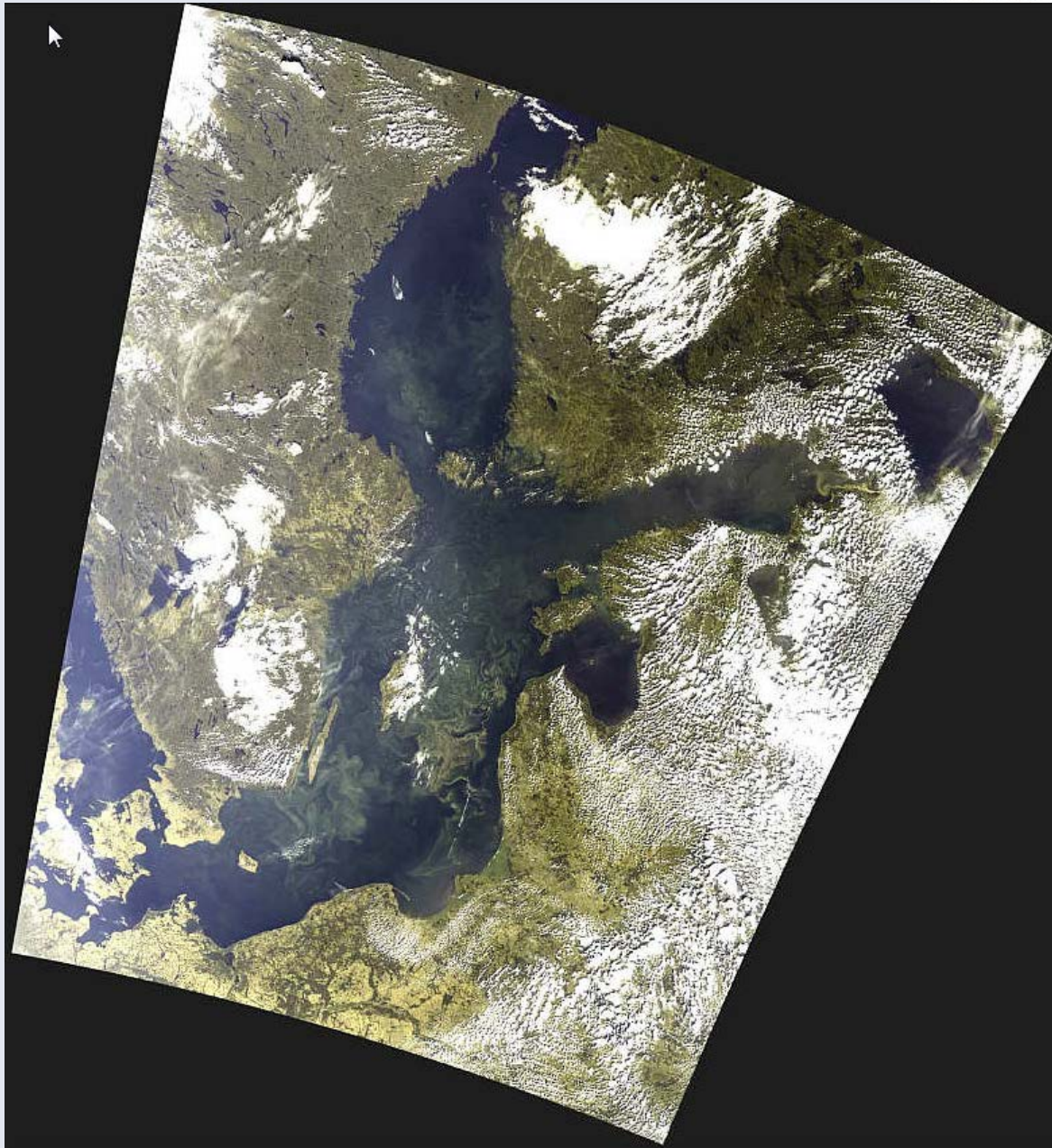
IV : There is an urgent need for a vivid discussion and exchange platform between experimentalists/fieldworkers and ecosystem modellers

M87/4 SUMMIX

27.6 – 22.7.2012
Rostock - Rostock

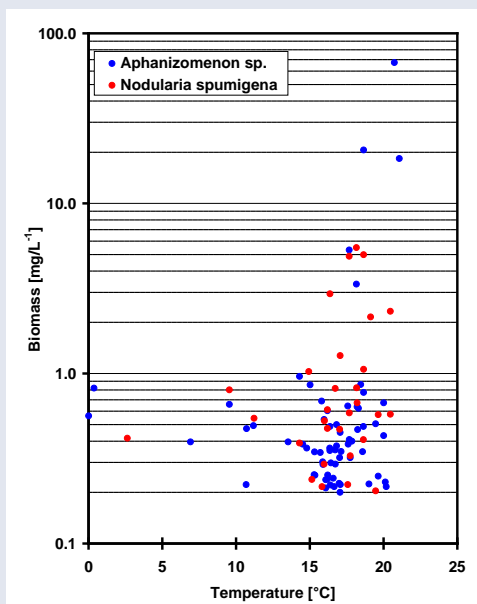


Gregor Rehder
Leibniz Institut für Ostsee-
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Work shop scope and rationale

IV : There is an urgent need for a vivid discussion and exchange platform between experimentalists/fieldworkers and ecosystem modellers



Nodularia and Aphanizomenon abundance (> 2 mg L⁻¹)

1979 -1993, HELCOM Monitoring;



Journal of Marine Systems 81 (2010) 213–224

Contents lists available at ScienceDirect

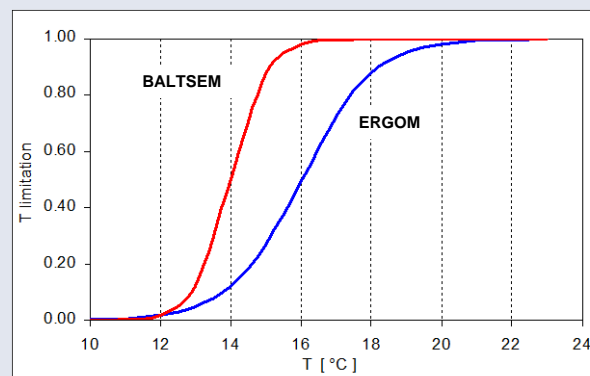
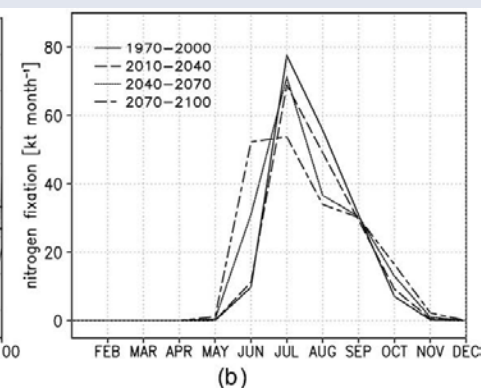
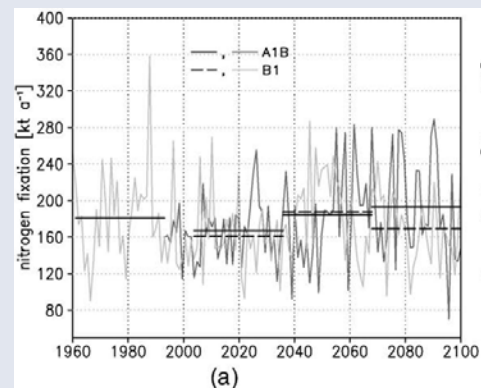
Journal of Marine Systems

journal homepage: www.elsevier.com/locate/jmarsys

Climate-change effects on the Baltic Sea ecosystem: A model study

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Temperature
dependency:
(scaling factor)

Work shop scope and rationale

V : Defining the most critical unknowns (knowledge gaps) in biogeochemical understanding and parameterizations for the Baltic Sea ecosystem

i.e.: The best formulation of **Grand Challenges** for **Baltic Earth** related to biogeochemistry

Establish a network to tackle these questions





- Help us today and during the next half year to identify and formulate the Grand Challenges for Baltic Earth related to Biogeochemistry
- Consider to be an active member of a network of biogeochemists hosted within the Baltic Earth initiative
- Think of projects designed to fill these knowledge gaps to which you could actively contribute or even take a lead
- Consider whether the Baltic Earth conferences to be held every two years starting in 2016 could be a venue to present your research

**Be open-minded and vivid
during the 7 hours to come !!**

WE Would cordially like to ask you to ...