Greenocean workshop

Villefranche-sur-mer, 12-13 February 2020

Wifi: TREGOUBOFF

Password: 2BE4AF9580

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Goals of the Greenocean workshop

Villefranche-sur-mer, 12-13 February 2020

2000 – 2007 Greenocean workshop series

Led to the explicit inclusion of ecosystem dynamics in new generation Dynamic Green Ocean Models (DGOMs) through the representation of Plankton Functional Types (PFTs)

Dynamic Green Ocean Models

2005

Ecosystem dynamics based on plankton functional types for global ocean biogeochemistry models

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HORIZONS

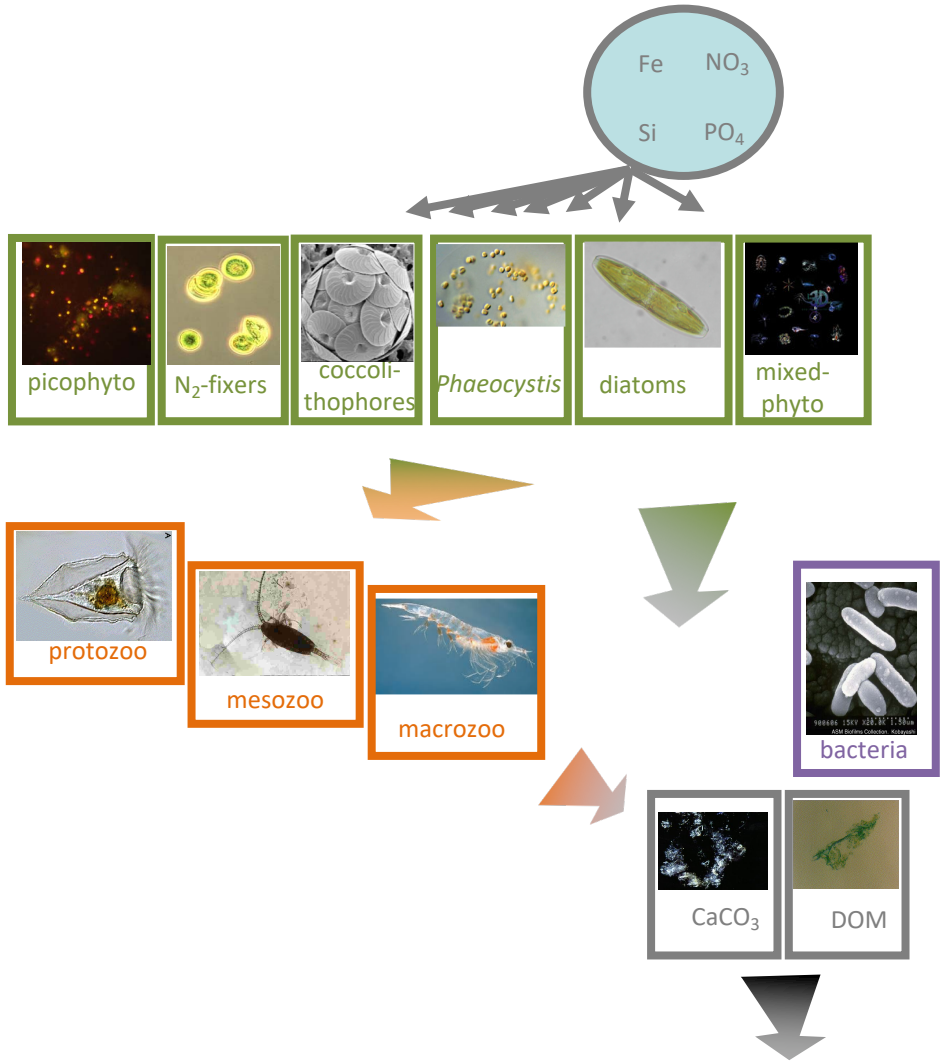
Plankton functional type modelling: running before we can walk?

THOMAS R. ANDERSON
NATIONAL OCEANOGRAPHY CENTRE SOUTHAMPTON, UNIVERSITY OF SOUTHAMPTON, WATERFRONT CAMPUS, SOUTHAMPTON SO14 3ZH, UK

HORIZONS

Castles built on sand: dysfunctionality in plankton models and the inadequacy of dialogue between biologists and modellers

K. J. FLYNN
INSTITUTE OF ENVIRONMENTAL SUSTAINABILITY, WALLACE BUILDING, UNIVERSITY OF SWANSEA, SWANSEA SA2 8PP, UK



Source: Le Quéré et al. Glob. Change Biol. 2005;
Anderson et al 2005 and Flynn 2005, both in J. Plankton Res

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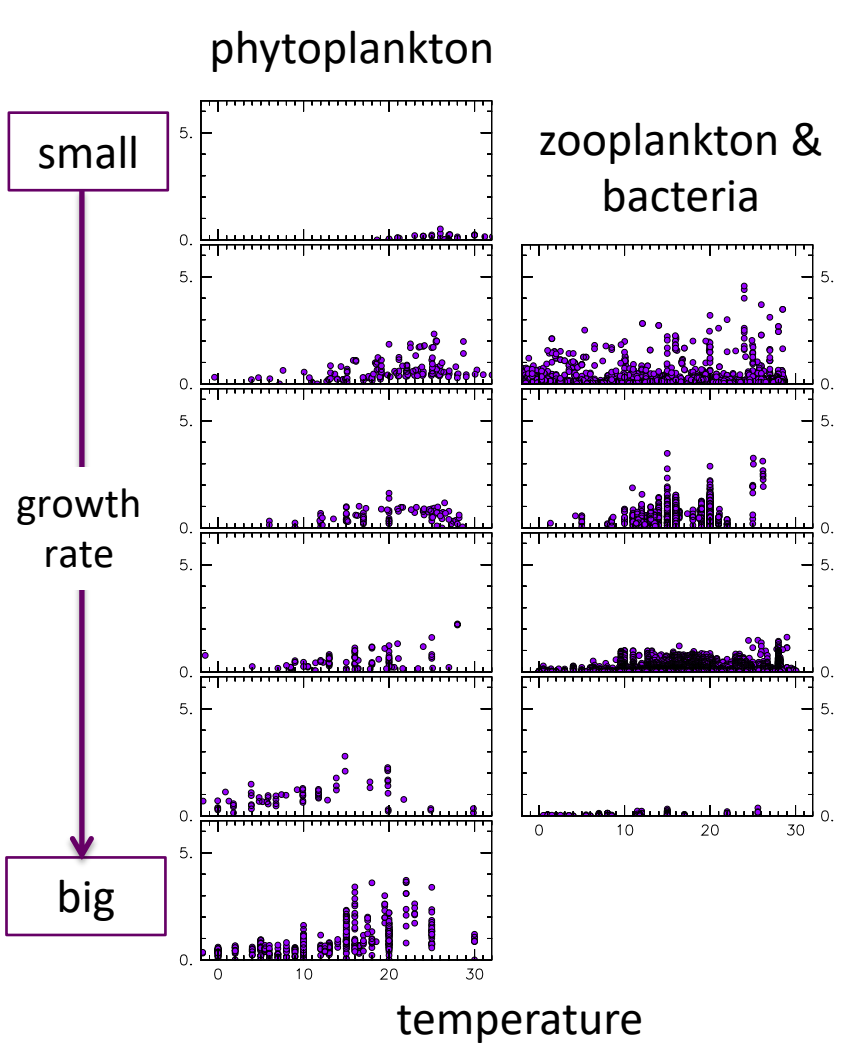
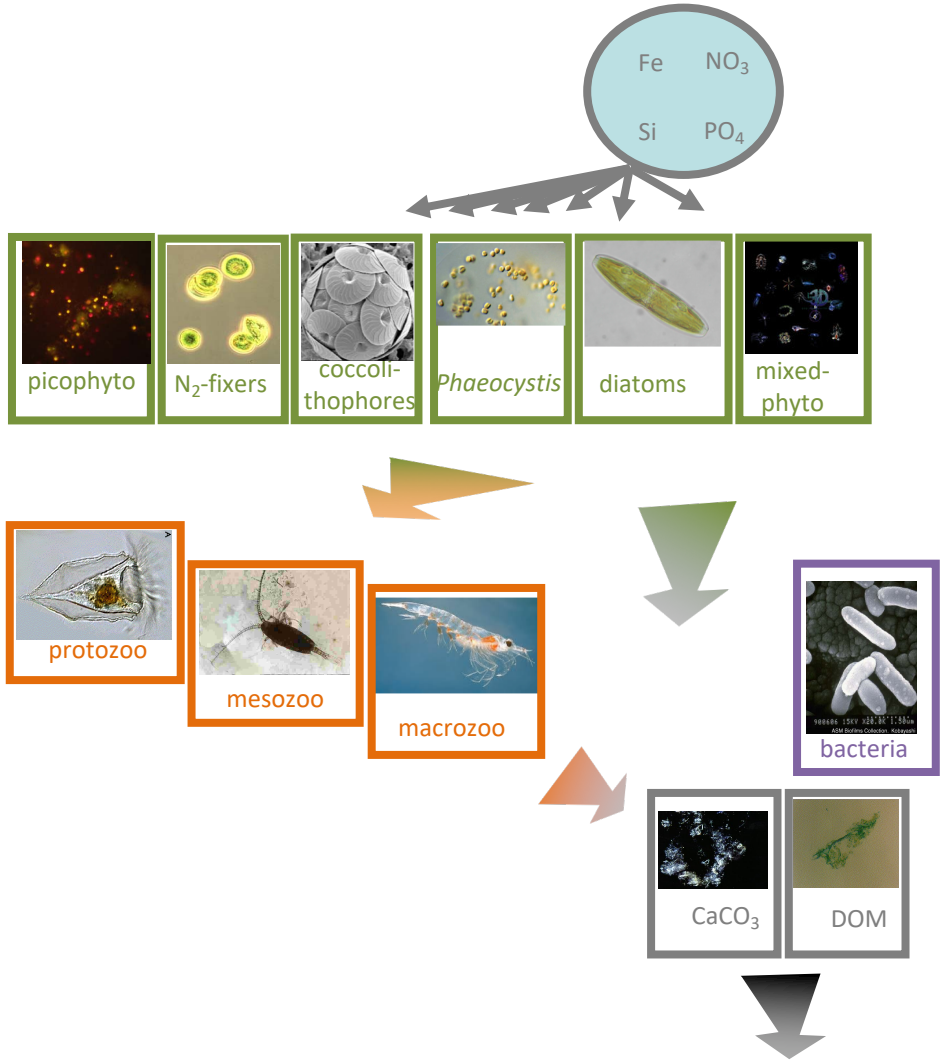
Dynamic Green Ocean Models



parameterisation data

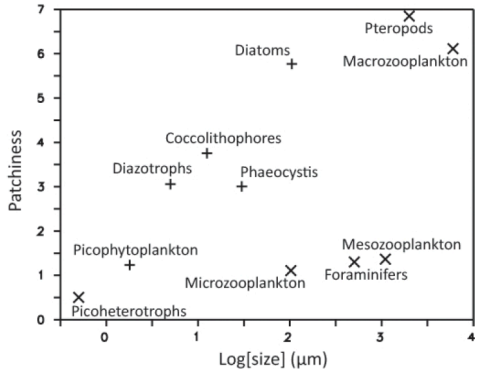


Earth Syst. Sci. Data, 5, 227–239, 2013
www.earth-syst-sci-data.net/5/227/2013/
doi:10.5194/essd-5-227-2013

Earth System Science Data

MAREDAT: towards a world atlas of MARine Ecosystem DATa

E. T. Buitenhuis[1], M. Vogt[2], R. Moriarty[3], N. Bednaršek[4], S. C. Doney[5], K. Leblanc[6], C. Le Quéré[1], Y.-W. Luo[5], C. O'Brien[2], T. O'Brien[7], J. Peloquin[2], R. Schiebel[8], and C. Swan[2]



validation data

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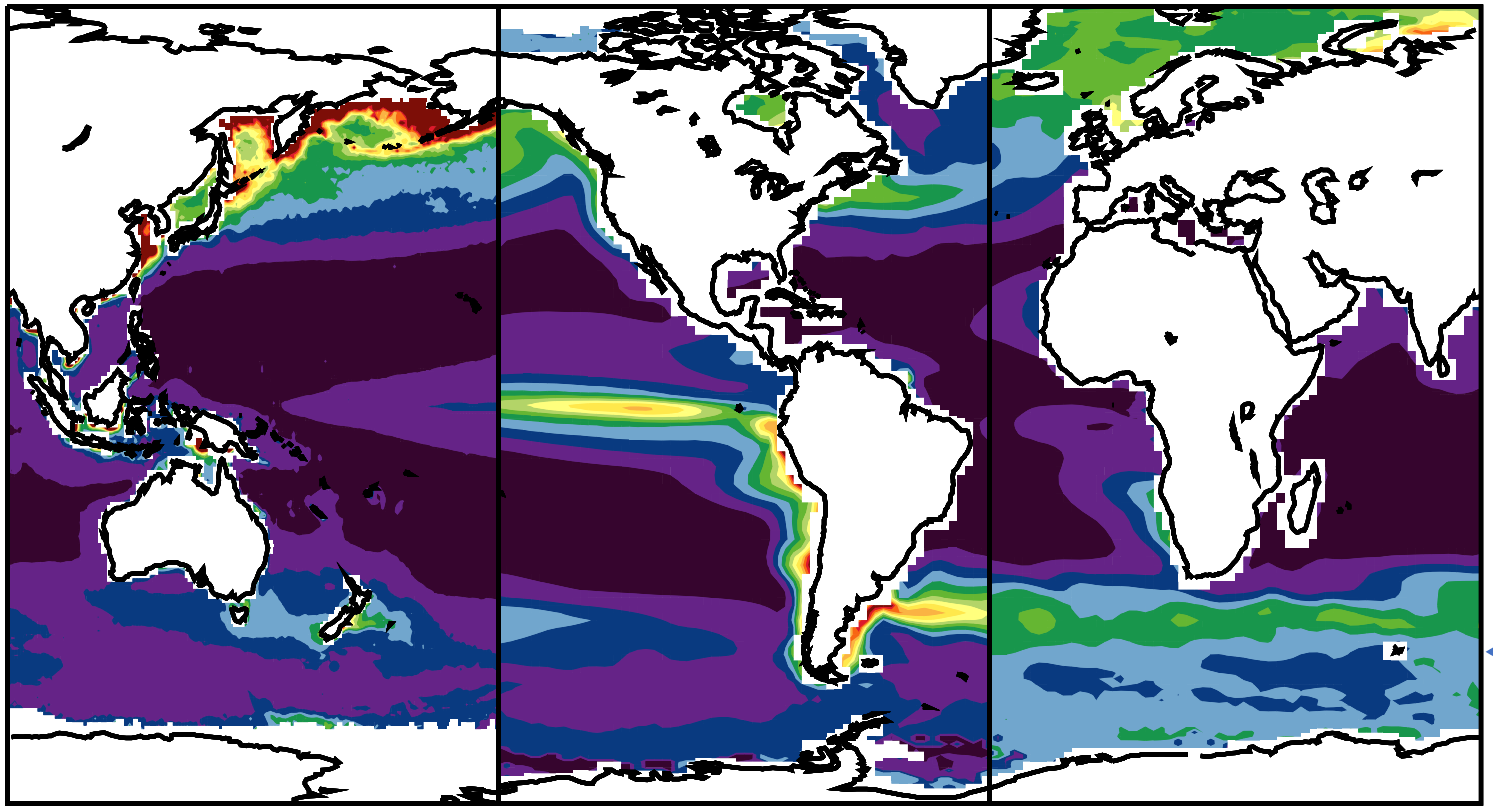
Dynamic Green Ocean Models

observations

model with
10 plankton types

model with
6 plankton types



Observed surface biomass is poorly reproduced in low complexity models

Le Quéré et al *BGS* 2016

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Greenocean workshop 2020

New observations and new methods to better constrain marine ecosystems processes in models in the context of a changing climate

Aims:

- Stimulate ideas
- Improve predictive capabilities of impacts of global change on ecosystems and feedbacks to climate change

Products:

- What you make of it (me: input to my group's 1950-2100 model simulation series in 2021; focus on Southern Ocean)
- Potential for a concept paper
- Decade of the ocean

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