Artur Palacz - DTU Orbit (28/05/2018)

Artur Palacz

Organisations

Researcher, National Institute of Aquatic Resources
02/03/2012 → 29/09/2017 Former
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Section for Oceans and Arctic
31/03/2017 → 29/09/2017 Former
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Section for Marine Ecology and Oceanography
23/01/2013 → 31/03/2017 Former
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Section for Population Ecology and Genetics
03/03/2012 → 18/01/2013 Former
VIP

Publications:

Integrated ecological-economic fisheries models - evaluation, review and challenges for implementation
Marine ecosystems evolve under many interconnected and area-specific pressures. In order to fulfill society's intensifying and diversifying needs whilst ensuring ecologically sustainable development, more effective marine spatial planning and broader-scope management of marine resources is necessary. Integrated ecological–socioeconomic fisheries models (IESFM) of marine systems are needed to evaluate impacts and sustainability of potential management actions and understand, and anticipate ecological, economic, and social dynamics at a range of scales from local to national and regional. To make these models most effective, it is important to determine how model characteristics and methods of communicating results influence the model implementation, the nature of the advice that can be provided and the impact on decisions taken by managers. This paper presents a global review and comparative evaluation of 35 IESFM’s applied to marine fisheries and marine ecosystem resources to identify the characteristics that determine their usefulness, effectiveness and implementation. The focus is on fully integrated models that allow for feedbacks between ecological and human processes though not all the models reviewed achieve that

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Ecosystem based Marine Management, Section for Marine Living Resources, Section for Oceans and Arctic, National Oceanographic and Atmospheric Administration, Christian-Albrechts-Universität zu Kiel, CSIRO, University of Washington, Plymouth Marine Laboratory, IFREMER, Thünen Institute of Sea Fisheries, New Economics Foundation, University of British Columbia, University of Vigo, AZTI-Tecnalia, Université Bretagne Loire, Institut de Ciències del Mar-CSIC, Wageningen University, National Marine Fisheries Research Institute, Scottish Pelagic Fishermen’s Association, AZTI Technalia, University of Southern Denmark, Swiss Federal Institute of Aquatic Science and Technology, Wageningen IMARES, Commonwealth Scientific and Industrial Research Organisation, University of Copenhagen, Swedish Agency for Marine and Water Management, Stockholm University, Lund University
Pages: 1-29
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Main Research Area: Technical/natural sciences
Assessing the role of environmental factors on Baltic cod recruitment, a complex adaptive system emergent property

General information
State: Published
Organisations: Section for Marine Ecology and Oceanography, National Institute of Aquatic Resources, Centre for Ocean Life, Institute of Oceanology of the Polish Academy of Sciences
Authors: Krekoukiotis, D. (Intern), Palacz, A. P. (Intern), St John, M. A. (Intern)
Publication date: 2016
Main Research Area: Technical/natural sciences

Publication information
Journal: Frontiers in Marine Science
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BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 0.53 SJR 0.173 SNIP 0.109
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.145 SNIP 0.05
BFI (2014): BFI-level 1
BFI (2013): BFI-level 1
ISI indexed (2013): ISI indexed no
Original language: English
Electronic versions:

Publishers version
DOIs:
10.3389/fmars.2016.00126
Source: FindIt
Source-ID: 2306800861
Publication: Research - peer-review › Journal article – Annual report year: 2016

Characteristic sizes of life in the oceans - from bacteria to whales

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Marine Ecology and Oceanography, Centre for Ocean Life, Section for Ecosystem based Marine Management
Pages: 217-241
Publication date: 2016
Conference: International Workshop on Trait-based approaches to Ocean Life, Copenhagen, Denmark, 26/08/2013 - 26/08/2013
Main Research Area: Technical/natural sciences

Publication information
Journal: Annual Review of Marine Science
Volume: 8
Issue number: 3
ISSN (Print): 1941-1405
Ratings:
Web of Science (2018): Indexed yes
Web of Science (2017): Indexed Yes
Scopus rating (2016): CiteScore 12.76 SJR 6.382 SNIP 4.101
Web of Science (2016): Indexed yes
Scopus rating (2014): SJR 8.073 SNIP 5.529 CiteScore 14.2
Scopus rating (2013): SJR 10.485 SNIP 5.585 CiteScore 16.42
Scopus rating (2012): SJR 9.805 SNIP 6.475 CiteScore 16.95
Scopus rating (2010): SJR 10.409 SNIP 5.716
Original language: English
Electronic versions:
An integrated end-to-end modeling framework for testing ecosystem-wide effects of human-induced pressures in the Baltic Sea

We present an integrated end-to-end modeling framework that enables whole-of ecosystem climate, eutrophication, and spatial management scenario exploration in the Baltic Sea. The framework is built around the Baltic implementation of the spatially-explicit end-to-end ATLANTIS model, linked to the high-resolution coupled physical-biological model HBM-ERGOM and the fisheries bio-economic FishRent model. We investigate ecosystem-wide responses to changes in human-induced pressures by simulating several eutrophication scenarios that are relevant to existing Baltic Sea management plans (e.g. EU BSAP, EU CFP). We further present the structure and calibration of the Baltic ATLANTIS model and the operational linkage to the other models. Using the results of eutrophication scenarios, and focusing on the relative changes in fish and fishery production, we discuss the robustness of the model linking with respect to the underlying assumptions, strengths and weaknesses of individual models. Furthermore, we describe how to possibly expand the framework to account for spatial impacts and economic consequences, for instance by linking to the individual-vessel based DISPLACE modeling approach. We conclude that the proposed model integration and management scenario evaluation scheme lays the foundations for developing a robust framework for management strategy evaluation that is of strategic importance to stakeholders from around the Baltic Sea.
The Baltic ATLANTIS model: Implementing a holistic framework to evaluate ecosystem wide responses to changes in climate and anthropogenic forcing

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Marine Ecology and Oceanography, Section for Ecosystem based Marine Management, Section for Marine Living Resources, Section for Monitoring and Data, Centre for Ocean Life, Aarhus University
Authors: Palacz, A. (Intern), Nielsen, J. R. (Intern), Christensen, A. (Intern), Gislason, H. (Intern), Bastardie, F. (Intern), Geitner, K. (Intern), Maar, M. (Ekstern), Lindegren, M. (Intern), Hufnagl, M. (Intern), Fulton, E. (Ekstern)
Number of pages: 1
Publication date: 2015
Event: Poster session presented at 18. Danske Havforsknemøde, Copenhagen, Denmark.
Main Research Area: Technical/natural sciences
Links:
http://www.marine-vectors.eu/Core_pages/The_Baltic_ATLANTIS_model_a_holistic_framework_to

Evaluation of integrated ecological-economic models - What are they used for?

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Ecosystem based Marine Management, Section for Marine Ecology and Oceanography, Lund University
Publication date: 2014
Main Research Area: Technical/natural sciences
Publication: Research › Conference abstract for conference – Annual report year: 2014

The Baltic ATLANTIS model: Implementing a holistic framework to evaluate ecosystem wide responses to changes in climate and anthropogenic forcing

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Marine Ecology and Oceanography, Section for Ecosystem based Marine Management, Section for Marine Living Resources, Section for Monitoring and Data, Centre for Ocean Life, Aarhus University
Authors: Palacz, A. (Intern), Nielsen, J. R. (Intern), Christensen, A. (Intern), Gislason, H. (Intern), Bastardie, F. (Intern), Geitner, K. (Intern), Maar, M. (Ekstern), Lindegren, M. (Intern), Hufnagl, M. (Intern), Fulton, E. (Ekstern)
Number of pages: 1
Publication date: 2014
Event: Poster session presented at EU-FP7-VECTORS Symposium, La Grande Motte, France.
Main Research Area: Technical/natural sciences
Publication: Research › Poster – Annual report year: 2014

Distribution of phytoplankton functional types in high-nitrate low-chlorophyll waters in a new diagnostic ecological indicator model

Modeling and monitoring plankton functional types (PFTs) is challenged by insufficient amount of field measurements to ground-truth both plankton models and bio-optical algorithms. In this study, we combine remote sensing data and a dynamic plankton model to simulate an ecologically-sound spatial and temporal distribution of phyto-PFTs. We apply an
innovative ecological indicator approach to modeling PFTs, and focus on resolving the question of diatom-coccolithophore
coeistence in the subpolar high-nitrate and low-chlorophyll regions. We choose an artificial neural network as our
modeling framework because it has the potential to interpret complex nonlinear interactions governing complex adaptive
systems, of which marine ecosystems are a prime example. Using ecological indicators that fulfill the criteria of
measurability, sensitivity and specificity, we demonstrate that our diagnostic model correctly interprets some basic
ecological rules similar to ones emerging from dynamic models. Our time series highlight a dynamic phyto-PFT community
composition in all high latitude areas, and indicate seasonal co-existence of diatoms and coccolithophores. This
observation, though consistent with in situ and remote sensing measurements, was so far not captured by state-of-the-art
dynamic models which struggle to resolve this "paradox of the plankton". We conclude that an ecological indicator
approach is useful for ecological modeling of phytoplankton and potentially higher trophic levels. Finally, we speculate that
it could serve as a powerful tool in advancing ecosystem-based management of marine resources

**General information**
State: Published
Organisations: National Institute of Aquatic Resources, Section for Marine Ecology and Oceanography, Plymouth Marine
Laboratory, Hokkaido University, NASA Global Modeling and Assimilation Office
Authors: Palacz, A. (Intern), St. John, M. (Intern), Brevin, R. (Ekstern), Hirata, T. (Ekstern), Gregg, W. (Ekstern)
Pages: 7553-7574
Publication date: 2013
Main Research Area: Technical/natural sciences

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BFI (2018): BFI-level 1
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BFI (2014): BFI-level 1
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Web of Science (2013): Indexed yes
ISI indexed (2013): ISI indexed yes
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Web of Science (2012): Indexed yes
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Web of Science (2011): Indexed yes
BFI (2010): BFI-level 1
Web of Science (2010): Indexed yes
ISI indexed (2010): ISI indexed yes
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Web of Science (2009): Indexed yes
ISI indexed (2009): ISI indexed yes
Web of Science (2009): Indexed yes
Spatial and temporal variability in nutrients and carbon uptake during 2004 and 2005 in the eastern equatorial Pacific Ocean

The Eastern Equatorial Pacific plays a great role in the global carbon budget due to its enhanced biological productivity linked to the equatorial upwelling. However, as confirmed by the Equatorial Biocomplexity cruises in 2004 and 2005, nutrient upwelling supply varies strongly, also due to the Tropical Instability Waves. The aim of this study is to examine patterns of spatial and temporal variability in the biological uptake of NO$_3^-$, Si(OH)$_4$ and carbon in this region, and to evaluate the role of biological and physical interactions controlling these processes over seasonal and intra-seasonal time scales. Here, high resolution Pacific ROMS-CoSiNE model results are combined with in situ and remote sensing data. The results of model-data comparison reveal an excellent agreement in domain-average hydrographic and biological rate estimates, and patterns of spatio-temporal variability in primary productivity. We demonstrate for the first time that Tropical Instability Waves can be directly linked to increased NO$_3^-$ and Si(OH)$_4$ upwelling supply and enhanced nutrient and carbon uptake, in particular by large phytoplankton such as diatoms. In order to fully resolve the complexity of biological and physical interactions in the Eastern Equatorial
Spatial and temporal variability in nutrients and carbon uptake during 2004 and 2005 in the eastern equatorial Pacific Ocean

The eastern equatorial Pacific plays a great role in the global carbon budget due to its enhanced biological productivity linked to the equatorial upwelling. However, as confirmed by the Equatorial Biocomplexity cruises in 2004 and 2005, nutrient upwelling supply varies strongly, partly due to the tropical instability waves (TIWs). The aim of this study was to examine patterns of spatial and temporal variability in the biological uptake of NO3, Si(OH)(4) and carbon in this region, and to evaluate the role of biological and physical interactions controlling this variability over seasonal and intraseasonal time scales. Here, high resolution Pacific ROMS-CoSiNE (Regional Ocean Modeling System-Carbon, Silicon, Nitrogen Ecosystem) model results were evaluated with in situ and remote sensing data. The results of model-data comparison revealed a good agreement in domain-average hydrographic and biological rate estimates, and patterns of spatio-temporal variability in primary productivity. We confirmed that TIWs have the potential to enhance phytoplankton biomass through an increased supply of nutrients and elevated local and instantaneous phytoplankton nutrient uptake as opposed to only advecting biomass. Furthermore, we concluded that initial biological conditions (e.g., zooplankton biomass) may play an important additional constraint on biological responses, in particular of large phytoplankton such as diatoms, to TIW-induced perturbations in the physical and biogeochemical fields and fluxes. In order to fully resolve the complexity of biological and physical interactions in the eastern equatorial Pacific, we recommended improving CoSINE and other models by introducing more phytoplankton groups, variable Redfield and carbon to chlorophyll ratios, as well as resolving
the Fe-Si co-limitation of phytoplankton growth.

**General information**
- State: Published
- Organisations: National Institute of Aquatic Resources, Section for Marine Ecology and Oceanography, University of Maine
- Authors: Palacz, A. P. (Intern), Chai, F. (Ekstern)
- Pages: 4369-4383
- Publication date: 2012
- Main Research Area: Technical/natural sciences

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  - BFI (2018): BFI-level 1
  - Web of Science (2018): Indexed yes
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  - Web of Science (2017): Indexed yes
  - BFI (2016): BFI-level 1
  - Scopus rating (2016): CiteScore 4.25 SJR 2.328 SNIP 1.305
  - Web of Science (2016): Indexed yes
  - BFI (2015): BFI-level 1
  - Scopus rating (2015): SJR 2.453 SNIP 1.324 CiteScore 4.04
  - Web of Science (2015): Indexed yes
  - BFI (2014): BFI-level 1
  - Scopus rating (2014): SJR 2.194 SNIP 1.363 CiteScore 4.03
  - Web of Science (2014): Indexed yes
  - BFI (2013): BFI-level 1
  - Scopus rating (2013): SJR 2.468 SNIP 1.425 CiteScore 4.21
  - ISI indexed (2013): ISI indexed yes
  - Web of Science (2013): Indexed yes
  - BFI (2012): BFI-level 1
  - Scopus rating (2012): SJR 2.366 SNIP 1.312 CiteScore 3.92
  - ISI indexed (2012): ISI indexed yes
  - Web of Science (2012): Indexed yes
  - BFI (2011): BFI-level 1
  - Scopus rating (2011): SJR 2.524 SNIP 1.178 CiteScore 3.86
  - ISI indexed (2011): ISI indexed yes
  - Web of Science (2011): Indexed yes
  - BFI (2010): BFI-level 1
  - Scopus rating (2010): SJR 2.36 SNIP 1.108
  - Web of Science (2010): Indexed yes
  - BFI (2009): BFI-level 1
  - Scopus rating (2009): SJR 1.951 SNIP 1.197
  - Web of Science (2009): Indexed yes
  - BFI (2008): BFI-level 1
  - Scopus rating (2008): SJR 1.848 SNIP 1.234
  - Web of Science (2008): Indexed yes
  - Scopus rating (2007): SJR 1.465 SNIP 1.113
  - Scopus rating (2006): SJR 0.997 SNIP 0.688
  - Web of Science (2006): Indexed yes
  - Scopus rating (2005): SJR 0.293 SNIP 1.043
  - Web of Science (2005): Indexed yes
Controlling mechanisms in nutrient dynamics and biological productivity in the eastern equatorial Pacific Ocean

General information
State: Published
Organisations: University of Maine
Authors: Palacz, A. (Intern)
Publication date: 2011

Publication information
Place of publication: Orono
Publisher: University of Maine Press
Original language: English
Main Research Area: Technical/natural sciences
Publication: Research › Ph.D. thesis – Annual report year: 2011

Estimating iron and aluminum removal rates in the eastern equatorial Pacific Ocean using a box model approach

Iron limitation plays an important role in maintaining the high-nitrate low-chlorophyll (HNLC) condition in the equatorial upwelling zone. The rate and depth of upwelling control Fe supply to the euphotic zone. This study constrains the transport fluxes and budget of two trace metals, Fe and Al, in the upper ocean. They are co-delivered to the eastern equatorial Pacific surface waters via the Equatorial Undercurrent and upwelling but show distinct biogeochemical cycling processes. We combine the results of the in situ measurements of dissolved Fe and Al (dFe and dAl) with the modeled velocity fields to calculate the physical fluxes. The model calculations are evaluated with the conservation of heat, volume transport, NO3 and Si(OH)4 budgets for the equatorial Pacific. The vertical flux due to upwelling provides averaged dFe and dAl supply rates of 1.45μmolm−2d−1 and 11.51μmolm−2d−1, respectively. The sum of the net physical fluxes in the eastern equatorial Pacific for dFe and dAl are 0.41μmolm−2d−1 and 2.77μmolm−2d−1, respectively. These estimates are equal to the net biological and chemical removal rates of dFe and dAl. The calculated dFe:C net removal ratio is in the range of 3-9μmol:mol, which agrees with most other estimates. This suggests that the majority of net dFe removal is due to biological uptake in the upper water column. The results of this box model approach illustrate the usefulness of combining the modeled outputs and in situ measurements, which provide additional constraints on Fe transport and cycling in the equatorial Pacific and possibly other HNLC regions.

General information
State: Published
Organisations: University of Maine, San Francisco State University, University of Hawaii
Authors: Palacz, A. P. (Intern), Chai, F. (Ekstern), Dugdale, R. C. (Ekstern), Measures, C. I. (Ekstern)
Pages: 311-324
Publication date: 2011
Main Research Area: Technical/natural sciences
Publication: Research › Peer review › Journal article – Annual report year: 2013
Mesoscale anticyclonic Haida eddies are proposed to deliver a substantial amount of iron into the Gulf of Alaska (GOA) central gyre, where surface waters experience high-nitrate low-chlorophyll conditions. In this study we calculate an averaged upwelling flux of dissolved iron into the euphotic zone (100 m) of 1.17 mol m⁻² d⁻¹ based on observed iron profiles and modeled eddy dynamics and resultant vertical velocities. This estimated eddy-derived iron supply rate is comparable with new estimates of pulsed iron fertilization rates from rare volcanic ash deposition events. Despite the relatively small area affected by Haida eddies, they are estimated to contribute about $4.6 \times 10^6$ moles of dissolved iron yearly to the GOA, which is equivalent to the annual atmospheric dust deposition. Haida eddies therefore represent a
major iron source that should strongly influence the regional biological productivity and carbon budget of the GOA.

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**General information**

State: Published
Organisations: University of Maine
Authors: Xiu, P. (Ekstern), Palacz, A. P. (Intern), Chai, F. (Ekstern), Roy, E. G. (Ekstern), Wells, M. L. (Ekstern)
Pages: L13607
Publication date: 2011
Main Research Area: Technical/natural sciences

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Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 3.324 SNIP 1.496 CiteScore 4.27
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 3.315 SNIP 1.532 CiteScore 4.26
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 3.461 SNIP 1.704 CiteScore 4.45
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 3.317 SNIP 1.579 CiteScore 3.82
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 3.113 SNIP 1.56 CiteScore 3.79
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 3.099 SNIP 1.417
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 2.848 SNIP 1.392
Web of Science (2009): Indexed yes
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 2.595 SNIP 1.318
Web of Science (2008): Indexed yes
Scopus rating (2007): SJR 2.277 SNIP 1.219
Web of Science (2007): Indexed yes
Scopus rating (2006): SJR 2.244 SNIP 1.231
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 2.231 SNIP 1.181
Seasonal and inter-annual changes in the surface chlorophyll of the South China Sea

General information
State: Published
Organisations: University of Maine
Authors: Palacz, A. P. (Intern), Xue, H. (Ekstern), Armbrecht, C. (Ekstern), Zhang, C. (Ekstern), Chai, F. (Ekstern)
Publication date: 2011
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Geophysical Research
Volume: 116
Issue number: 9
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Ratings:
BFI (2018): BFI-level 2
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 2
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 2
Scopus rating (2016): CiteScore 3.36 SJR 1.996 SNIP 1.313
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 2
Scopus rating (2015): SJR 2.288 SNIP 1.362 CiteScore 3.39
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 2
Scopus rating (2014): SJR 2.324 SNIP 1.349 CiteScore 3.27
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 2
Scopus rating (2013): SJR 2.357 SNIP 1.44 CiteScore 3.38
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): SJR 2.365 SNIP 1.35 CiteScore 2.93
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
This paper documents the variability in physics and nutrients during two cruises spanning 110°W to 140°W in December 2004 and September 2005. The goal of this work is to set the hydrographic framework for companion papers which quantify the role of iron, silicon and grazing in maintaining the high nitrate, low chlorophyll (HNLC) conditions in the equatorial Pacific. The two cruises were conducted almost a year apart, at different phases of the El Niño cycle, but during similarly intense tropical instability wave (TIW) seasons. The higher phytoplankton biomass observed on the 2005 cruise was due to a combination of time of year and a weakening El Niño. A general relationship between TIWs and Si cycling is described. TIWs advect the equatorial upwelling plume alternately to the north and south, and also generate localized enhanced upwelling. The distorted upwelling plume is a region of enhanced biogenic silica production and export. Away from regions of active upwelling, Si remineralization is enhanced and export is significantly reduced or absent. [All rights reserved Elsevier].
Decadal signals in the South China Sea. Is there a regime shift after the 97-98 El Niño?

General information
State: Published
Organisations: Unknown
Authors: Hue, X. (Ekstern), Nan, F. (Ekstern), Palacz, A. (Intern), Shi, L. (Ekstern), Chai, F. (Ekstern), Chao, Y. (Ekstern)
Publication date: 2010
Main Research Area: Technical/natural sciences

Publication information
Volume: 91-26
Issue number: Abstract U32A-03
Original language: English
Publication: Research › Conference abstract in journal – Annual report year: 2010

Interannual variation of biological productivity in the Arabian Sea - An analysis of multiple remote sensing products

General information
State: Published
Organisations: Unknown
Authors: Armbrecht, C. (Ekstern), Palacz, A. (Intern), Millar, A. (Ekstern), Hue, X. (Ekstern), Chai, F. (Ekstern)
Publication date: 2010
Main Research Area: Technical/natural sciences

Publication information
Volume: 91-26
Issue number: Abstract IT35K-06
Original language: English
Publication: Research › Conference abstract in journal – Annual report year: 2010

An Introduction to global climate change

General information
State: Published
Organisations: University of Maine
Authors: Grigholm, B. (Ekstern), Dixon, D. (Ekstern), Korotkikh, E. (Ekstern), Spaulding, N. (Ekstern), Palacz, A. (Intern), Potocki, M. (Ekstern), Brothers, L. (Ekstern), Maasch, K. (Ekstern), Mayewski, P. (Ekstern)
Publication date: 2008
Event:
Main Research Area: Technical/natural sciences
Publication: Research › Paper – Annual report year: 2008

Modeling iron, aluminum and carbon cycle in the eastern equatorial Pacific Ocean

General information
State: Published
Organisations: University of Maine
Authors: Palacz, A. (Intern), Measures, C. (Ekstern), Chai, F. (Ekstern)
Publication date: 2008
Main Research Area: Technical/natural sciences

Publication information
Issue number: Abstract 1493
Original language: English
Publication: Research › Conference abstract in journal – Annual report year: 2008
Physical and biological factors controlling iron, nitrate, silicate and carbon fluxes in the eastern equatorial Pacific Ocean

General information
State: Published
Organisations: Unknown
Authors: Palacz, A. (Intern), Chai, F. (Ekstern), Measures, C. (Ekstern), Dugdale, R. (Ekstern)
Publication date: 2008
Main Research Area: Technical/natural sciences

Publication information
Volume: 91-26
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Original language: English
Publication: Research › Conference abstract in journal – Annual report year: 2008

Flume tank experiments on feeding behaviour of the deep-water coral Lophelia pertusa

General information
State: Published
Organisations: Jacobs University Bremen
Authors: Palacz, A. (Intern), Maier, C. (Ekstern)
Publication date: 2006
Main Research Area: Technical/natural sciences

Publication information
Journal: Hotspot Ecosystem Research on the Margins of European Seas (HERMES) Newsletter
Issue number: 4
Original language: English
Links:
Publication: Research › Journal article – Annual report year: 2006

Flume tank experiments on tentacle behaviour and particle encounter of the cold-water coral Lophelia pertusa at varying flow speed

General information
State: Published
Organisations: Unknown
Authors: Palacz, A. (Intern), Maier, C. (Ekstern), Thomsen, L. (Ekstern), Duineveld, G. (Ekstern)
Publication date: 2006
Event: Abstract from International Society for Reef Studies, Bremen, Germany.
Main Research Area: Technical/natural sciences
Publication: Research › Conference abstract for conference – Annual report year: 2006

Flume tank experiments on tentacle behaviour and particle encounter of the cold-water coral Lophelia pertusa at varying flow speed

General information
State: Published
Organisations: Unknown
Authors: Palacz, A. (Intern)
Publication date: 2006

Publication information
Original language: English
Publisher: Jacobs University, Bremen
Main Research Area: Technical/natural sciences
Publication: Research › Other contribution – Annual report year: 2006

Video time-lapse monitoring of environmental variability at a Lophelia pertusa cold-water coral patch in the Tisler reef, Norway
Projects:

Integrated management of agriculture, fishery, environment and economy – a strategic research alliance (IMAGE/MAFIA) (38772)

Background and Objectives
Management of terrestrial and aquatic ecosystems is legally defined in several European directives. The scientific basis for implementing the directives has been limited by insufficient models, deficiencies in terms of uncertainties, local and regional aspects and lack of knowledge on the interplay between agriculture, fishery, environmental qualities in all surface waters, and economy. The project aimed to establish an interdisciplinary and international approach designed to establish a body of knowledge to develop tools, models, scenarios and predictions in order to integrate science and management from agriculture, fishery, aquatic environments and economy into a common platform. The main aims were to link the complex interplay between land use in the drainage basins, the transport of nutrients to water bodies, biogeo-chemistry of freshwater and marine water, marine ecosystem dynamics and the removal of biomass and nutrients in marine fisheries all integrated into a management strategy evaluation (MSE) framework consisting of linked catchment area and river-run-off models, marine bio-geo-chemical models, end-to-end marine ecosystem models, fishery models, economic and cost-minimization models, and ecosystem services assessments models. Such a complex model and MSE framework could be used to assess effects of changing market conditions, changed agricultural and fishery support policies, as well as fulfillments of water related directives.

Tasks and Deliverables
The Danish Strategic Research Council financed project IMAGE was a strategic research alliance between central Danish and international fisheries and marine environment based university institutes. The project integrated, educated, and trained new researchers and private and public end-users to develop and work with a number of empirical and dynamic models and management tools, further developed into cross traditional media and science-based decision support systems, to strengthen national and international environmental management. The results published in a high number of scientific peer reviewed articles have provided major scientific progress. The results and research quality included analyses of novel processes and development of new and improved models, integrated prognoses and scenarios for the interplay between changes in the drainage basins and the ecological and economic consequences, and a number of science-based decision support tools. The work involved (i) identification of key elements and reduction of uncertainties in using complex models, (ii) designing, developing and integrating important new concepts in the models, (iii) linking models and evaluating their ability to detect and follow changes in terrestrial environments into ecological and economic consequences, and (iv) strengthened Danish research in linking science, modeling and management of the environment and economics and thereby consolidating a strong international position. The DTU Aqua has focused on further development, implementation and validation of advanced models and fisheries and ecosystem management evaluation tools: Development, calibration and implementation of the Baltic ATLANTIS end-to-end ecosystem and tropho-dynamic model linked to the HBM-ERGOM physical and bio-geo-chemical models and the FISHRENT fishery economic model; Further development and implementation of the bio-economic and individual vessel based multi-stock-multi-fleet DISPLACE simulation model; Dynamic coupling of the Baltic FLR multi-stock-multi-fleet bio-economic model to the SMS-Multi-Species model. The focus has been on biological interactions and integrated fisheries interactions.

Partners
The project had 12 project partners mainly from Danish universities (AU, DTU, KU, SDU) and national fisheries economics and fisheries research institutes (SMHI Sweden), but also from American, Swedish and Finnish universities as well as SMEs (e.g. DHI). The project was coordinated by Aarhus University. DTU Aqua was main project developer, WP4 leader and member of the Project Steering Group.
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National Institute of Aquatic Resources
Section for Ecosystem based Marine Management
Period: 01/01/2010 → 31/12/2015
Number of participants: 7
Research areas: Fisheries Management & Ecosystem based Marine Management

Project participant:
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Ross, Stine Dalmann (Intern)
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Activities:

ICES - Herring Assessment Working Group for the Area South of 62ºN - HAWG (External organisation)
Period: 2015
Artur Palacz (Participant)
National Institute of Aquatic Resources
Section for Marine Ecology and Oceanography
Degree of recognition: International

Related external organisation
ICES - Herring Assessment Working Group for the Area South of 62ºN - HAWG
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

ICES - ICES/HELCOM Working Group on Integrated Assessments of the Baltic Sea - WGIAB (External organisation)
Period: 2015
Artur Palacz (Participant)
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Degree of recognition: International

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