

# Baltic Earth Research: Challenges in the international context

**Baltic Earth Research: Challenges in the international context**

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## BOSEX 77

K. Großhoff  
20. Reise, Teil I

Herrn Dr. Ulrich

Fahrtbericht F.S. "Poseidon"

BOSEX '77

F.S. "Poseidon" meldete am 30.8. von See das voraussichtliche Eintreffen in Kiel für die Nacht vom 30. zum 31.8. Durch Nebel im Kanal verzögerte sich die Einlaufszeit auf den 31.8. 10 Uhr. Die "Poseidon" lief zunächst zum Seefischmarkt, um die Netze abzugeben und die Schleppwinde aus dem Lager zu übernehmen. Die Verladung verlief zügig und ohne Zwischenfälle. Die Firma Ibak lieferte die Fangvorrichtung für den "Fisch", wie verabredet, am Seefischmarkt ab. Die "Poseidon" verholte dann zur I.f.M. Pier, wo die Beladung für die BOSEX-Fahrt nach Plan und Absprache mit den teilnehmenden Gruppen begann. Die Beladung war am 2.9. um 15 Uhr abgeschlossen. Zuletzt wurden die an Deck zu verstauen den schweren Tonnen und Masten übernommen. Die Beladung wurde am 2.9. durch das Fernsehen gefilmt.

Die Übernahme von relativ schweren und sperrigen Laborgeräten wurde durch das Fehlen geeigneter Paletten, die vom Kran angehoben werden können, sehr erschwert. Es ist für die Zukunft nicht zumutbar (und auch nicht verantwortlich), die schweren Geräte über die schmale Gangway an Bord zu tragen. Es kam dabei mehrfach zu "Beinaheunfällen".

Es wird angeregt, für das Schiff drei bis vier Korb-Paletten mit Hebevorrichtung zu beschaffen, die durch die Eingänge im I.f.M. passen,

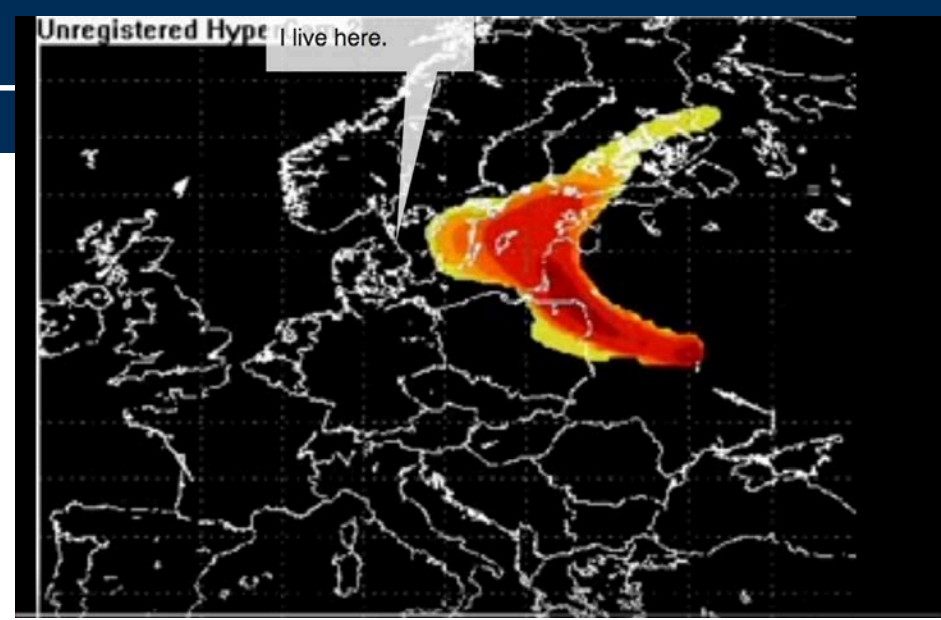
ON THE ROLE OF MESOSCALE EDDIES AND  
SALINE STRATIFICATION IN  
GENERATION OF SPRING BLOOM HETEROGENEITY  
IN THE SOUTHEASTERN GOTLAND BASIN:  
AN EXAMPLE FROM PEX-86  
J.Elken, L.Talpsepp, T.Kõuts, M.Pajuste

Baltic Conference Series (ISSN 11)

Herman G. Gade · Anton Edwards  
Harald Svendsen · Editors

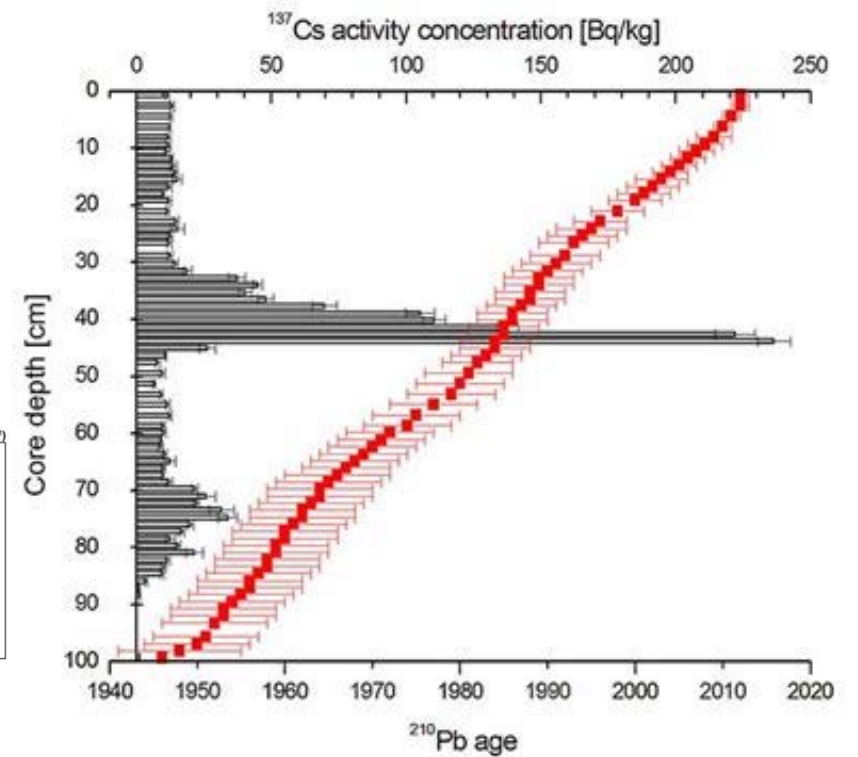
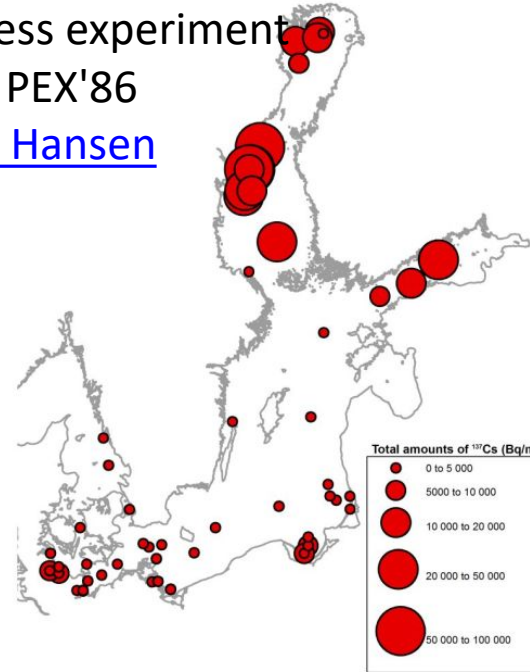
Coastal  
Oceanography

# History



Baltic Sea patchiness experiment  
PEX'86

• [B. I. Dybern](#), [H. P. Hansen](#)



PEX-86



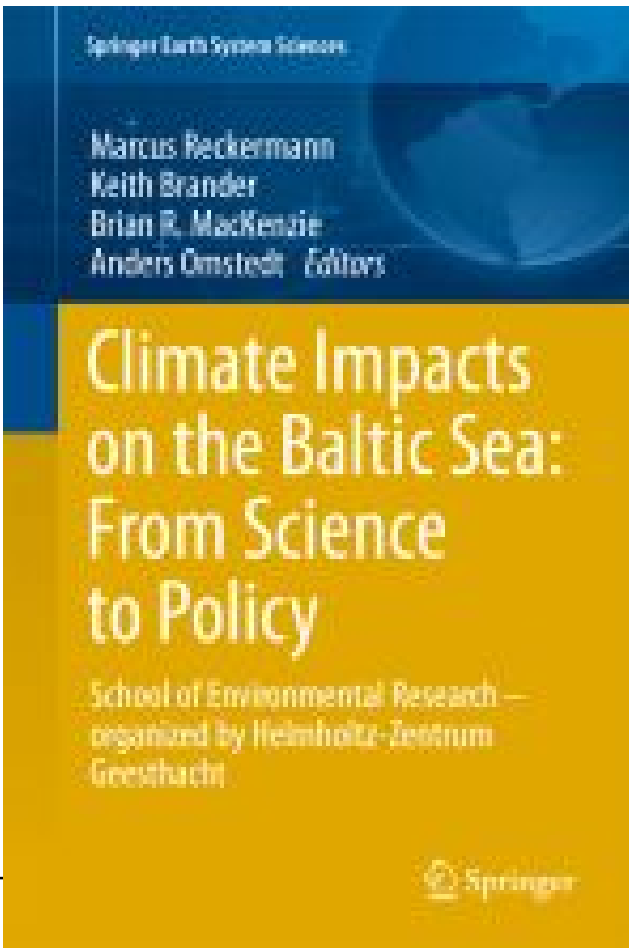
BALTEX (the Baltic Sea Experiment) was a Regional Hydroclimate Project (RHP) within the Global Energy and Water Exchanges Project (GEWEX) of the World Climate Research Program (WCRP) since 1993.

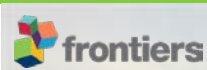
BALTEX converted to Baltic Earth and extended its scientific scope beyond physical disciplines.

Other international programs like IODP, BIODIVERSITAS and Census of Marine Life, had components in the Baltic Sea.



## Second Assessment of Climate Change for the Baltic Sea Basin

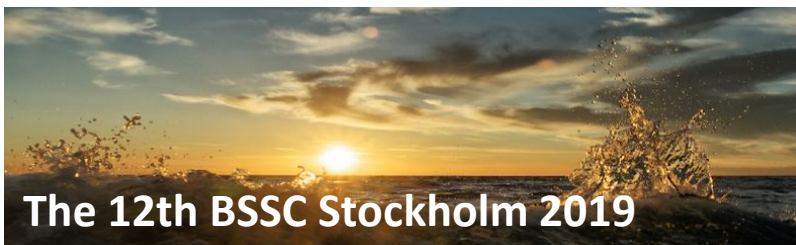




## BSSC

The 11th  
Baltic Sea Science Congress  
“Living along gradients:  
past, present, future”

Baltic oceanographer (CBO)  
Baltic marine biologists (BMB)  
Baltic geoscientists (BSG)



The 12th BSSC Stockholm 2019



## Baltic Earth

Earth System Science for the Baltic Sea Region



International Baltic Earth Science Plan (BESSP) No. 1, February 2007

Baltic Earth  
Science Plan 2017



## The Sixth Assessment cycle

### Special Reports

October 2018

Global warming of 1.5° C  
An IPCC special report on the impacts of global warming of 1.5° C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty

August 2019

Climate Change and Land:  
An IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems

September 2019

Special Report on the Ocean and Cryosphere in a Changing Climate

### Methodology Report

May 2019

2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories

### Sixth Assessment Report

April 2021

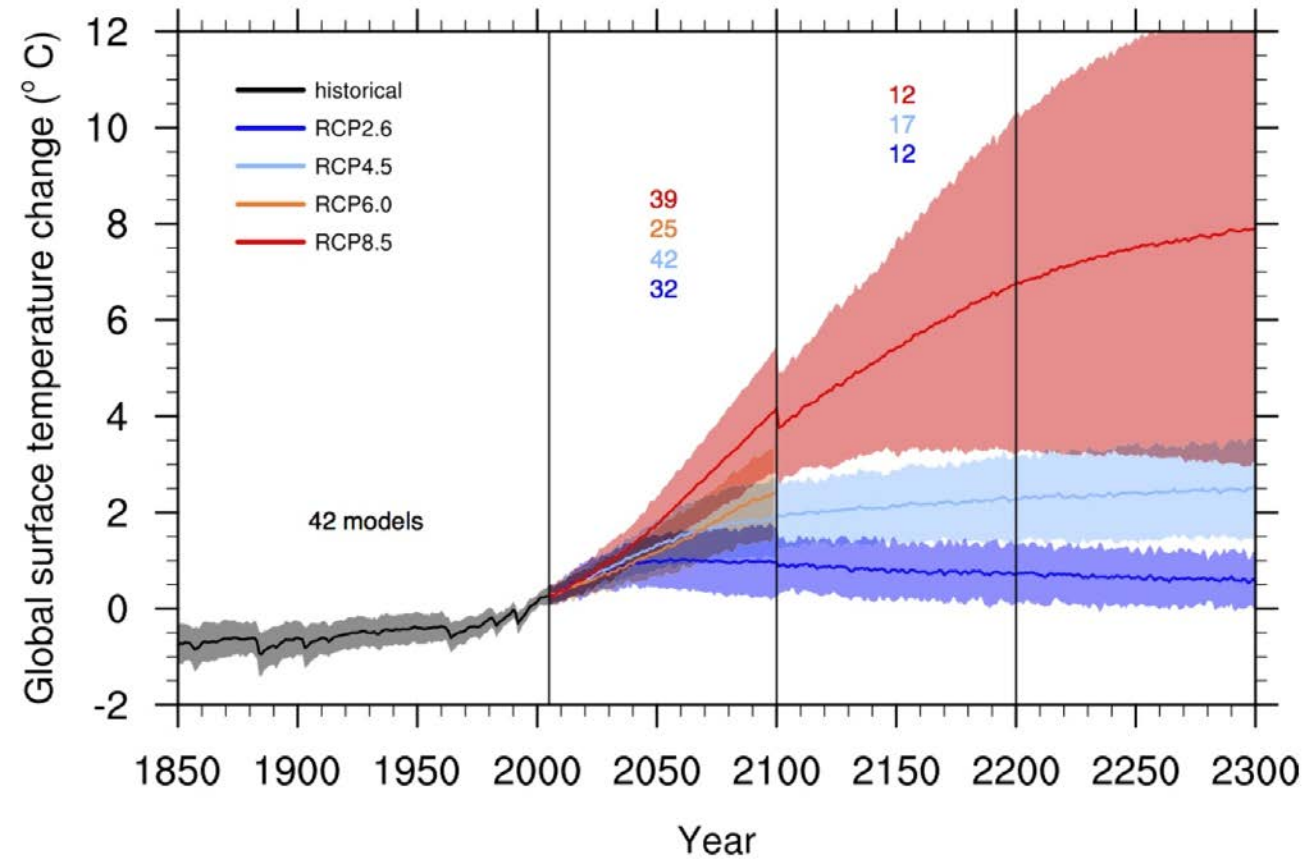
Working Group I contribution  
The physical science basis

July 2021

Working Group III contribution  
Mitigation of climate change

October 2021

Working Group II contribution  
Impacts, adaptation and vulnerability



# Impact of accelerated future global mean sea level rise on hypoxia in the Baltic Sea

Research Article

## Recently Accelerated Oxygen Consumption Rates Amplify Deoxygenation in the Baltic Sea



[Home](#) | [Contact](#) | [Impressum](#)

## Uncertainties in projections of the Baltic Sea ecosystem driven by an ensemble of global climate models

Sofia Saraiva<sup>1,3</sup>, H.E. Markus Meier<sup>2,3</sup>, Helén Andersson<sup>3</sup>, Anders Höglund<sup>3</sup>, Christian Dieterich<sup>3</sup>, Robinson Hordoir<sup>3</sup>, and Kari Eilola<sup>3</sup>



### Baltic Earth

Earth System Science for the Baltic Sea Region

[Home / News](#)

[Background](#)

[Grand Challenges](#)

[Working Groups](#)

[Projects](#)

MedCORDEX-Baltic Earth-COST Workshop on

**Regional Climate System Modelling for the European Sea Regions**

Universitat de les Illes Balears, Palma de Mallorca, Spain  
14- 16 March 2018

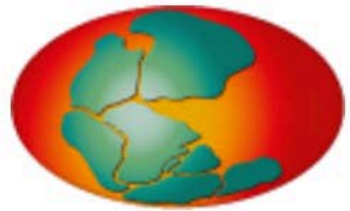


## Effects of air-sea coupling over the North Sea and the Baltic Sea on simulated summer precipitation over Central Europe



# The Baltic Sea Bathymetry Data

HELCOM MPA DATABASE



**PANGAEA.** **ODIN 2**

Data Publisher for Earth & Environment Oceanographic Database research with Interactive Navigation

# MaNIDA

## Marine Network for Integrated Data Access



approach

## Baltic Marine Environment Bibliography

[Go to Search](#)

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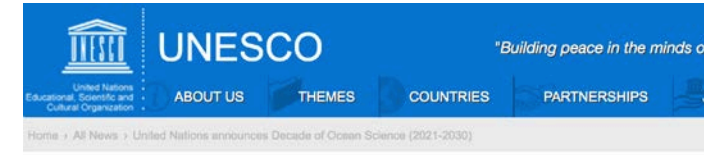
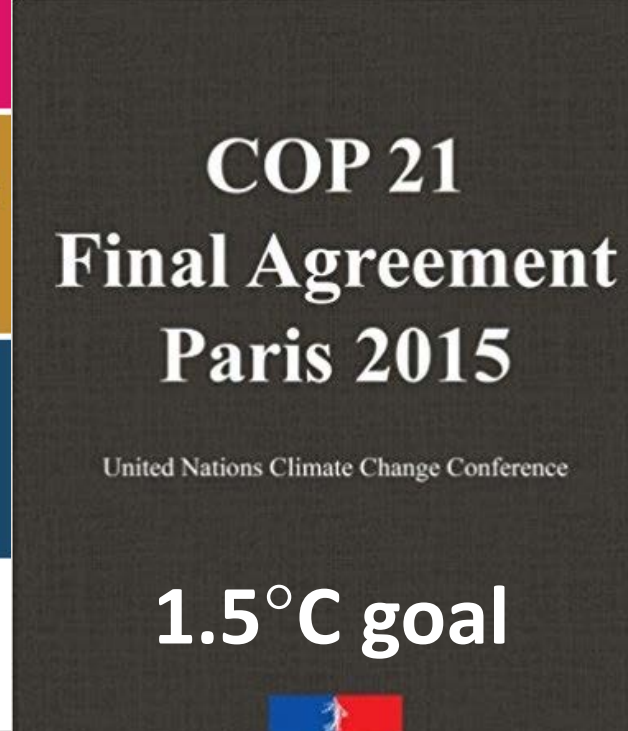
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Baltic Marine Environment Proceedings



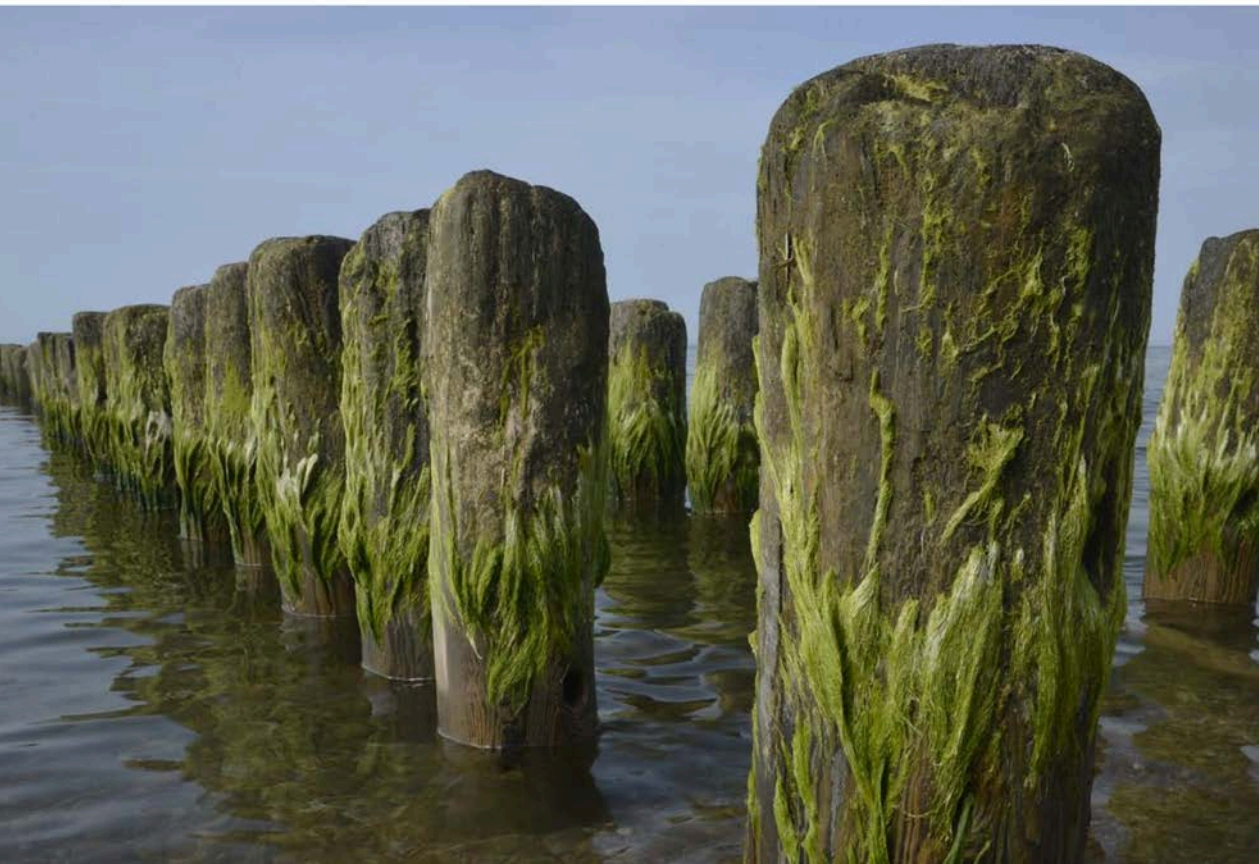


United Nations announces Decade of Ocean Science (2021-2030)  
05 December 2017



The United Nations today announced the Decade of Ocean Science for Sustainable Development (2021-2030) to mobilize the scientific community, policy-makers, business and civil society around a programme of joint research and technological innovation.

## FIRST VERSION OF THE 'STATE OF THE BALTIC SEA' REPORT - JUNE 2017 TO BE UPDATED IN 2018



## MINISTERIAL MEETING 2018 BRUSSELS

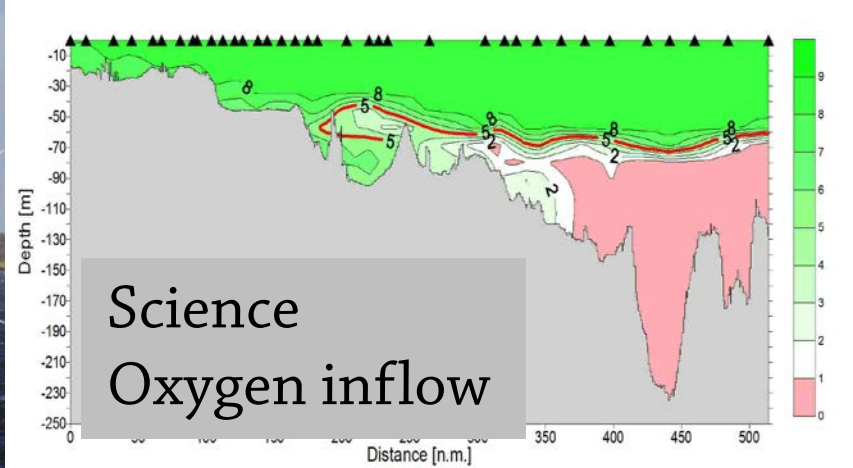
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RENEWED EFFORTS FOR A HEALTHY BALTIC SEA



Wind-Industry



Nature/Protection



Transport



Change



Military



Art and Culture



Garbage

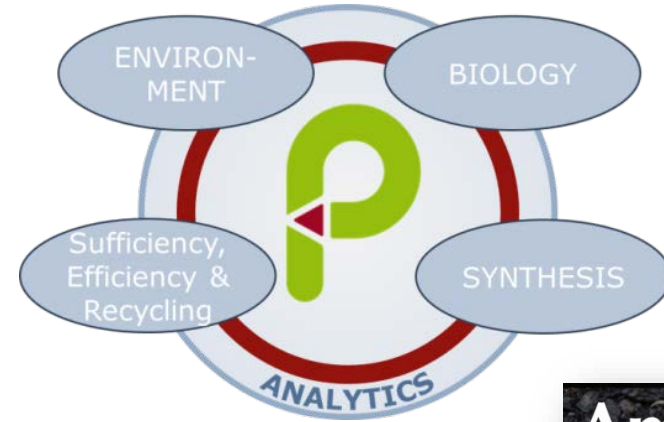


Tourism

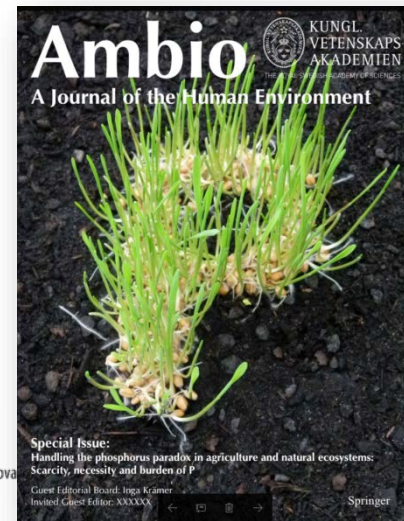
## Leibniz ScienceCampi/P-Campus 2015-2019

- ▶ **Leibniz ScienceCampus:** organize strategic research, promote interdisciplinary topics, projects and methods, raise the visibility of the participating locations and strengthen their research profile
- ▶ **P-Campus:** Thematically-focused, interdisciplinary regional partnership of 5 Leibniz-Institutes and 5 faculties of Rostock University
- ▶ **Aim:** Scientific foundations for a more sustainable P-management & recycling, pooling expertise, intensifying collaboration and research around P

- ▶ Graduate School, n\*3 yrs
- ▶ Seed projects, 1 yr
- ▶ 30 additional projects
- ▶ > 100 scientists + 30 PhD
- ▶ 1 M€/y basic, ≈ 4 M€/y soft

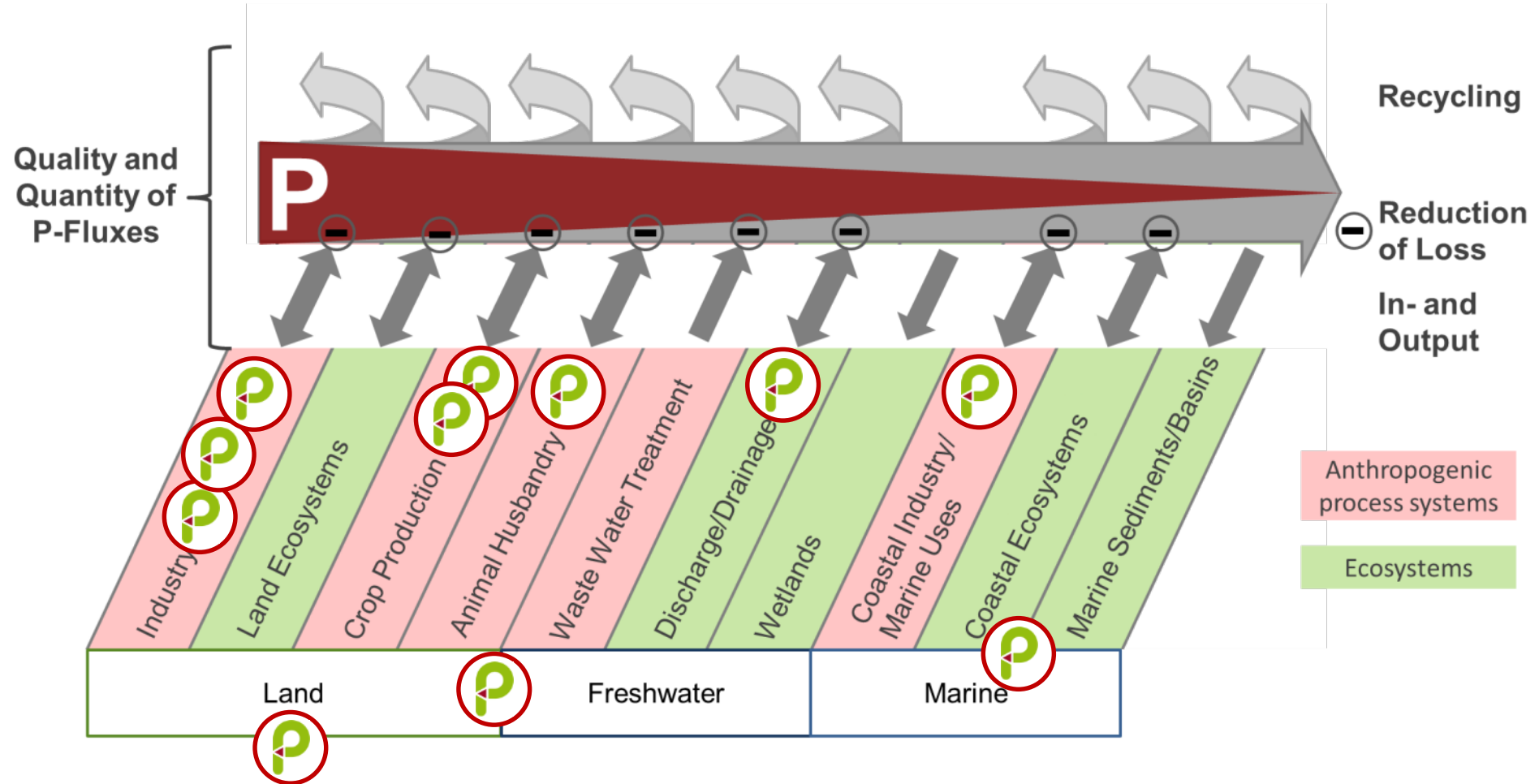


**2019-2022**



# A Regional Example

## Quality and Quantity of P-Fluxes in various Production-, Process- and Ecosystems





German marine and climate science is well prepared to react on new challenges, as we operate two national coordination activities,

- the German Climate Consortium (DKK) and
- the Consortium German Marine Research (KDM) involving 20 scientific institutions (universities, Helmholtz, Leibniz, Max Planck, federal research units, museums).



As we speak, the new German Alliance of Marine Research emerges.



The German government has published its MARE:N program including and coordinating activities of four ministries.



# THE TRUE BALTIC

a scientific history of our coastal sea



**Citizen science in Baltic Sea – experience from the beach**

# **EMB POLICY BRIEF**

N°5 October 2017

# **Marine Citizen Science:**

**Towards an engaged and ocean literate society**

## **BONUS BALTICAPP**

**Wellbeing from the Baltic Sea – applications combining natural science and economics**

