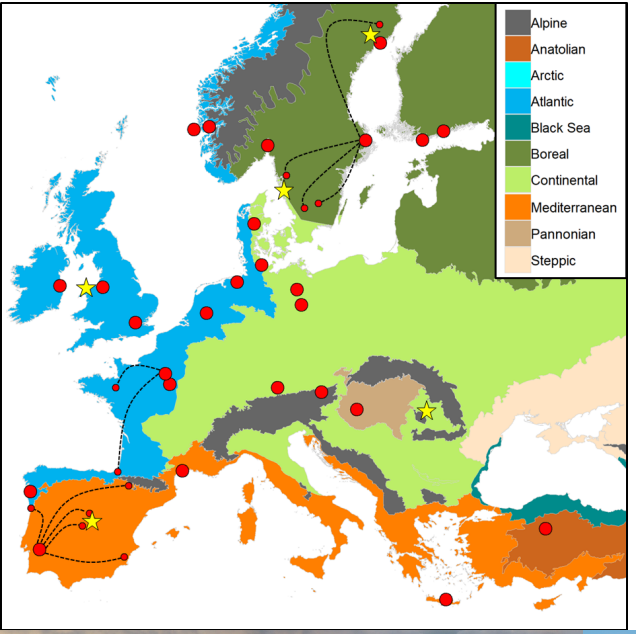
BG3.13 Whole system approach for in-situ & long-term environmental system research on life supporting systems

EGU21-15726: J Nejstgaard, S Berger, K Makower, R Ptacnik, H Stibor, I Magiopoulos

International Network offering Aquatic Mesocosm Facilities for Experimental Ecosystem Studies and Cross-Disciplinary RI-RI collaborations

EU Project
No 871081



EU 2020-2024 10 mill €

31 Partners – 61 Mesocosm Facilities Freshwater – Marine

Access Collaborative Experimental Science

Understand Whole Ecosystem Responses

Across Time – Long Term Data

Across Systems – Rivers, Lakes, Estuaries, Sea

Aquatic-Terrestrial / Atmosphere RI-RI – collaboration

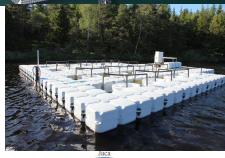
Ecosystem Solution Based Experiments

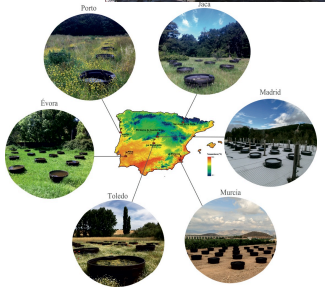
>13000 Transnational Access days

and much more http//:aquacosm.eu









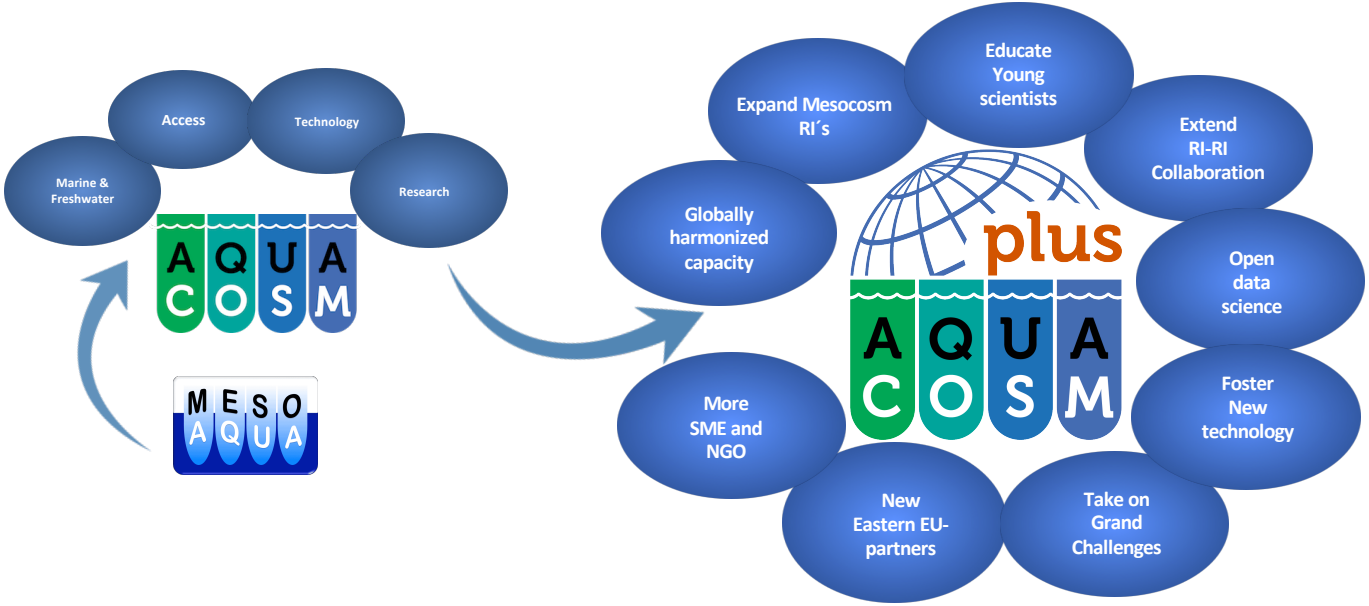








2009-2024
EXPANDING INTERNATIONAL NETWORK FOR EXPERIMENTAL MESOCOSM STUDIES



In total > 28 000 Transnational user days !

http://MESOCOSM.ORG

OPEN VIRTUAL NETWORK FOR AQUATIC MESOCOSM FACILITIES WORLDWIDE

Alternative address:
mesocosm.eu

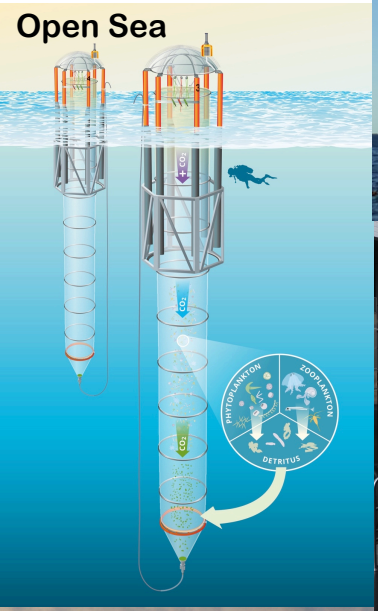
Become a member!



Marine Pelagic Mesocosms

















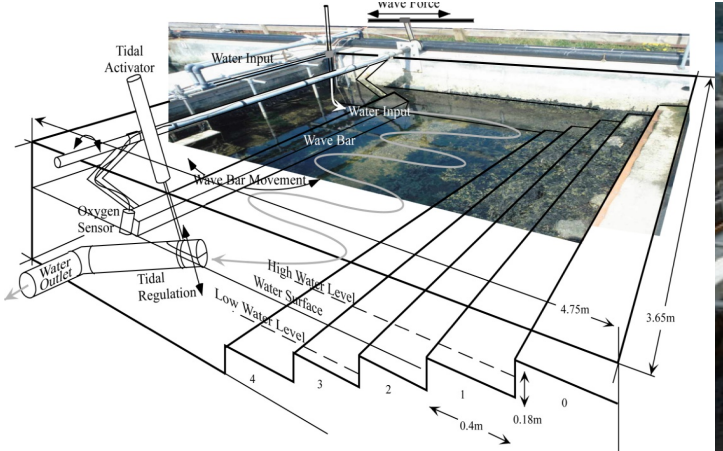
Marine Benthic Mesocosms

Kiel Outdoor Benthocosms (KOB)





Benthic Mesocosms, NIVA, Norway

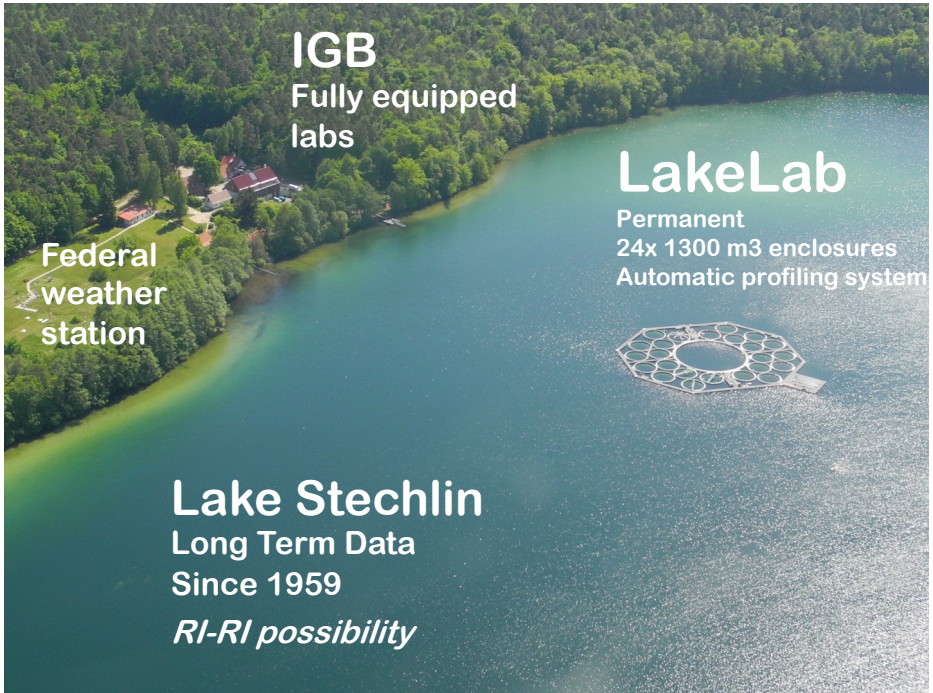




Freshwater Pelagic Mesocosms

Large-scale

The IGB – LakeLab, Germany



Affordable highly replicated

LMU, Munich, Germany





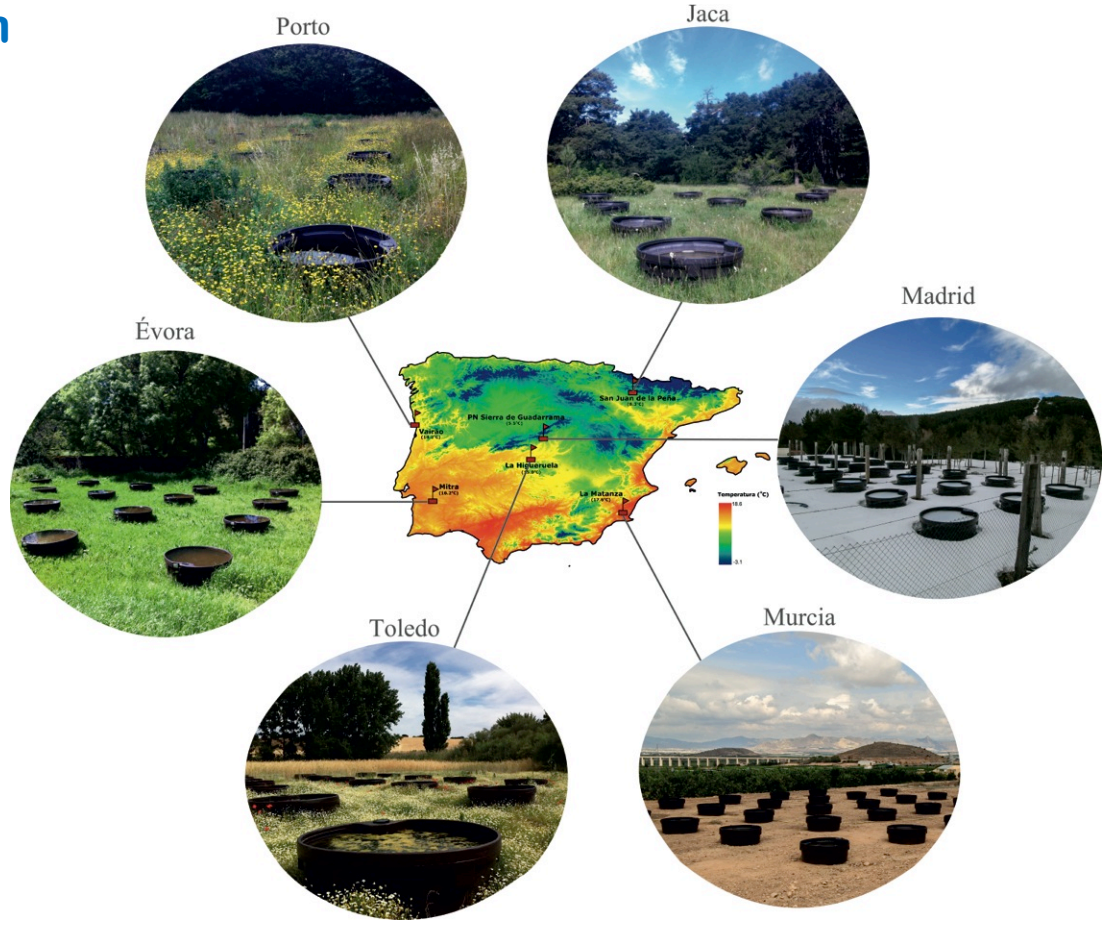
Freshwater Pond Mesocosms

Aarhus University Lake Mesocosm Warming Experiment Silkeborg, Denmark





Iberian Ponds, CIBIO-University of Évora, Portugal/Spain



River Mesocosms









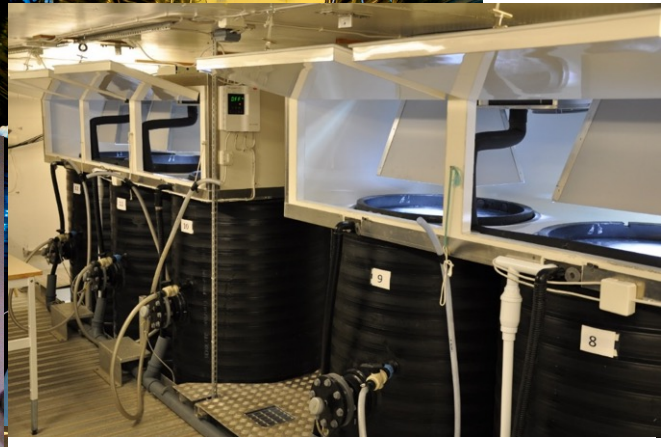
Advanced Land Tank Systems Indoors



The LIMNOTRONS
Netherlands Institute for Ecology (NIOO)
Wageningen

MF-UMSC: Mesocosm Facility, Umeå Marine Sciences Center, Sweden





UOL: Planktotrons, Wilhelmshaven, Germany

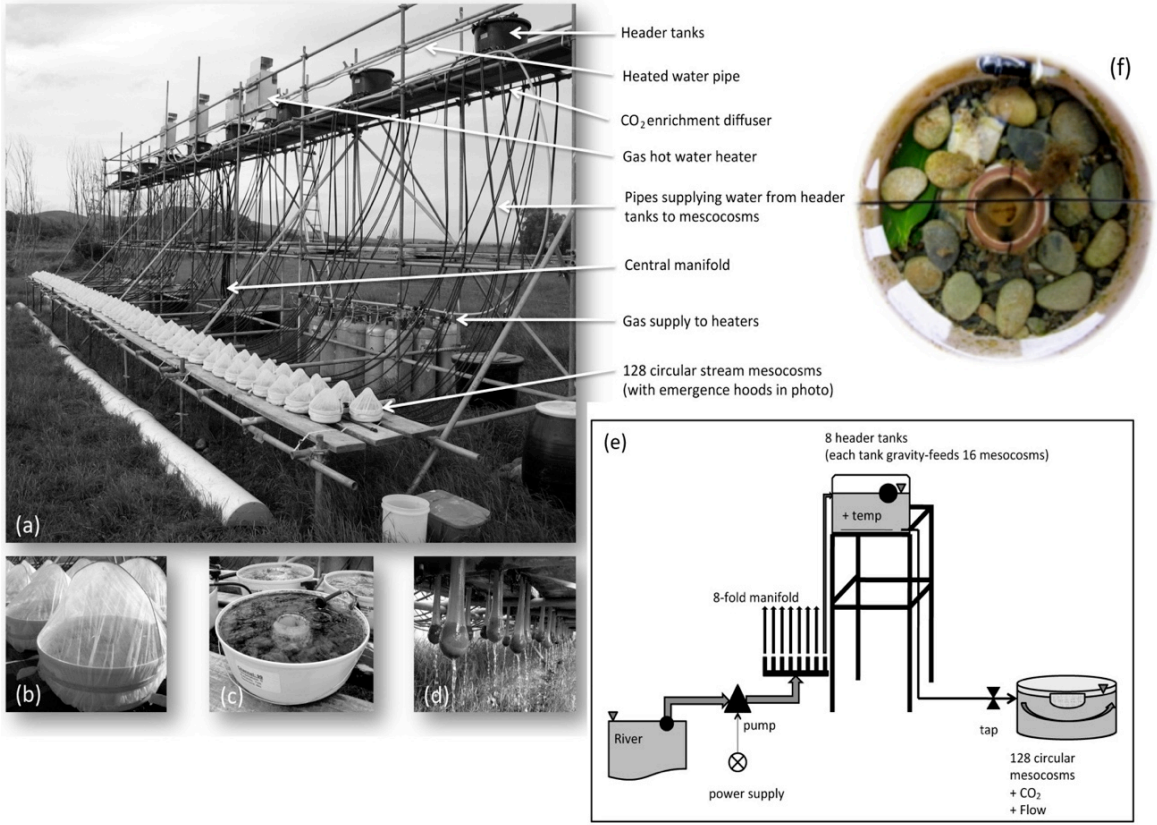




Ice covered water columns

Part of WW-networks

TCD: ExStream System, Wicklow, Ireland



Wide multi-scale systems

CNRS CEREEP: PLANAQUA Saint-Pierre-lès-Nemours, France



And many more… see:

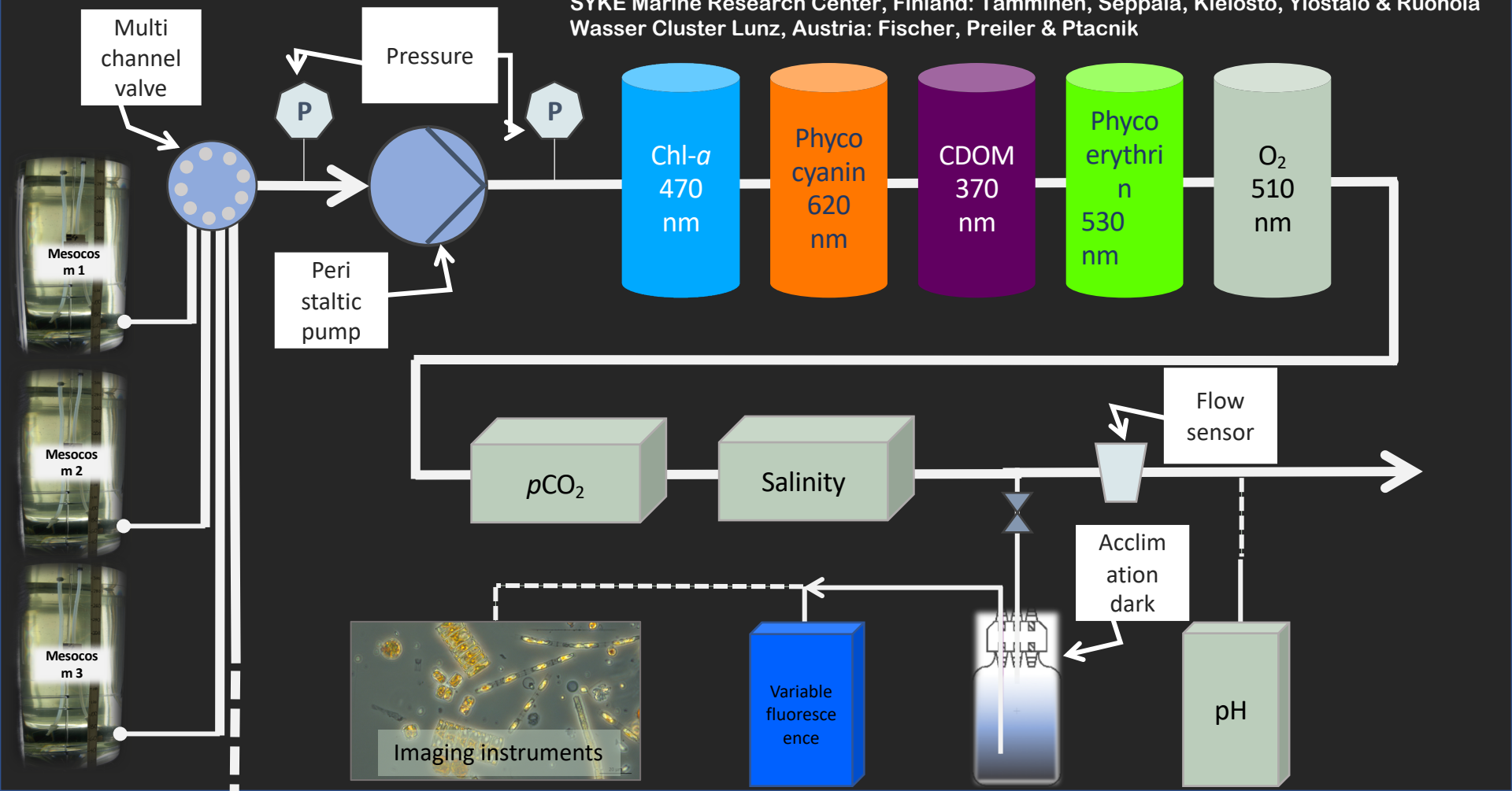
aquacosm.eu/mesocosms/

aquacosm.eu/transnational-access/aquacosm-plus/

Development of new Technologies
Effective and Open Data Handling
Training & Transfer of Competence

AQUA BOX - Automated Sampler for Water Chemistry & Protist Plankton

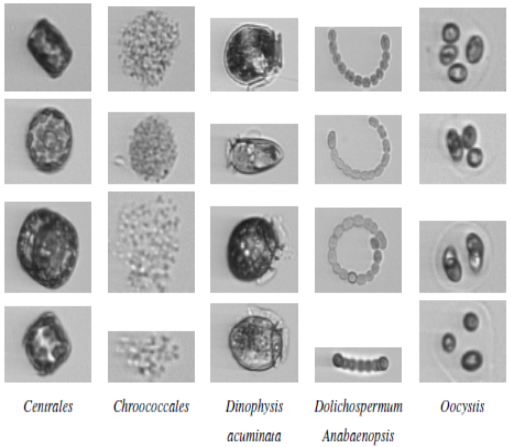
SYKE Marine Research Center, Finland: Tamminen, Seppälä, Kielosto, Ylöstalo & Ruohola
Wasser Cluster Lunz, Austria: Fischer, Preiler & Ptacnik

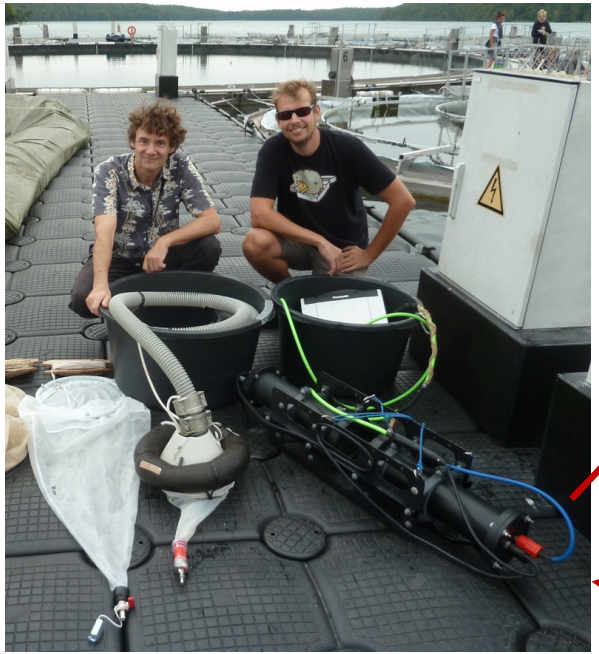


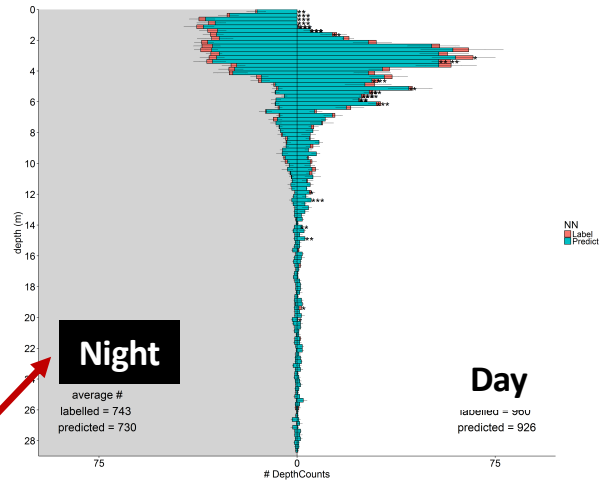
Automated, high-frequency imaging techniques for aquatic food web research in mesocosms

or in the field…

SYKE Marine Research Center, Finland: Tamminen, Lehtiniemi et al.
IGB, Germany: Nejstgaard et al.







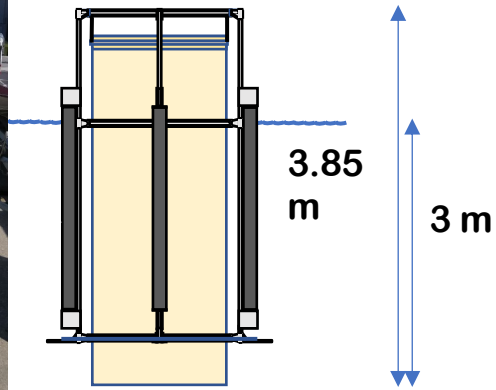
Mini Deep focus Plankton Imager

New Ice & Wave Resistant Standardized Pelagic Mesocosms = AQUAcosms

Lead: Umeå University, Sweden, Henrik Larsson & Johan Wikner
Contributors: IGB, Germany & GEOMAR, Germany









Affordable
Wave & Ice Resistant

Building 12 units for
COLLABORATIVE USE - ANYWHERE

And much more…

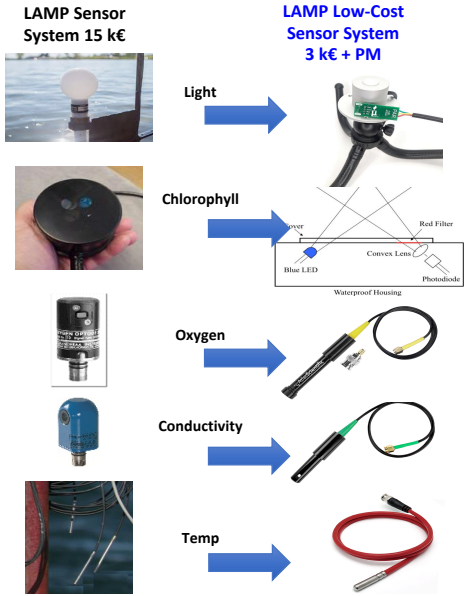
Automated primary data collection immediately at site:

- Maximum data quality & access
- Minimum effort



Low cost sensor systems:

- In situ sensors
- Automated gas chambers

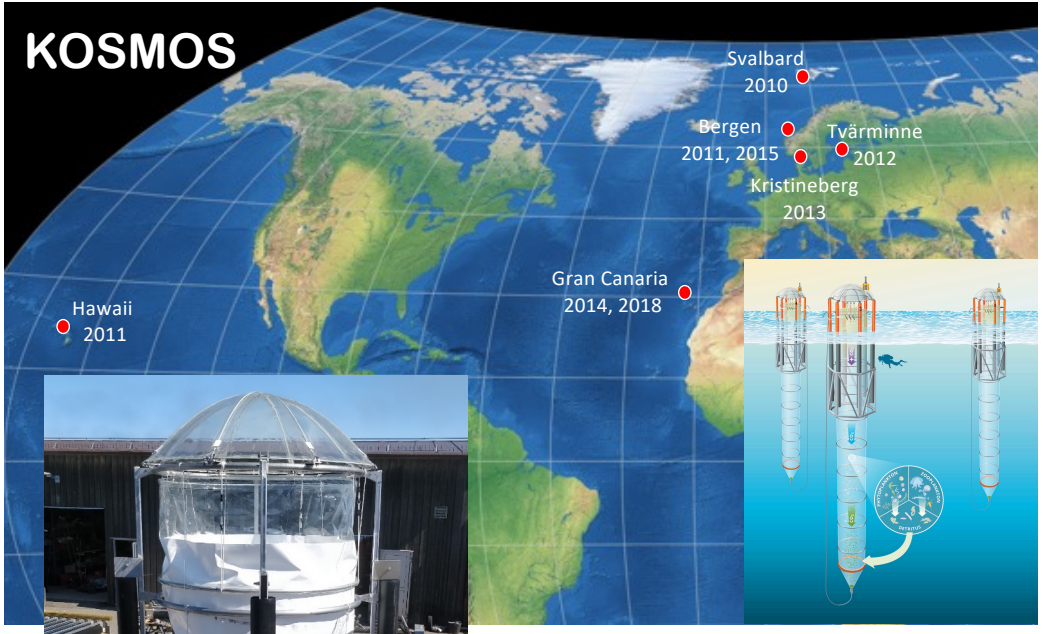


MESOCOSM Ri-RI collaboration

SITES AquaNet, Sweden
Established multi-RI network



Mobile mesocosms… Anywhere







Lets' do (mesocosm) science together!

Aligning TA – calls

Aligning Joint Research Activities…

Or just visit the facilities





Thanks!

Coordination team:

Jens Nejstgaard
Katharina Makower
Stella Berger



IGB Leibniz-Institute of Freshwater Ecology and Inland Fisheries
Dep. Experimental Limnology, Stechlin, Germany
nejstgaard@igb-berlin.de

http//:aquacosm.eu