

# Major AEW

## Aquatic Ecology and Water quality management



# Outline

Topics

Contacts



# Controlling eutrophication

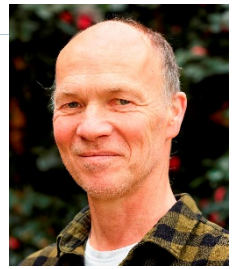


Miquel Lurling

- Phosphorus inactivation and blocking sediment P release
- Effect of benthivorous fish
- Enclosure experiment (3 waterboards)



# Carbon and Nitrogen Cycle



Jeroen de Klein

- Greenhouse gas emission and denitrification
- Effect of temperature and nutrient loading (climate !)
- Role of wetlands in C N P budgets

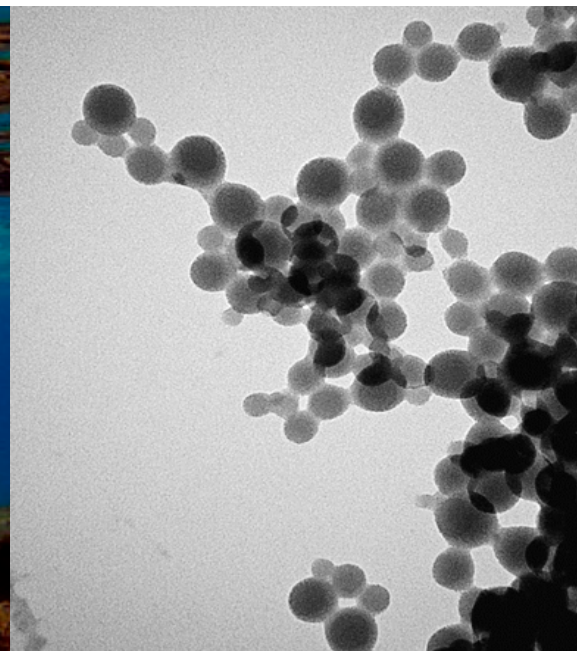


# Plastic research



Bart Koelmans

- Micro- and nanoplastic in the aquatic environment
- Anthropogenic stressors (i.e. oil) in the Arctic
- Fate (modeling) and effects of nanomaterials



# Aquatic vegetation and fauna



Edwin Peeters

- Effect of Floating vegetation (Azolla);
- Competition and invasive species
- Behaviour and sensitivity macro-invertebrates

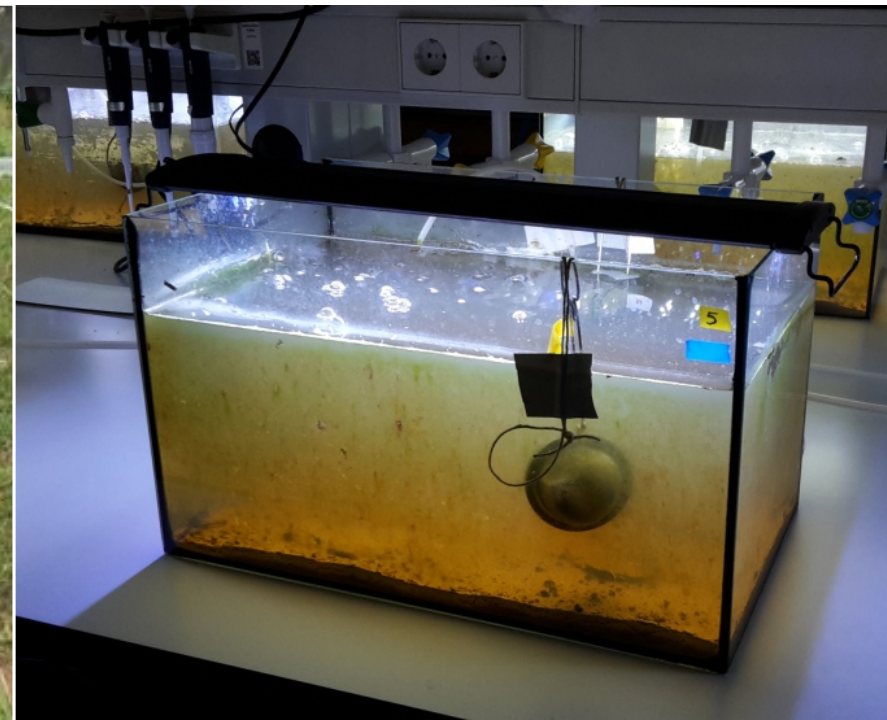


# Ecological risk assessment



Paul van den Brink

- Ecological effects chemicals (pesticides, pharmaceuticals, ..)
- Exposure and bioaccumulation experiments
- Chemical fate, food-web and ecological models



# Modelling ecosystem patterns and tipping points

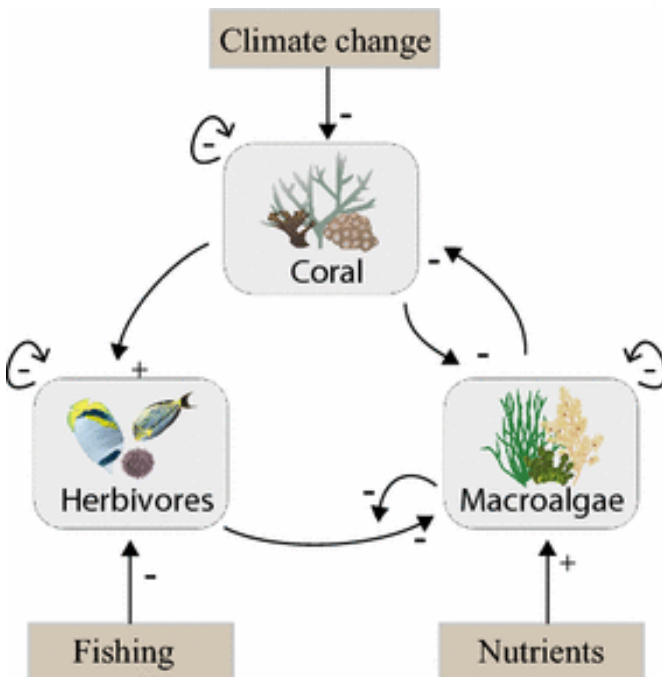


Egbert van Nes



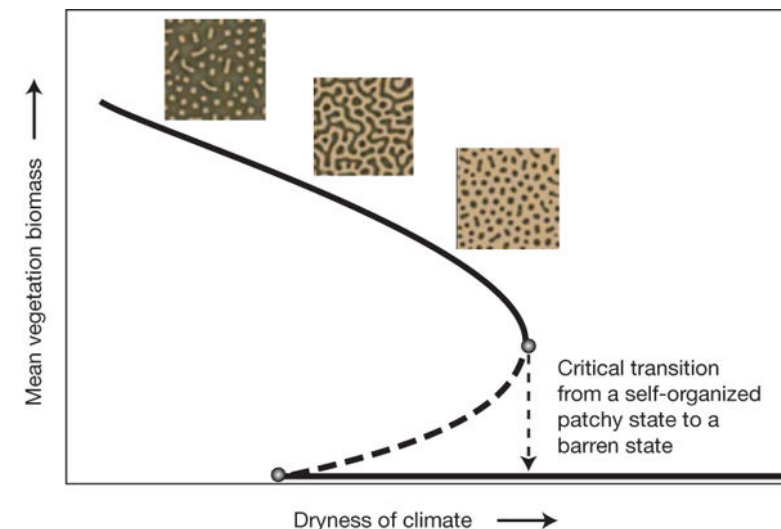
Ingrid van de Leemput

- Shifts in ecosystems due to climate change
- Early Warning signals
- Feed-backs in aquatic systems (corals, food webs, ...)



Ecosystems may undergo a predictable sequence of self-organized spatial patterns as they approach a critical transition.

*Scheffer et al, 2009, Nature*





# Marine Ecology projects

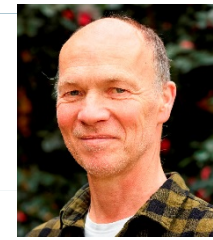


Marjolijn Christianen

- Global defaunation and plant invasion (Caribbean)
- Foodweb structure of novel ecosystems (Wadden Sea)
- Reintroduction of shellfish reefs



# Applied water quality models

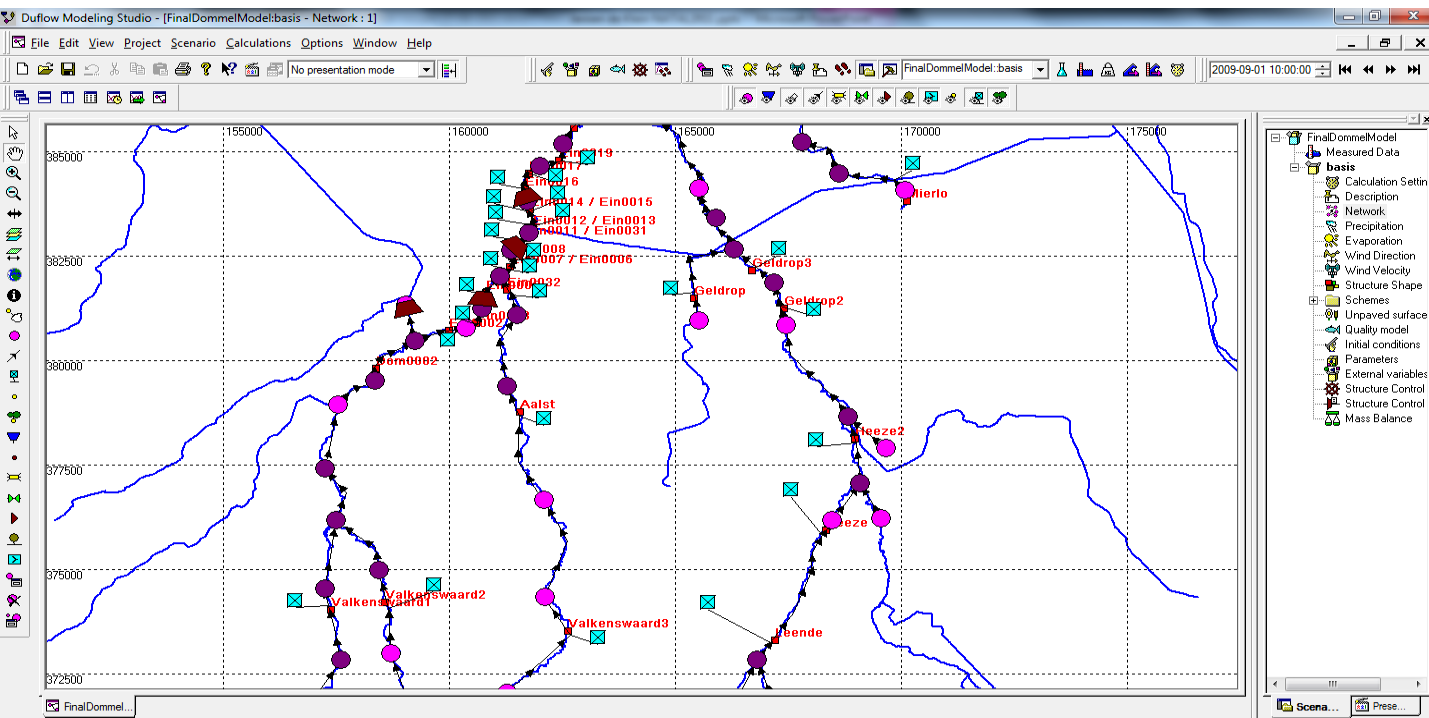


Jeroen de Klein



Egbert van Nes

- Effect of restoration measures
- Scenario studies
- Simulation and prediction (DUFLOW, PCLake, ...)
- Monitoring and Assessment methods



# Contact AEW ?

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- For general information and introduction:



Edwin Peeters,  
aquatic ecology



Bart Koelmans,  
water quality



Noël Diepens,  
marine subjects

- Go directly to teachers/supervisors
- See AEW-website (list of topics)
- Join AEW at coffee time (10:45 and 15:30 h.)