

Anneke Hibma

## **EDD-Tools development**

• Eco mind maps / causal loop diagrams / system design

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- Map Table
- BwN in system engineering
- Valuation of nature/ecology
- Valuation of nature in SCBA
- Dealing with uncertainties in SCBA
- BwN in Project Cost estimates Infrastructure (PRImethodology)



## System design from Community of Practice

## Map Table

- A digital design table that is used as an instrument in spatial planning processes.
- Its purpose is to give insight in the impact of spatial measures, by combining knowledge of participants, spatial databases and models that can predict impacts.
- Map Table makes it possible to design in an interactive way.



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## Valuation of nature in SCBA

 Socioeconomic cost benefit analysis (SCBA) tool values the change in non-economic value due to BwN-projects as SCBA does not only include regular (financial) costs and benefits but also public goods like nature benefits and recreation aspects.

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- This tool facilitates decision makers in how to value the BwN concepts to be able to compare the BwN advantages to the additional costs that might be involved.
- A SCBA gives a strong argument to start a project when the benefits for society exceed the costs.
- BwN aims to obtain price tags for nature services as bequest value and recreational perception.



## **OpenEarth – Inter-company management of: data, models, tools & knowledge**

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#### **XBeach**



## **Recognisable frustrations?**

- hmm, what was measured here?
- · huh, where was it measured exactly?
- oops, when was it measured?
- aarghh, is there still someone around who knows what was done there?

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- ohhh, why does it take so long to collect data!
- #\$\*!, has that data been deleted?!?
- ah yeah, yet another data format ... again!!!
- sigh, this problem must have been solved by someone else before me!
- oh oh, I used an old version of this tool!
- euh, what/where is the most recent version of this tool?
- why is everybody using a different tool for the same analysis?
- oh no, we've made the same mistake again!
- WHY CAN'T I BUILD ON THE HERITAGE OF PREVIOUS PROJECTS?

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## Similar examples can be provided of tools

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- Poor version control on various tools (be it: Excel spreadsheets, Matlab tools, Fortran codes etc.)
- Setup of software architecture such that the software is very hard to maintain and improve (e.g. no modular setup)
- Reinventing the wheel between departments (rather developing something new from scratch than merging efforts and collaborate)
- Hard to identify in reports which version of a tool was used (undesirable from a quality perspective)

The overall poor quality and availability of data, models, tools and knowledge inhibits knowledge development and progress!



# **OpenEarth: the standard for handling data, models, tools and information?**

### **OpenEarth is:**

- A robust community of users ...
- that cooperate from the philosophy ...
- that data, models, tools and information ...
- should be exchanged as freely and openly as possible ...
- across the boundary of projects (and even organisations?).



# **OpenEarth: the standard for handling data, models, tools and information?**

#### **OpenEarth stimulates effective cooperation by:**

- Offering a free infrastructure built from the best available open source components (third generation – ongoing development since 2003):
  - Backup, version control and web access
  - Broadly accepted international standards (netCDF, EPSG, CF, etc)
- Exchanging all data, models, tools and information from OpenEarth projects via one **shared repository**
- Providing easy access to training materials for (minimal) capacity building with potential users to enable effective cooperation within the OpenEarth community











#### TOOLS:











Image © 2009 Aerodata International Surveys



Datum van beeldmateriaal: 2005

52°40'11.38" N

4°37'49.33" O







## EDD workshops







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Eye alt 1.00 km 🔘

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Provided by:

Data SIO, NOAA, U.S. Navy, NGA, GEBCO Image © 2010 Aerodata International Surveys

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## **Conclusions OpenEarth**

- The poor quality and availability of data, models, tools and knowledge inhibits knowledge development and progress
- OpenEarth provides an open source project superseding approach for data and knowledge management
- The OpenEarth approach is used in a growing number of projects (a.o. Building with Nature)
- You can use it too!

![](_page_43_Picture_5.jpeg)

EcoShape

### www.openearth.nl or www.openearth.eu