

## JERICCO summer school 2014

### From Data to Decisions

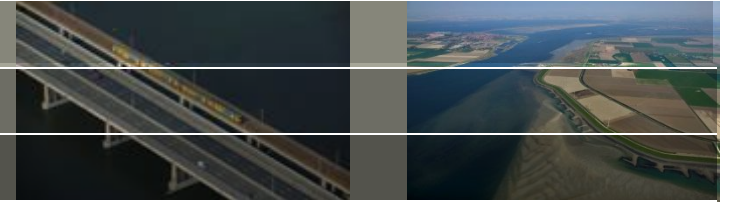
Marine monitoring > data > information > knowledge

monitoring  
version control  
EU portal landscape  
from points to maps  
model coupling  
4<sup>th</sup> paradigm, Big data

data acquisition  
data management  
data dissemination  
data analysis  
data assimilation  
data interpretation



# House-keeping

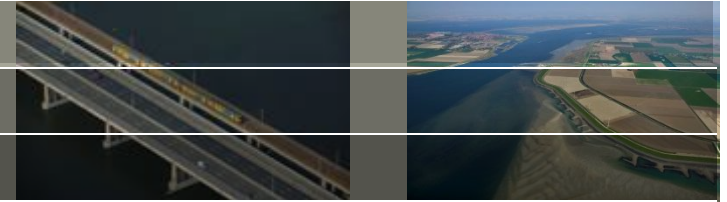


- Lodging is 150 EUR/week
  - Pay cash on Tuesday: proper receipt
  - Electronically afterwards, no receipt
- Certificate of participation afterwards by mail [only after payment]
- Wifi in bungalows (see sticker on TV), and in central cafeteria
- Lunch is provided by JERICO (included in rental of classroom)
  - Please provide dietary wishes
- Lectures always here in cafeteria, except..
  - Tuesday at Deltares in Delft, bus leaves 8:00 straight
  - Tuesday other participants too (Dutch government etc.)
- Lunch downstairs in pan cake restaurant 12:30
- Everyone a 10 min presentation: 4 per day (only Su, Mo, We, Th)
- Call/text me in case of problems: 00 31 6 1583 8512
- Latest program on wiki

# Program

<p>Sunday 15 @ Kijkduin</p>	<p>From data to information</p>
<p>Morning 9:30</p>	<ul style="list-style-type: none"> <li>• Welcome and house-keeping Gerben de Boer (15 min)</li> <li>• Data intensive science: the 4th Paradigm Gerben de Boer (15 min)</li> <li>• Data and data quality Remi Laane (60 min)</li> <li>• From data to new knowledge and better evidence: the role of marine observatories David Mills (30 min)</li> <li>• Introduction to afternoon activities David Mills (15 min)</li> </ul>
<p>Afternoon</p>	<ul style="list-style-type: none"> <li>• Hand on session with EMECO Datatool David Mills:</li> <li>• Introduction to EMECO David Mills</li> <li>• EMECO 1 hands on demonstration David Mills, Hanneke Baretta</li> <li>• EMECO 2 hands on demonstration David Mills, Hanneke Baretta</li> <li>• Discussion on the days proceedings David Mills</li> </ul>
<p>Monday 16 @ Kijkduin</p>	<p>Data analysis and data mining</p>
<p>Morning 9:00</p>	<ul style="list-style-type: none"> <li>• Introduction to Subversion version control (communities for data analysis tools) Gerben de Boer (30 min)</li> <li>• DIVA/DINEOF J.M. Beckers</li> </ul>
<p>Afternoon</p>	<ul style="list-style-type: none"> <li>• DIVA/DINEOF J.M. Beckers</li> </ul>
<p>Tuesday 17 @ Deltares</p>	<p>Data dissemination</p>
<p>Morning 9:30</p>	<p><u>8:00 bus leaves at Kijkduin, 9:30 start at Deltares in Delft</u></p> <ul style="list-style-type: none"> <li>• EMODnet introduction, history, overview and outlook EMODnet secretariat, Ostende</li> <li>• EurOBIS + ICES + VLIZ Carlos Pinto from ICES</li> </ul>
<p>Afternoon</p>	<ul style="list-style-type: none"> <li>• Introduction EMODnet physics lot + EuroGOOS + ROOSs: presentation EuroGOOS dep.secretary Patrick Gorringer, SMHI, Sweden</li> <li>• MyOcean Copernicus services: presentation + exercises Hammarklint Thomas from SMHI, Sweden</li> <li>• SeaDataNet: presentation + exercises Peter Thijsse from MARIS BV, NL</li> <li>• EMODnet physics (continued): exercises EuroGOOS dep.secretary Patrick Gorringer, SMHI, Sweden</li> </ul>

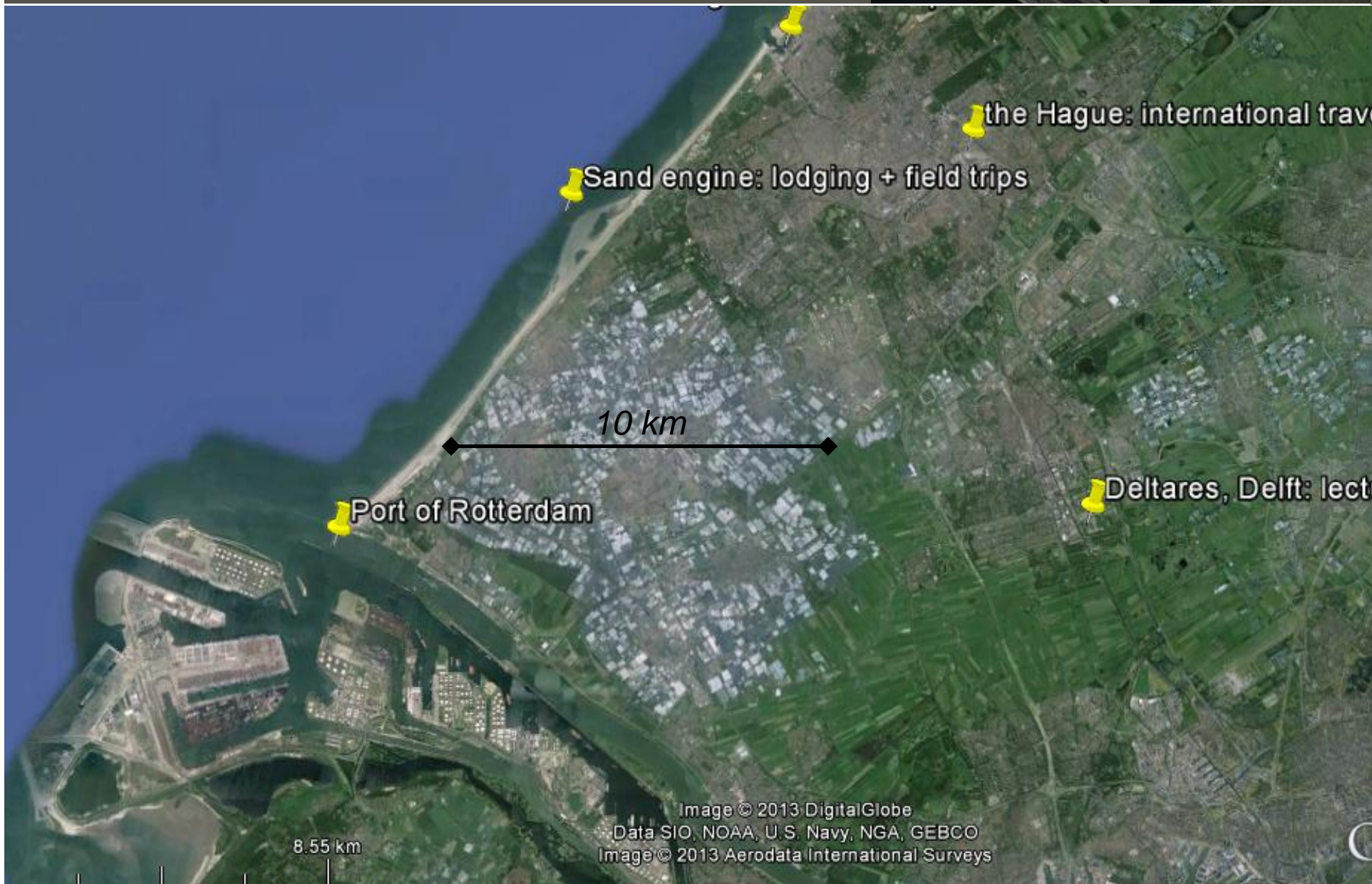
# Program



Wednesday 18 @ Kijkduin	Data management at EU level
Morning 9:00	<ul style="list-style-type: none"> <li>• Data management plans 3Tu Datacenter</li> <li>• Data curation / archiving 3Tu Datacenter</li> <li>• Data citation: DOI via DataCite 3Tu Datacenter</li> </ul>
Afternoon	<ul style="list-style-type: none"> <li>• Field trip to Sand Engine (Zandmotor) coastal observatory Roeland de Zeeuw, shoremonitoring.nl</li> </ul>
Thursday 19 @ Kijkduin	Data dissemination with OpenDA
Morning 9:00	<ul style="list-style-type: none"> <li>• General introduction Martin Verlaan</li> <li>• Model calibration Martin Verlaan</li> <li>• Exercise: 1st calibration Martin Verlaan</li> <li>• The OpenDA black box approach Martin Verlaan</li> <li>• Cpupling a model to OpenDA for calibration Martin Verlaan</li> <li>• Exercise: calibration of a Delft3D model Martin Verlaan</li> </ul>
Afternoon	<ul style="list-style-type: none"> <li>• Kalman filtering in OpenDA Martin Verlaan</li> <li>• Exercise: Hands-on exercise with Kalman filtering Martin Verlaan</li> <li>• Couple a model with OpenDA for filtering Martin Verlaan</li> <li>• Exercise: with model coupling to OpenDA Martin Verlaan</li> </ul>
Friday 20 @ Kijkduin	Data processing via the web
Morning 9:00	<ul style="list-style-type: none"> <li>• OpenEarth: standard web services for raw data, standard data, tailored data, graphics of data and catalogues of data. Gerben de Boer</li> <li>• OGC Web processing of in situ data: case study EMODnet chemistry for MSFD purposes. Gerben de Boer</li> </ul>



# Venue: Sand engine nourishment & observatory





# Venue: Sand engine nourishment & observatory

*21 million m<sup>3</sup> = 2 filled stadiums*

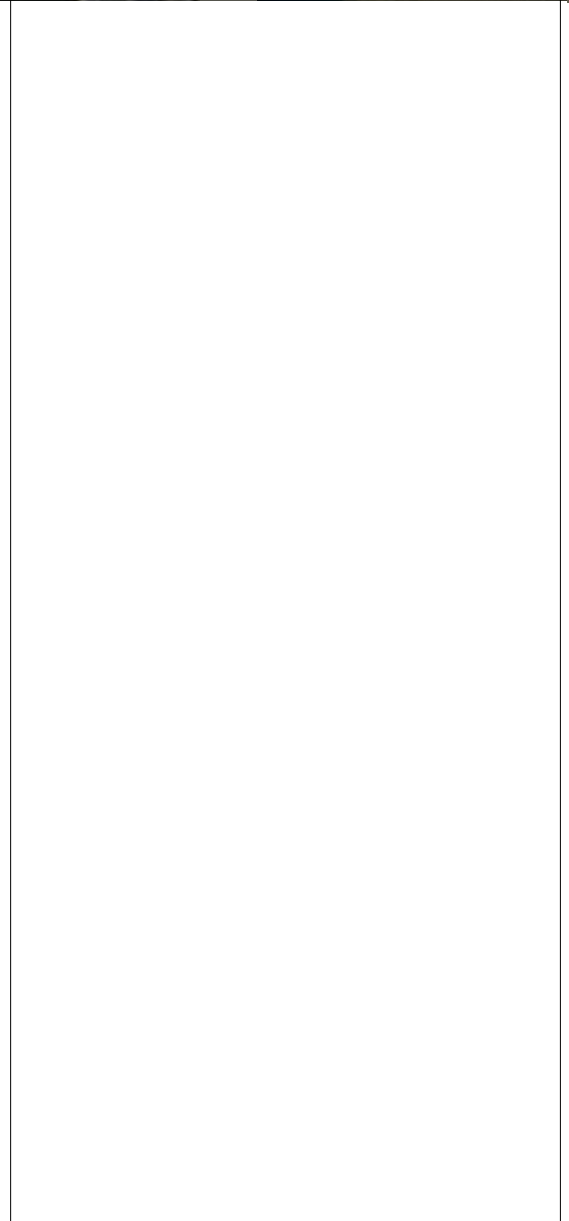
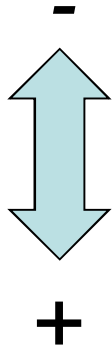
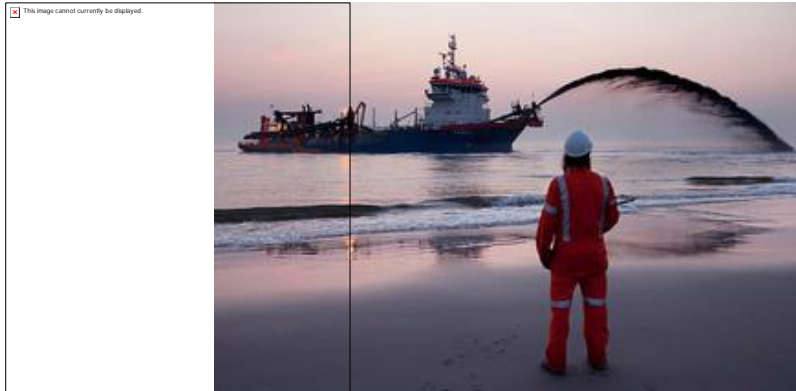
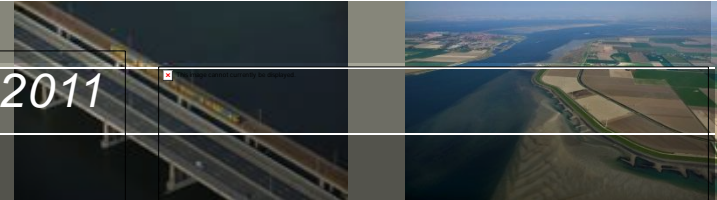
*beers 1*

*beer 2*

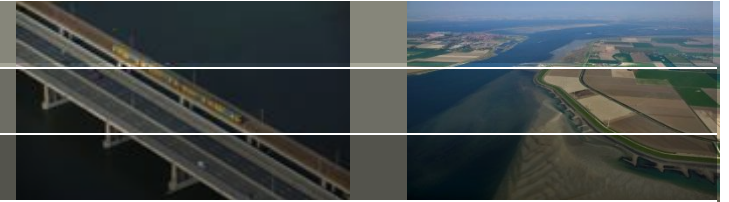


# Safety & Nature

end 2011



# Happy stakeholders



## Stakeholders:

- Government: long-term safety
- Dredging companies: turnover
- NGOs: more and better nature: long term management
- Scientist: huge experiment

## Funding of monitoring:

- Government: Ministry public works (EIA)
  - Rijkswaterstaat + Consortium led by Deltares
- EU: regional development fund arranged by
  - Ecoshape (dredging companies + friends) & province
- National Science Foundation's (NWO) technology branch STW
  - 12 PhD students, 6 universities
- EU: ERC grant Prof Stive (TU Delft)
- Guest scientists from UK (Alex Souza), USA (Horner-Devine)



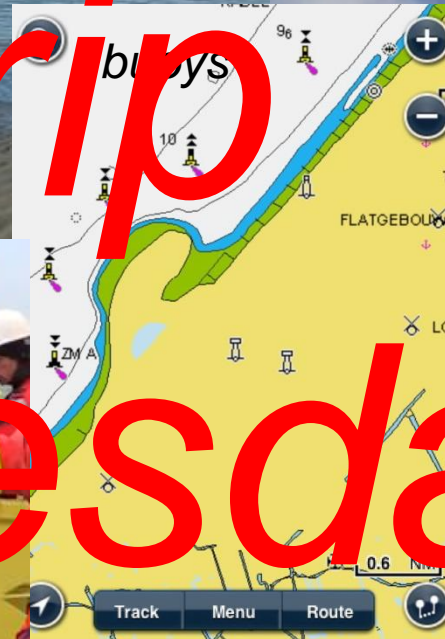
Jetski with RTK GPS & echo sounder



RTK GPS on 4wd, wheelie or backpack



Argus video cameras (8 TB archive)



# Field trip Wednesday afternoon

RWS



Frame, buoy & strings



HF Radar



GPS drifters



Sample collection



# Data management: OpenEarth & 3TU datacenter

- Sand Engine researchers design their own data management
  - Version control on data
  - Server-processing instead of static data dump: keep data alive
  - 4 year embargo, open afterwards
  - Students requirement to add data during project, not near end
- 3TU Datacenter (3 polytech. universities), hosted by TU Delft
  - DataLab, next to data archive
  - Hire hardware from ICT service
  - Long-term storage
  - DOI
  - Wednesday morning data management session 3TU
  - Important Horizon 2020 funding requirement: data paragraph