Sensors and models in oil spill response

Time-efficient decision making during oil spill response actions require up-to-date information on the **present situation** and **possible outcomes**. Such information can be produced by combining near-real-time data from sensors in the area, up-to-date metocean forecasts, and numerical models for prediction.

- **Sensor usage:**
  - Find relevant sensors in the area (discovery)
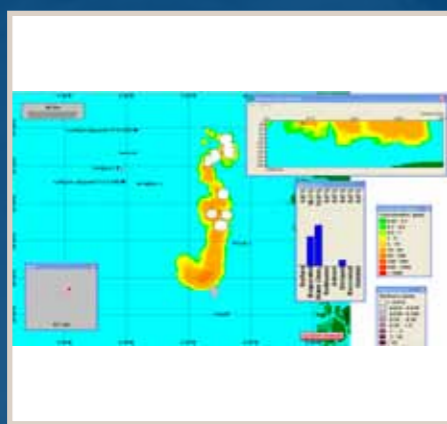 - Access and use these sensors (tasking)

- **Relevant sensor data:**
  - Metocean (current, wave etc)
  - Oil spill properties (e.g. slick position)
  - Biological resources (e.g. zooplankton concentration)
  - Response resources (e.g. vessel locations)
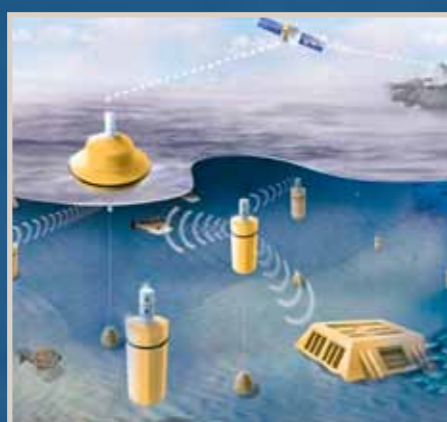
- **Sensor data:**
  - Transfer
  - Storage
  - Processing
  - Meaning (meta-data)
  - Uncertainty
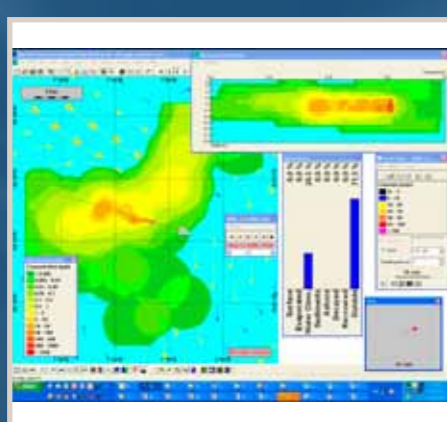 - Integration (fusion)

- **Models:**
  - Drive models with up-to-date metocean forecasts
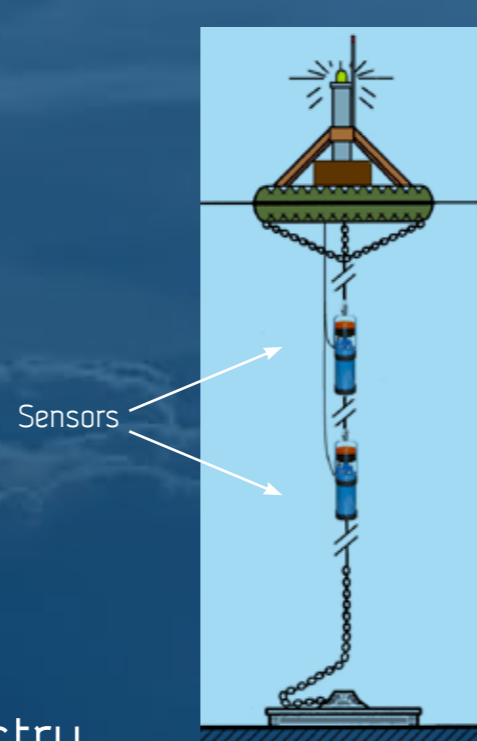 - Update models by assimilating sensor data

- **Decision support:**
  - Identify response options and their time windows
  - Predict and quantify effects of alternative response strategies
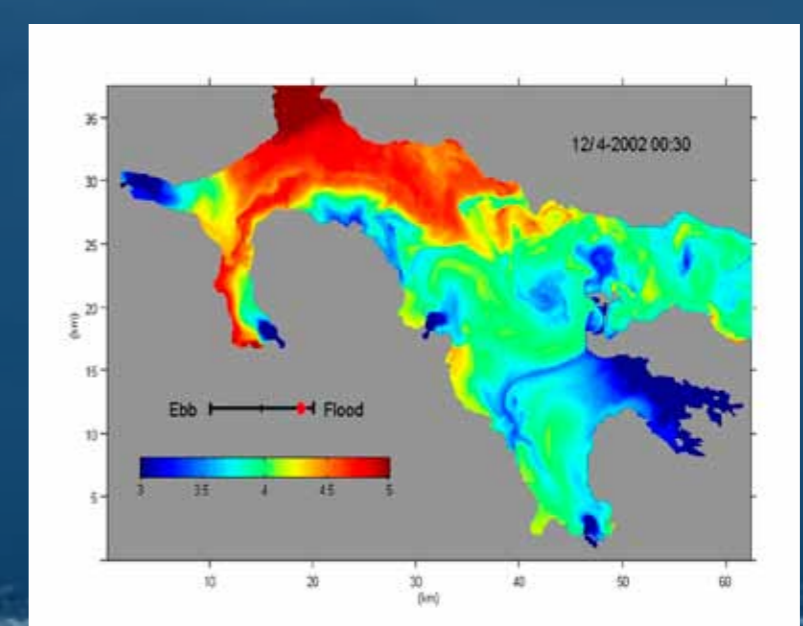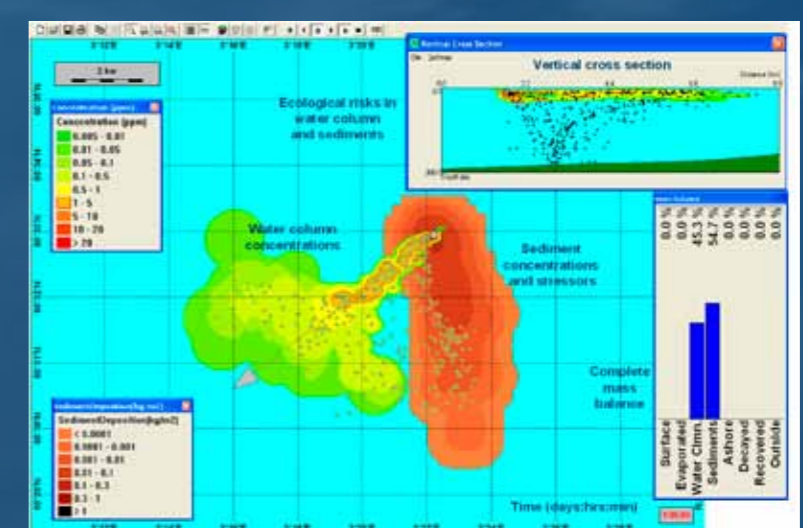 - Recommend optimal response strategy

Moored measurement stations real-time data transmission onto WWW

Sensors   Models

Contact:
Research scientist,
Nils Rune Bodsberg
SINTEF Materials and Chemistry
E-mail: nilsrune.bodsberg@sintef.no

Technology for a better society