

Offshore Wind

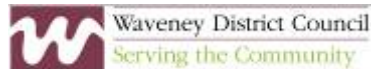
The Germany / UK Connection



European Week of
Regions and Cities
Brussels 9 – 12 October 2006

5th October 2006 – Astral Centre, Lowestoft College

Sponsored by:



www.offshore-power.net

Cefas Presentation

Steve Millward
Head of Sales & Marketing

5 October 2006



Cefas

The Centre for Environment, Fisheries and Aquaculture Science

providing world-wide research, technology,
advice and practical solutions to environmental
challenges arising from human activities in the
coastal and marine environment

In order to
achieve a sustainable balance between
conservation and exploitation.

Established in 1902



Cefas is an executive agency within the UK Government. We currently employ > 520 staff at three specialist laboratories and operate our own ocean going research vessel.

Cefas

The 3 main Cefas Laboratories

- **Lowestoft:** international fisheries science and management, coastal and marine ecosystem processes, environmental radioactivity assessment and information technology services.
- **Burnham:** environmental research, monitoring, and assessment, contaminant analysis, ecotoxicology, biological fate and effects, regulatory advice for coastal activities
- **Weymouth:** research and advice for fish health, disease diagnosis, fish and shellfish hygiene. Evaluation of products used in aquaculture.



Key Management Activities

- Discharges
- Oil & gas industry
- Marine Spills
- Oil contingency planning
- Chemical assessment
- Risk assessment
- Laboratory testing
- Renewable energy
- Fisheries
- Fish & Shellfish Farming
- Seafood Safety
- Aggregate extraction
- Dredging & dredge disposal
- Coastal defence works
- Port and harbour development

Cefas Skills

Cefas operates a portfolio of projects and employs a wide range of scientific specialists to deliver to our customers' requirements.

Fisheries Modellers

Oceanographers

Electronic Engineers

Chemists

Numerical Modellers

Benthic Ecologists

Biologists

Radio- Chemists

Ecotoxicologists

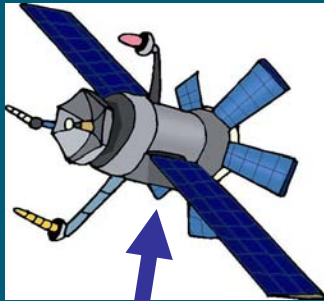
EIA assessors

Computer specialists

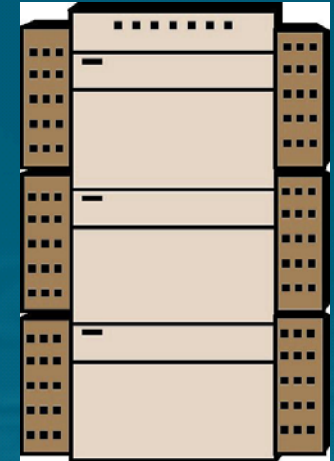
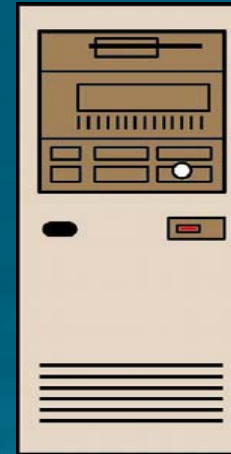
Monitoring Techniques



The SmartBuoy System



Server at Cefas processes email messages and stores data on the SmartBuoy SQL database



Synopsis data is regularly transmitted to Cefas using the ORBCOMM satellite system



SmartBuoy

SmartBuoy collects, stores and transmits chemical, physical and biological oceanographic parameters

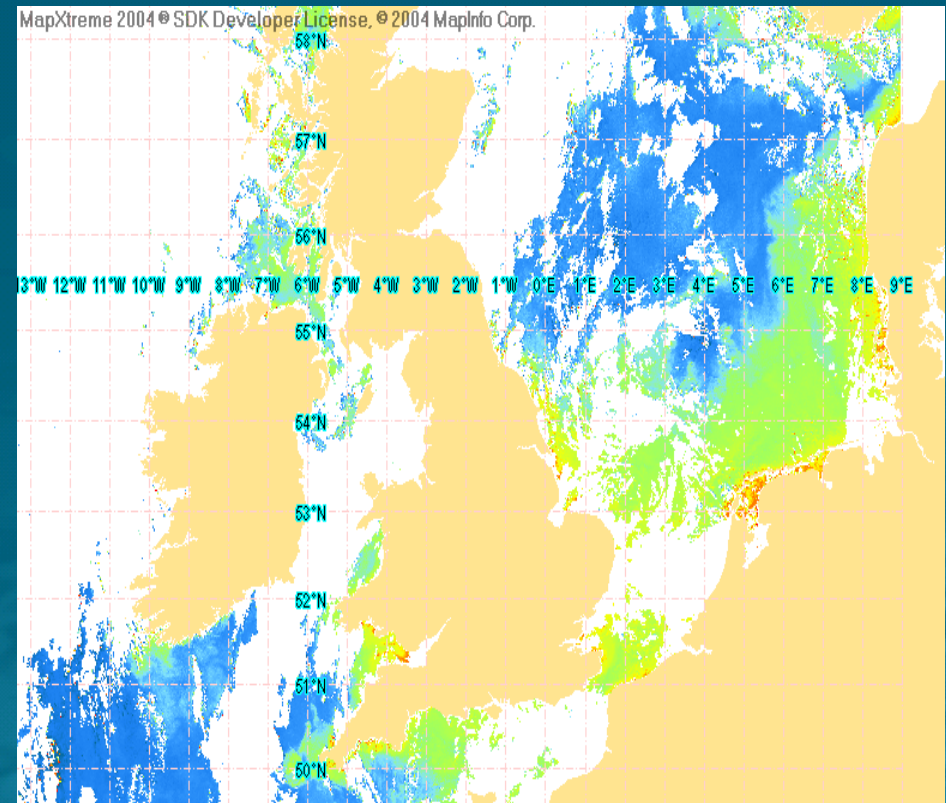


Client PC running SmartBuoy software

Cefas

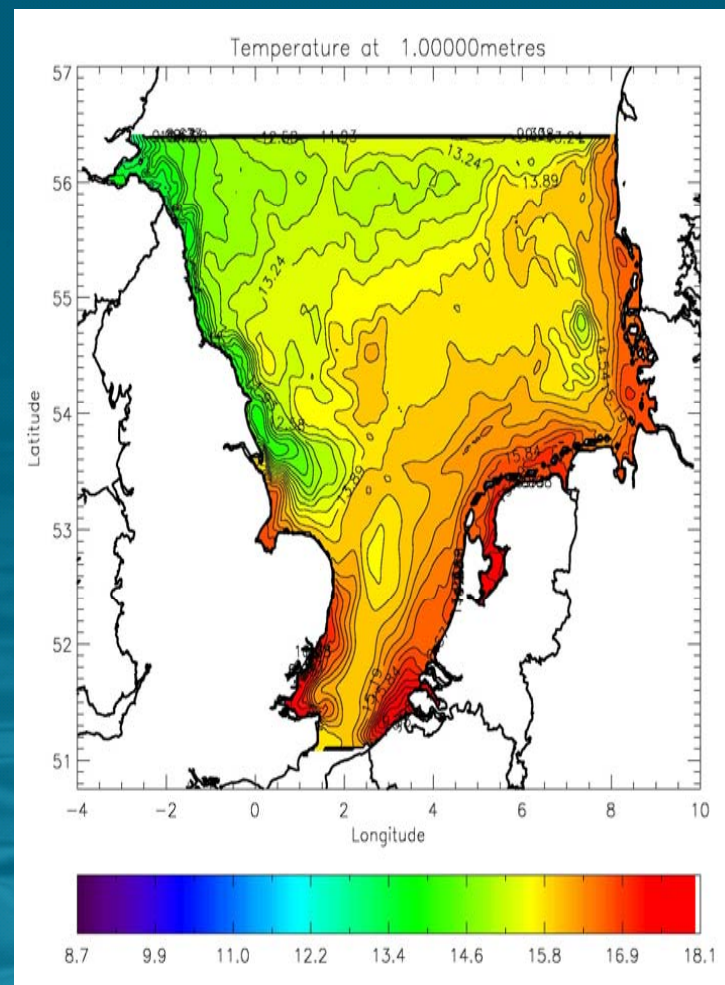
Satellite Remote Sensing

- Limited parameters that can be measured
- Ground truthing needs
- Reliability and accuracy of algorithms
- Update frequency
- *Joint paper with the Flemish Institute of Technology Research (VITO) due this autumn*

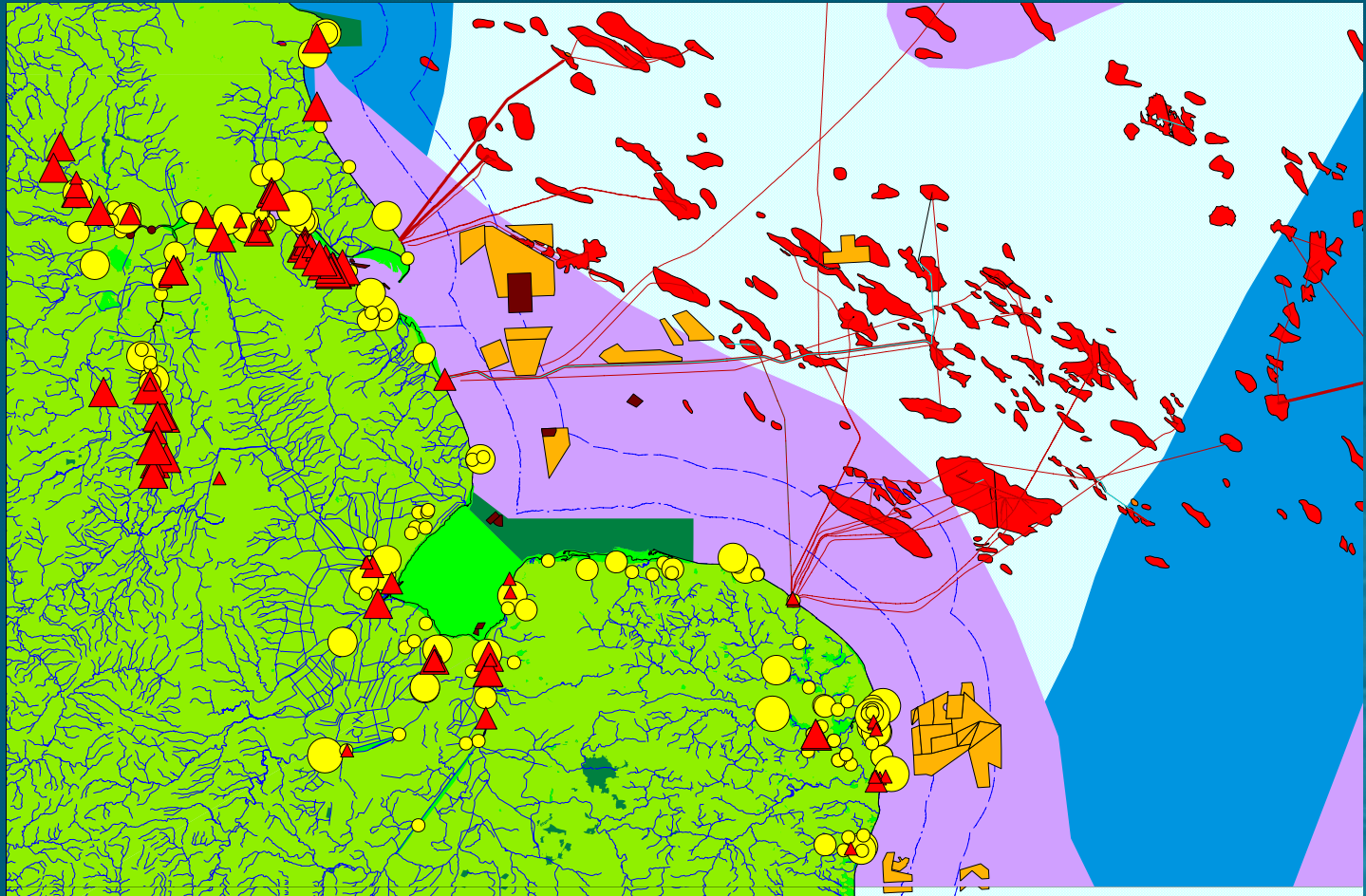


Ecosystem Models

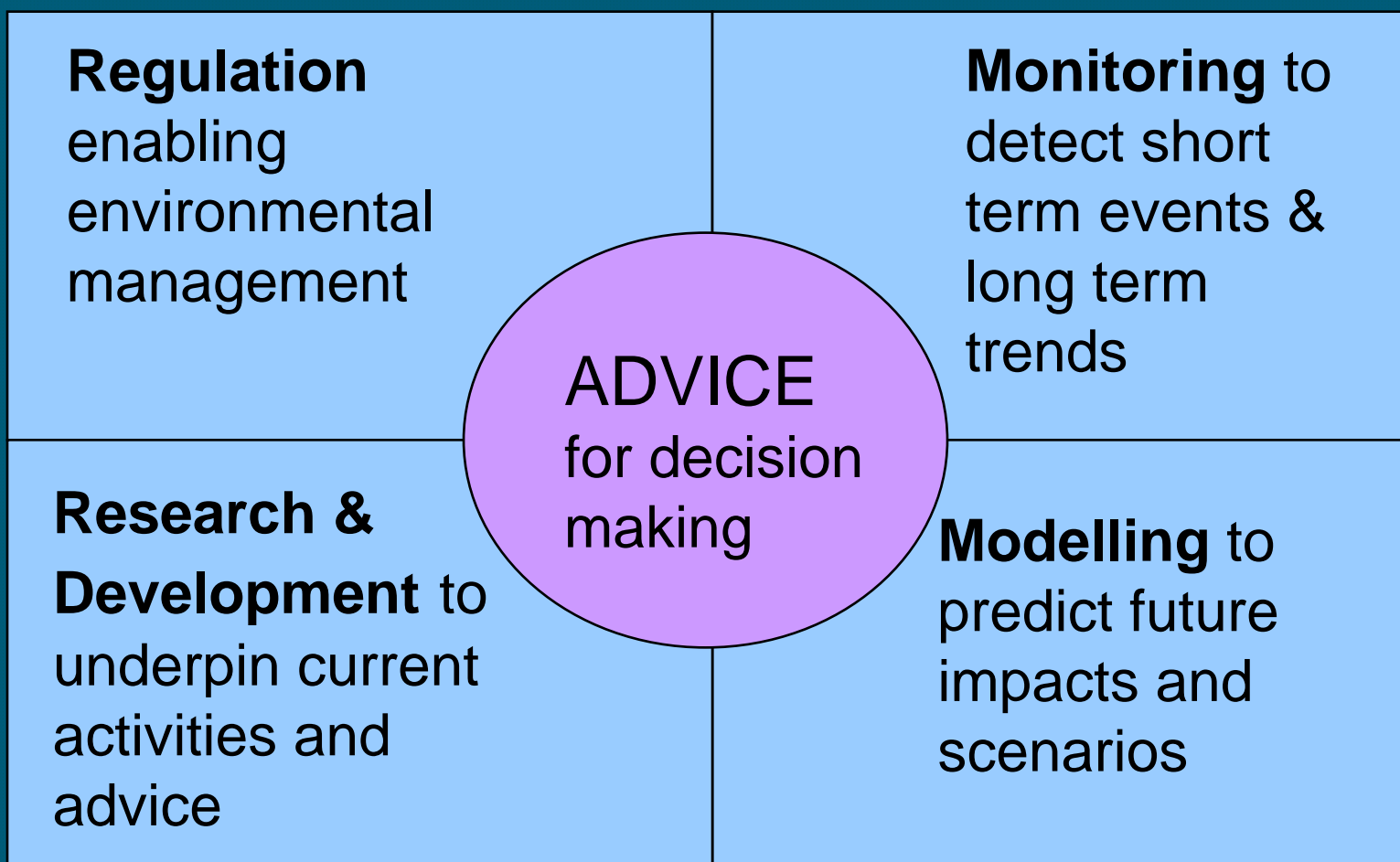
- Requirements:
 - Accurately forecast spatial and temporal change over extended time periods.
 - Be based upon proven science & validated against observations
 - Lead to improved risk assessments
 - Be cost effective



Integrating data sets with GIS to assist with data interpretation



Fitting it all together.....



Our clients include:

- UK Government
- International Governments
- The European Commission
- World Bank
- UN Agencies
- Regulators and enforcement agencies
- Consultancy organisations
- Oil & gas, water, aggregate, dredging, chemical, pharmaceutical, & renewable energy industries
- Local authorities and other public bodies
- Universities and research councils