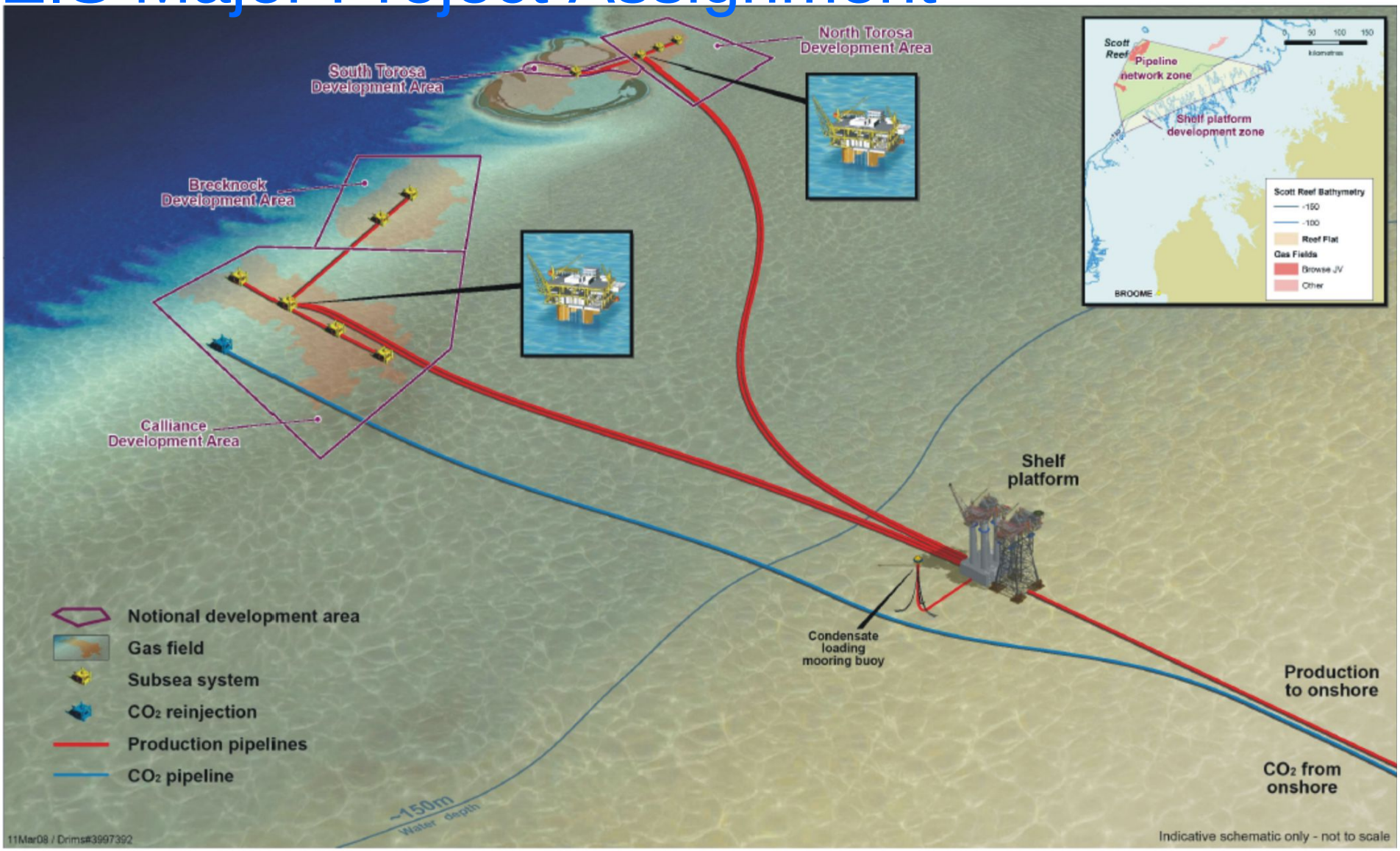
EIS Major Project Assignment



The assignment:

Students will prepare an summary environmental impact statement (EIS) for a marine infrastructure project, for example wind farm, undersea cable or pipeline, offshore sand extraction. Although you may choose project configuration, the geographic location will be given by the lecturer. The configuration must have some impacts on the ocean environment, must involve some installation, and should have enough scope (interest) to be able to give you a good grade.

Your prepared public-release company-style written statement (max 12 pages incl. figs) and 5-minute PowerPoint presentation will present an EIS which balances environmental issues with project feasibility and economics.

You may research and discuss in pairs, but the submitted written work must be your own.

The project is worth 25% of the 4060/5060 Course Grade.

Main Steps

Step 1: Define the project (use existing one/s as guides/template)

Step 2: Define the region (lecturer will do this with you; Google Earth)

Step 3: Gather data (Table data, screen grabs, GoogleEarth, GIS, etc)

Wave and wind climate, currents
Water temperatures, densities, oxygen, nutrients
Seafloor hardness, sediments, major habitats, artificial substrates, obstacles
Spill, waste impacts, noise
Post-project clean-up

Step 4: Assess the impacts, feasibilities and risks (discussions)

Step 5: Write an draft EIS summary based on your work

More detail on the steps

1. **Identify a marine infrastructure project that interests you and perhaps fits with other subjects at CU. Do a sketch.**
2. **Find out about similar projects from the web, books and journals. Ask Dr Jenkins for a suitable geographic location.**
3. **Visit online databases and atlases to collect information on: wave climate and seasonality, ocean currents, water temperatures and salinities, seafloor topography and substrate types, nutrient levels, local uses of the marine area, major habitats or creature populations.**
4. **Make an assessment on whether any of these aspects are likely to be a problem for the project or will the project impacting on the them ?**
5. **Can any of the issues be mitigated ? This might be through re-design, special positioning or timing, or the impacts might be acceptable.**
7. **Write a brief impact statement that neatly summarizes these, is suitable for public release and favors the project. However if there is a fatal flaw in the project please explain that in a separate note.**

Some project ideas

- Ocean energy

http://oceanenergy.epri.com/oceanenergy.html#projects

- Wind power

http://en.wikipedia.org/wiki/Wind_power_in_Denmark

- Ocean nutrition

http://www.triplepundit.com/pages/global-warming.php

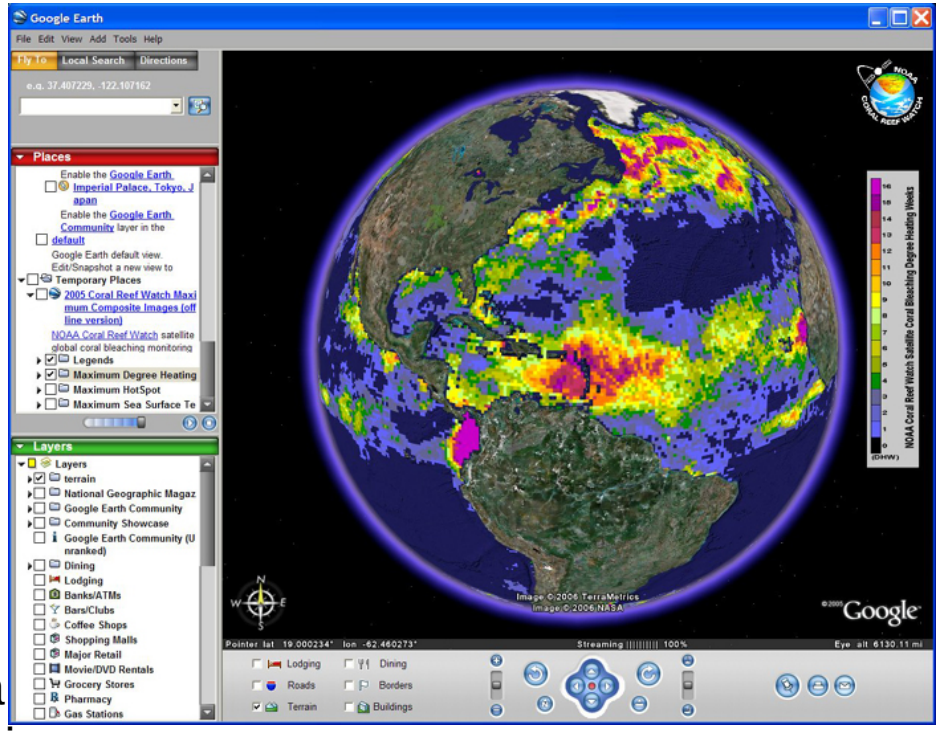
- Subsea nuclear disposal
  http://findarticles.com/p/articles/mi_qa5367/is_/ai_n21336665
- Dredging and offshore aggregate

http://www.dredge.com/casestudies/hillsboro.htm

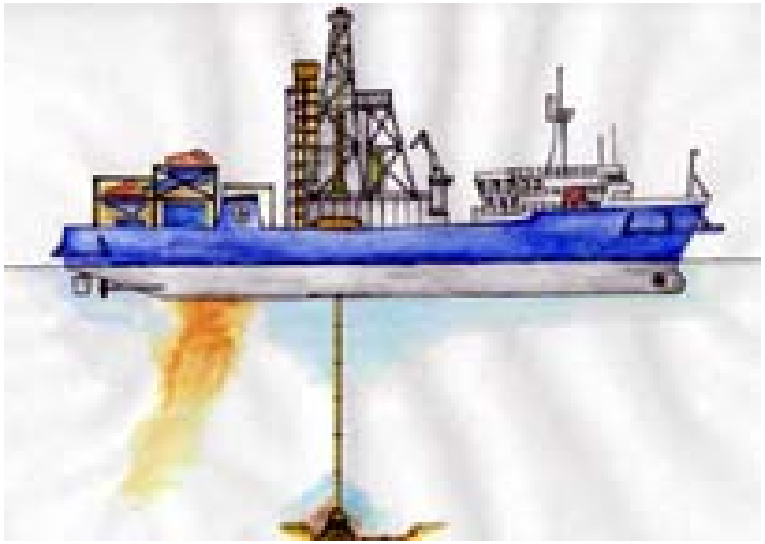
Data Sources

- Projects and settings
  - the web and Google Earth
- Databases (we will look into these during the lab sessions)
  - Nautical Charts (Benson Library)
  - World Ocean Atlas for water properties
  - dbSEABED and other EssentialFishHabitat (EFH) mappings
  - WW III (Wavewatch)
  - GTOPO30 or GEBCO08 for bathymetry
  - More perhaps, as we proceed

News & Risks



Data & Science



Design

Location & Environment