

Environmental sensitivity Decision support tool

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Talk is based on couple of
papers:

Kokkonen, T., Ihaksi, T., Jolma, A.
and Kuikka, S. 2010.

Helle, I., Lecklin, T., Jolma, A. &
Kuikka S. 2011

Ihaksi, T.; Kokkonen, T.; Helle, I.;
Jolma, A.; Lecklin, T.; Kuikka, S.
2011

Venesjärvi, R., Jolma, A. Helle, I.
2023.

Interreg
Baltic Sea Region



Co-funded by
the European Union

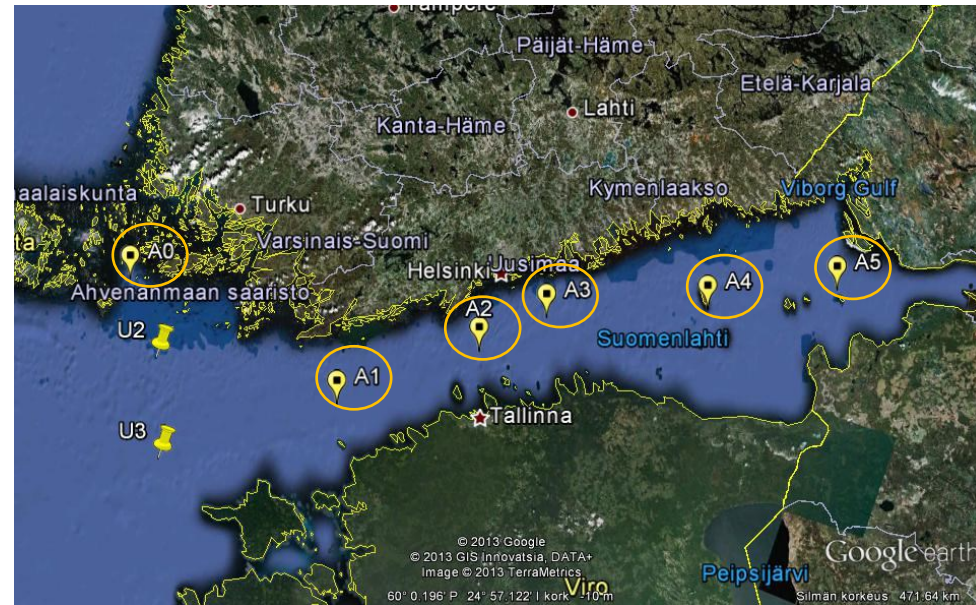


SUSTAINABLE WATERS

OpenRisk II

Maritime accident analysis

Location	Probability
A0	0.14
A1	0.11
A2	0.15
A3	0.11
A4	0.14
A5	0.35



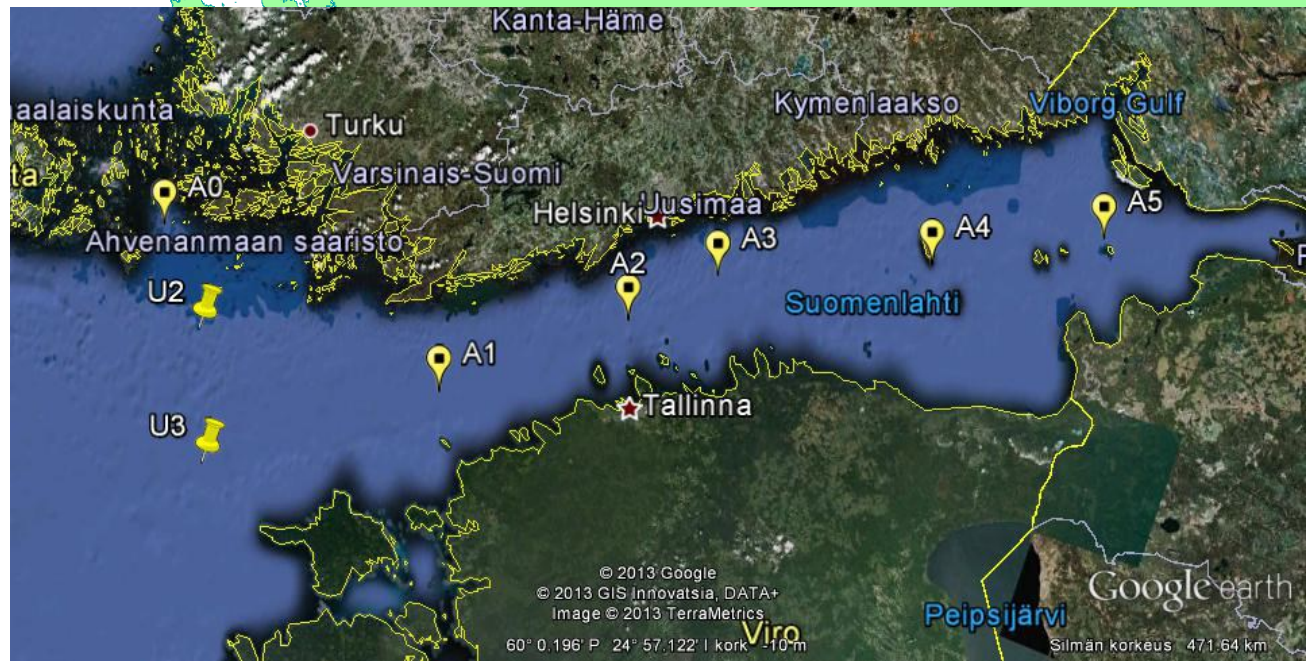
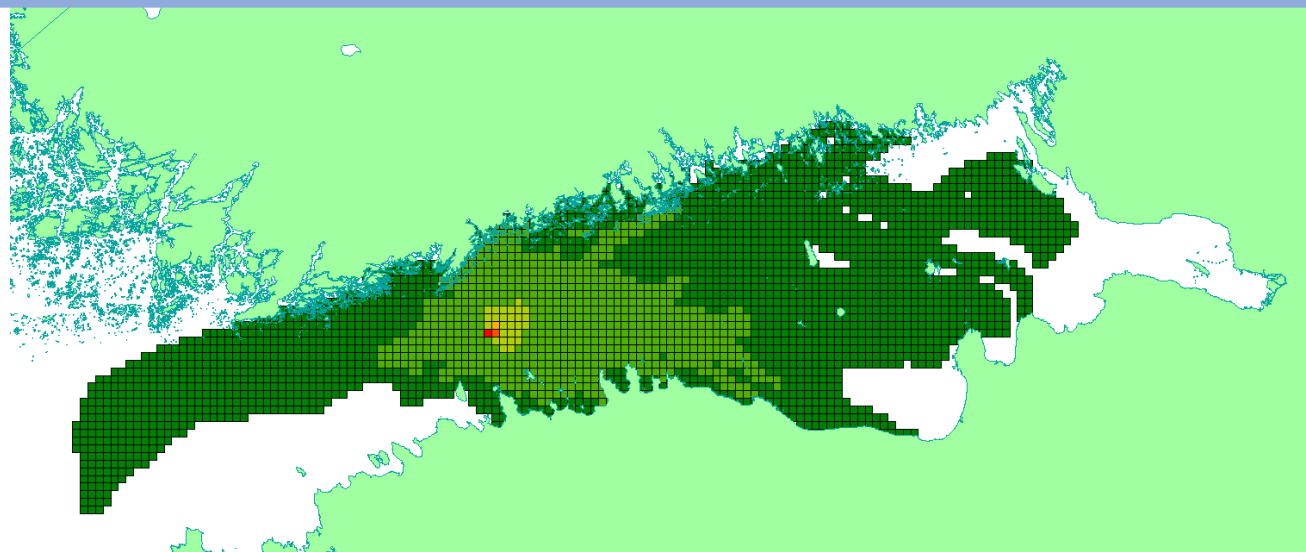
Accident type	A0	A1	A2	A3	A4	A5
Grounding	0.75	1	0.33	0.33	0.75	0.4
Collision	0.25	0	0.67	0.67	0.25	0.6

Way of estimation: SpillMod oil maps

- 9 locations
- 3 oil types
- 6 spill sizes
- 3 seasons
- 6 years



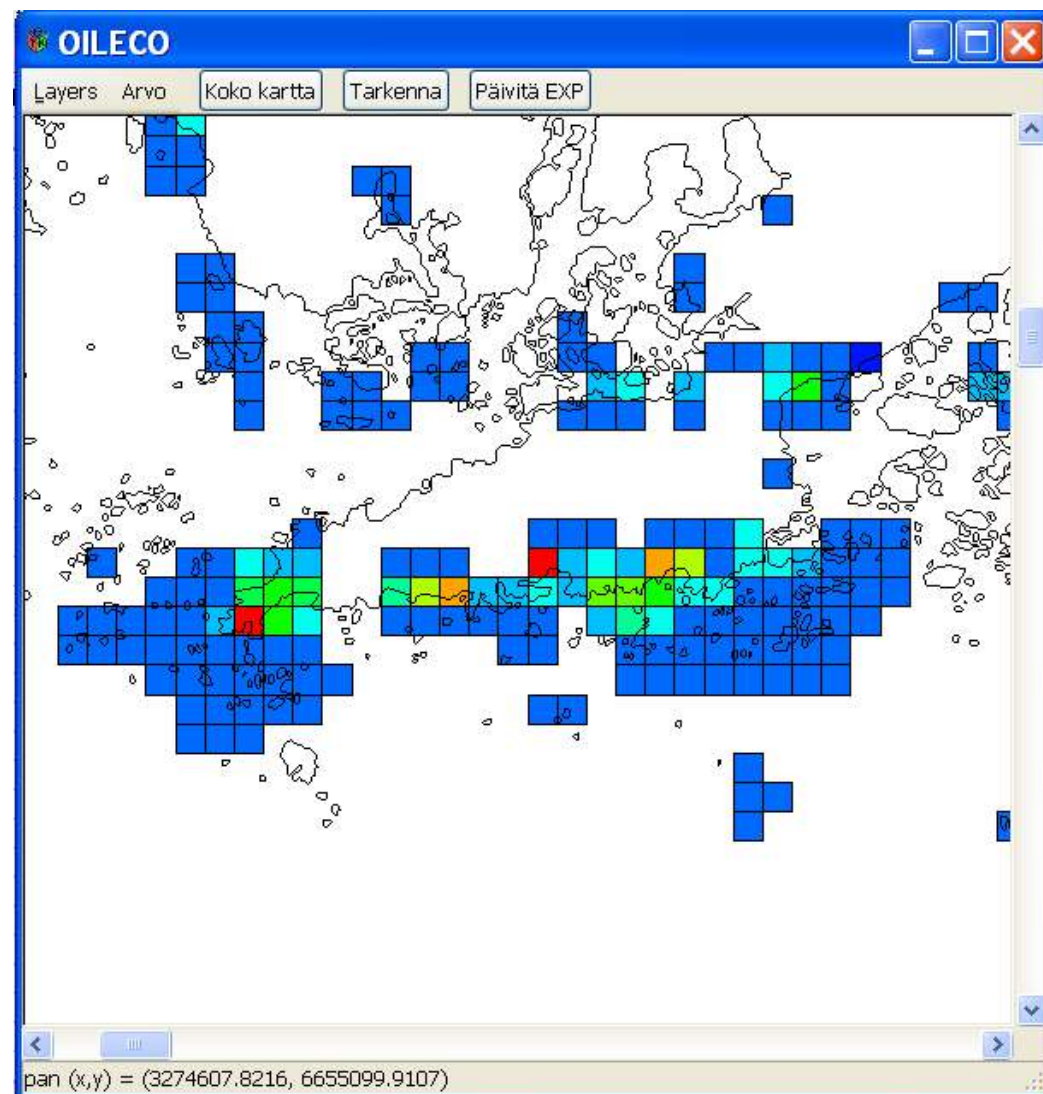
2916 separate maps



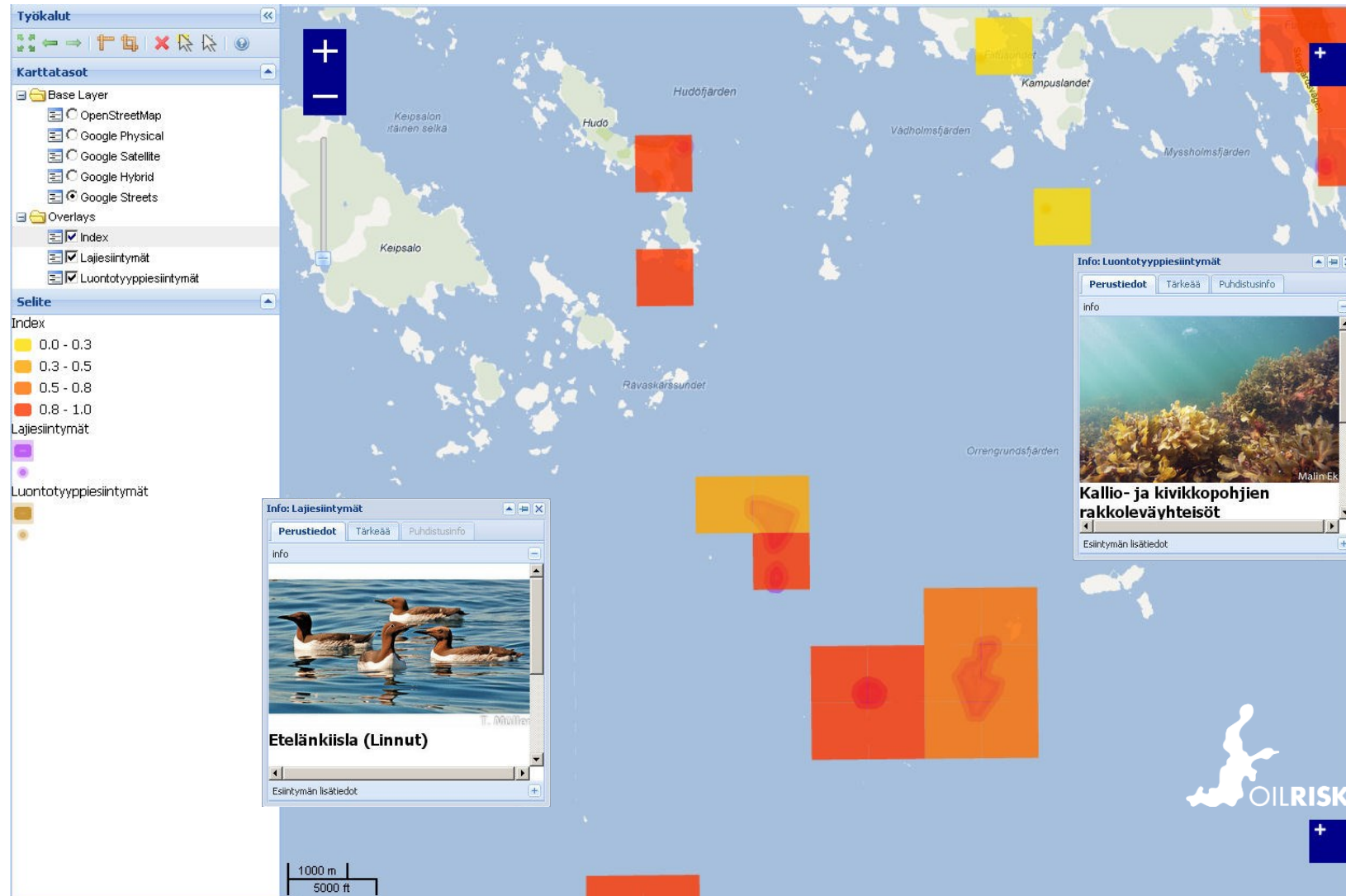
Map interface

Menu:

- Resolution (200/1000m)
- Month
- Oil type (light/medium)
- Wind speed and direction (inserted)
- Criteria for the valuation
 - 1 Conservation value
 - 2 Recovery potential
 - 3 **Booming efficiency**
 - 4 OILECO index (1-3)
 - 5 Number of vulnerable species

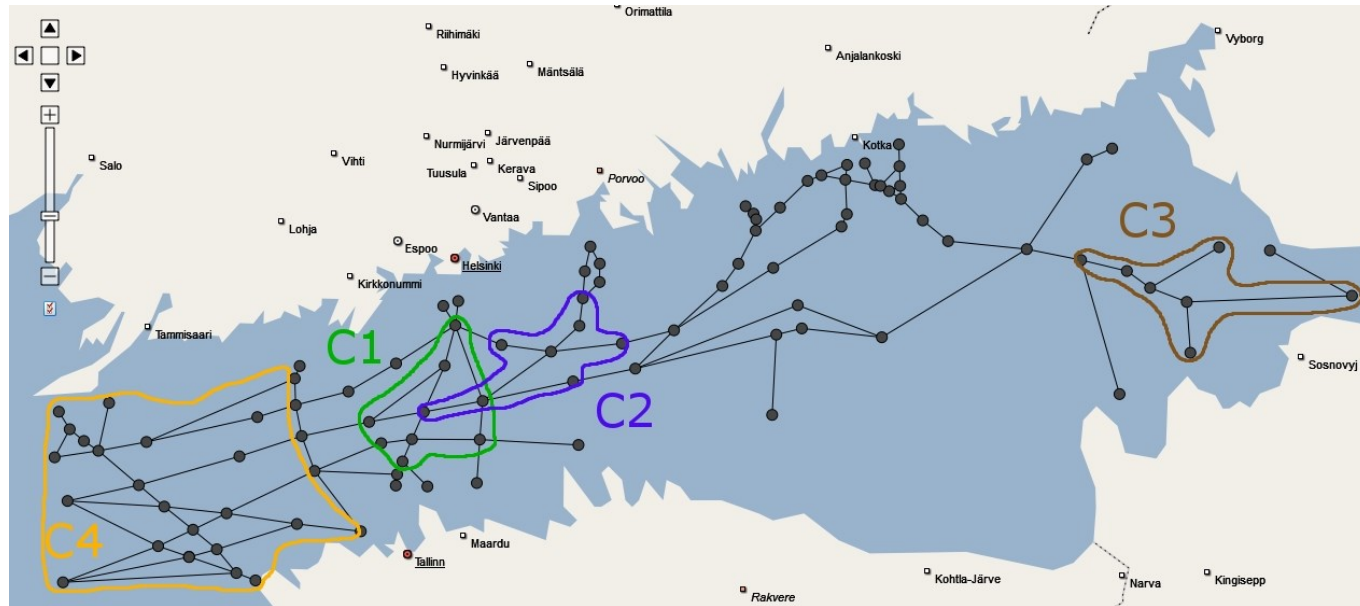


Map application: faces for risk species



Results: an example

- In point C3 probability for a spill is 2-3 times higher than in C4
- However, when you take into account the known locations of threatened species, risk (probability * loss) is 7 times higher in point C4



Finally; can biological knowledge be used for prevention of accidents?

- Most important damages are biological
- In the Gulf of Finland, the overall length of shoreline is huge!
- How clean is clean? => expected cleaning costs are linked to biological damages
- Recovery costs can be very high, but they should be estimated
- These two numbers could have a major impact on prevention interest of accidents!
- However, the publication and communication strategies are important
- Who will do this?