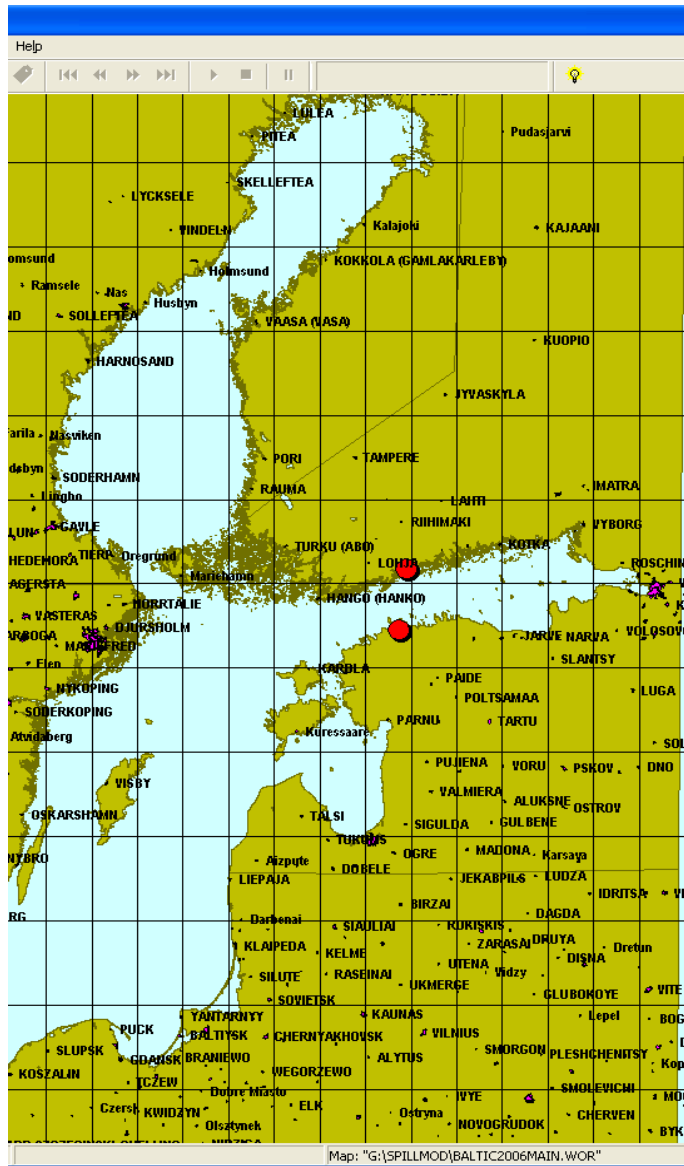


Ajelehtimisseminaari 8.5.2008

SPILLMOD öljymalli

Päivi Korpinen





SPILLMOD öljymalli

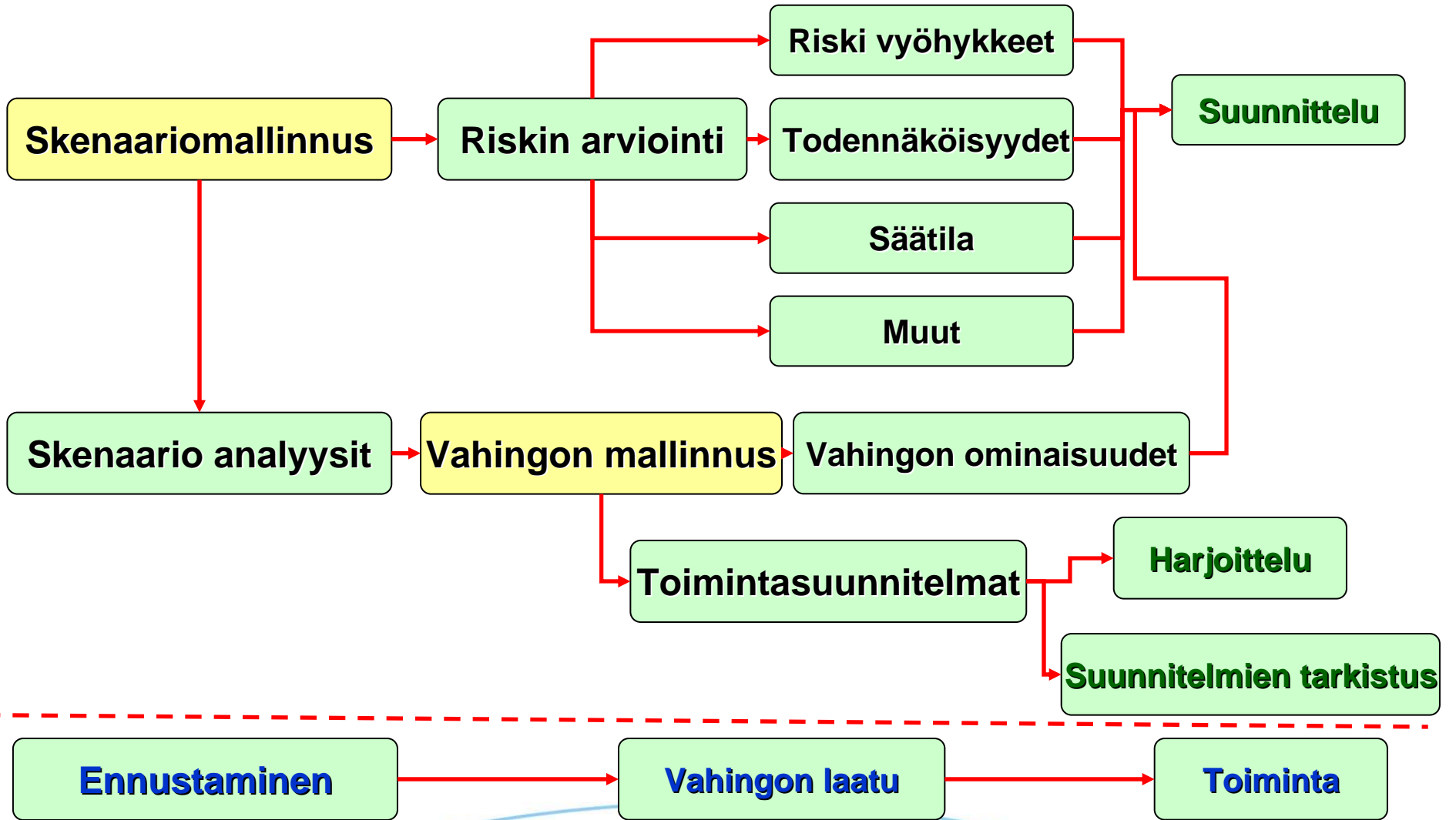
- Kehittäjä Sergei Ovsienko (State Oceanographic Institute, Russia)
- GIS MapInfo pohjainen
- Koko Itämeri
- Käyttäjiä: SYKE, Kymenlaakson ja Helsingin pelastuslaitokset
- Suunnitteilla Itä-Uudenmaan ja Varsinais-Suomen pelastuslaitosten kouluttaminen

20.5.2008



S Y K E

SPILLMOD



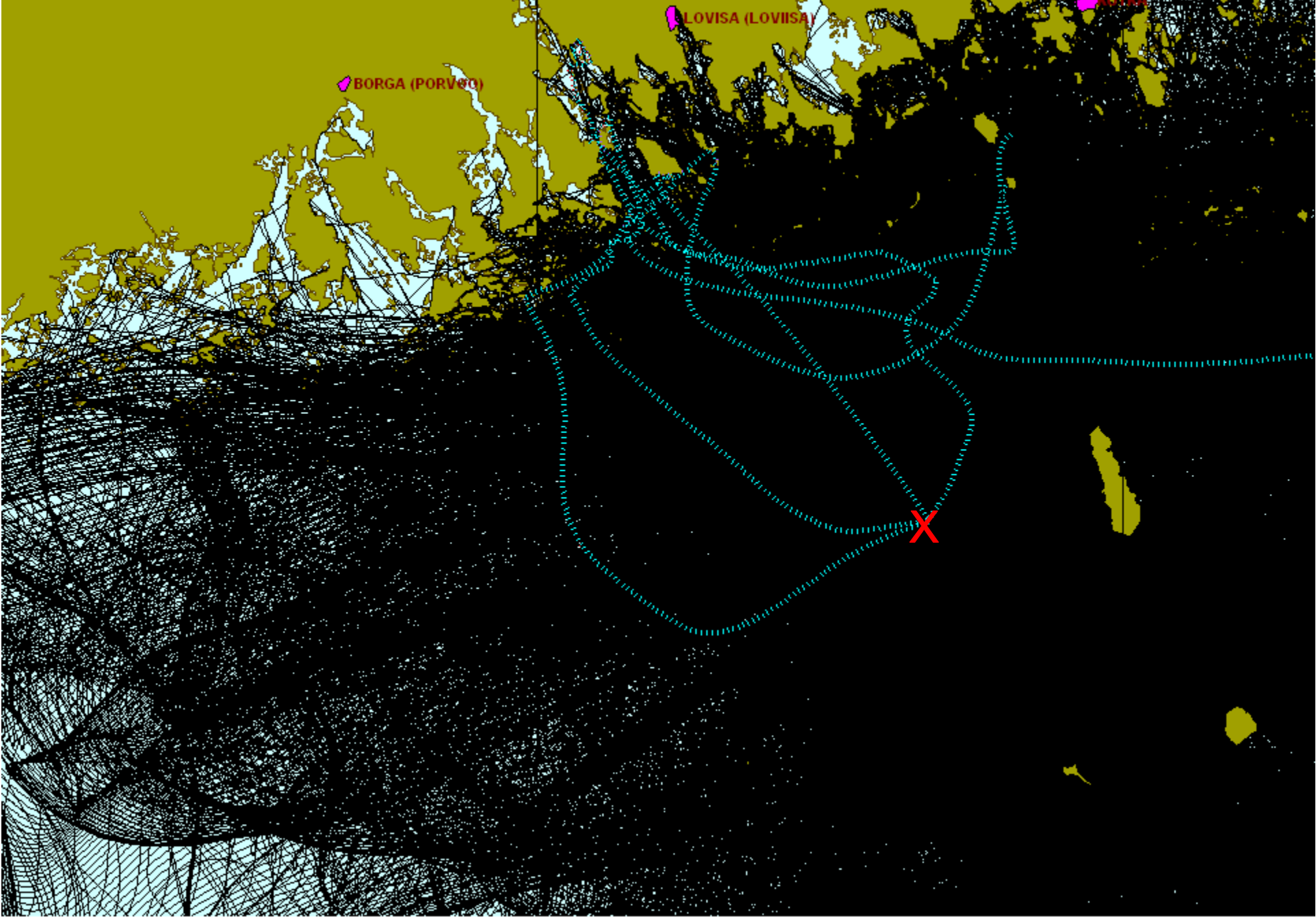
20.5.2008



S Y K E

Mihin mallia voi käyttää öljyvahinkojen torjunnassa?

- Ajelehtimislaskennat: selvitetään todennäköiset kohteet ja aikajana
- Trajektorit
- Tallennettuna 10 vuoden säätilat -> jokaisessa pisteessä 8000-9000 säätilaa per vuosi
- Mallista voi valita sopivat säätilat ja niitä vastaavat skenaariot



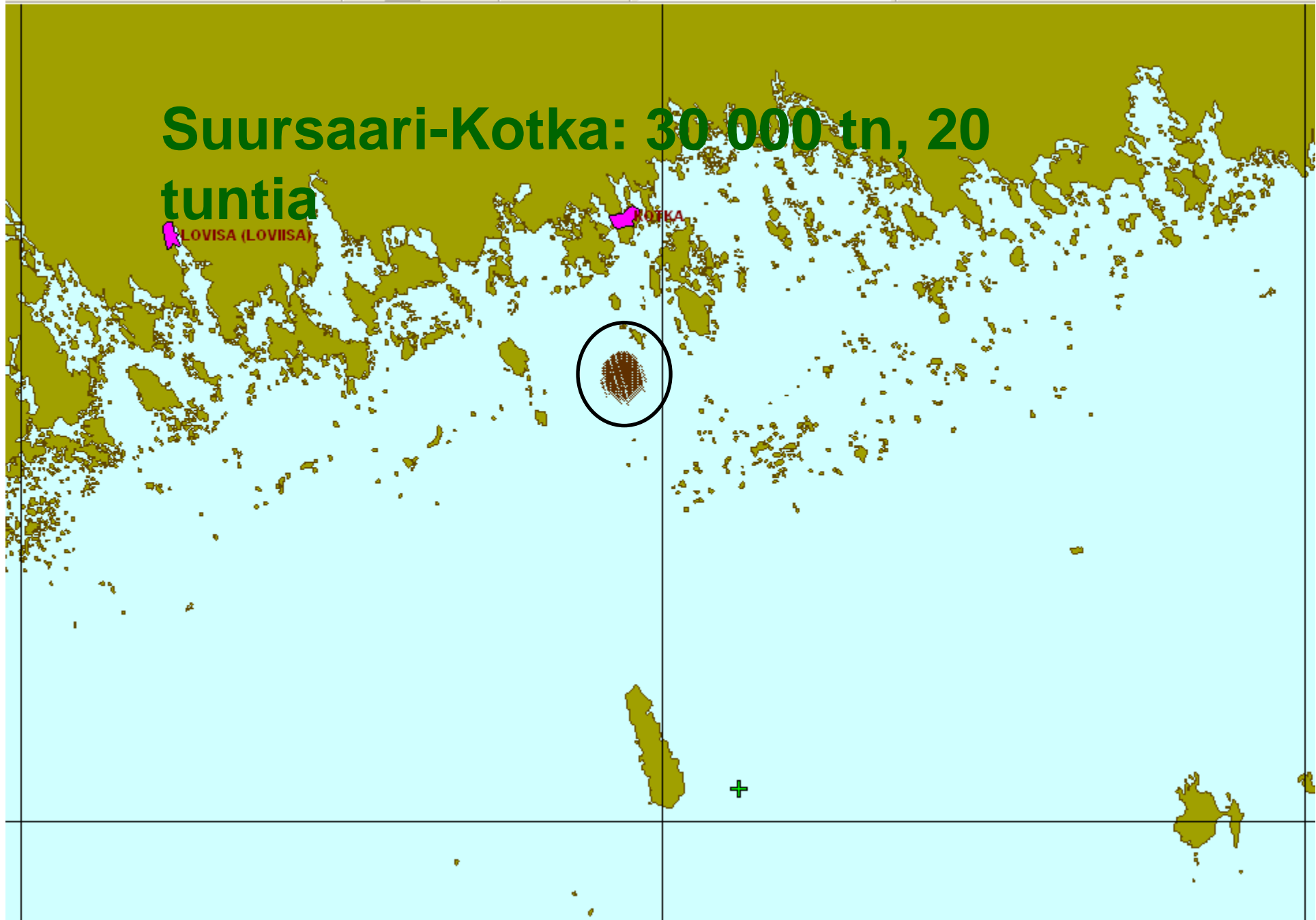
Editing: Cosmetic Layer Selection: nf0201



Öljypäästö 6, 12, 18, 24, 30, 36, 42, 48 tuntia tapahtuman jälkeen.

10 000t 5 tunnissa


Suursaari-Kotka: 30 000 tn, 20 tuntia



Hurpusta kolme
vuorokautta

Wind

Velocity - 10 m/sec
Direction - 230 grad.



4.41 km Modelling time 72:03:44

Map: "P:\RISK\SPILLMOD\BALTIC.WOR"

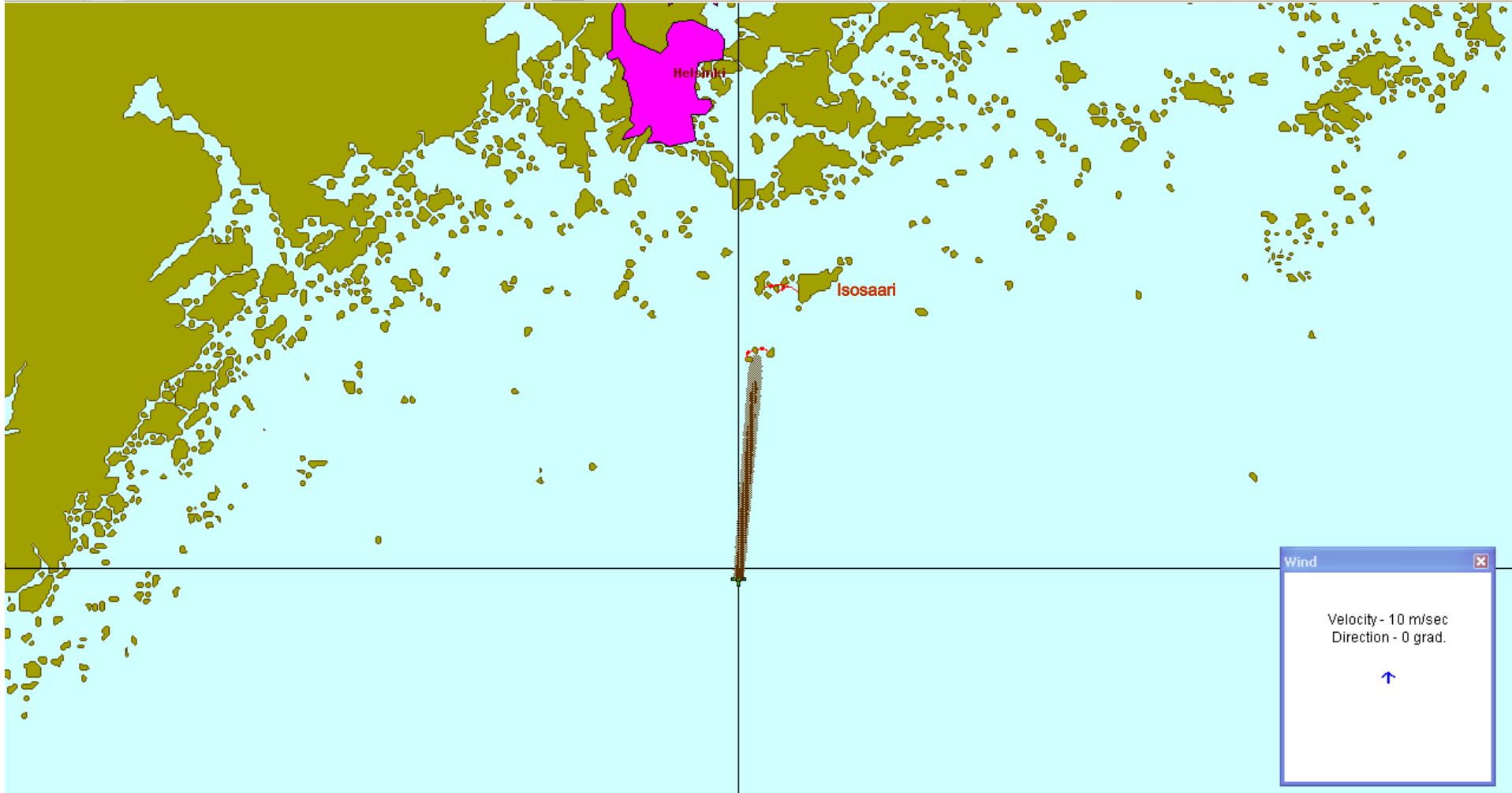
Mihin mallia voi käyttää öljyvahinkojen torjunnassa?

- Voidaan selvittää vahinkojen laajuutta ja torjuntamahdollisuuksia
- Riittääkö kapasiteetti?
- Mallissa voi sijoittaa puomituksen ja tarkastella öljyntorjunta-alueen toimintaa

Oil Spill Forecast [Script: "Hki30000s2.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec.



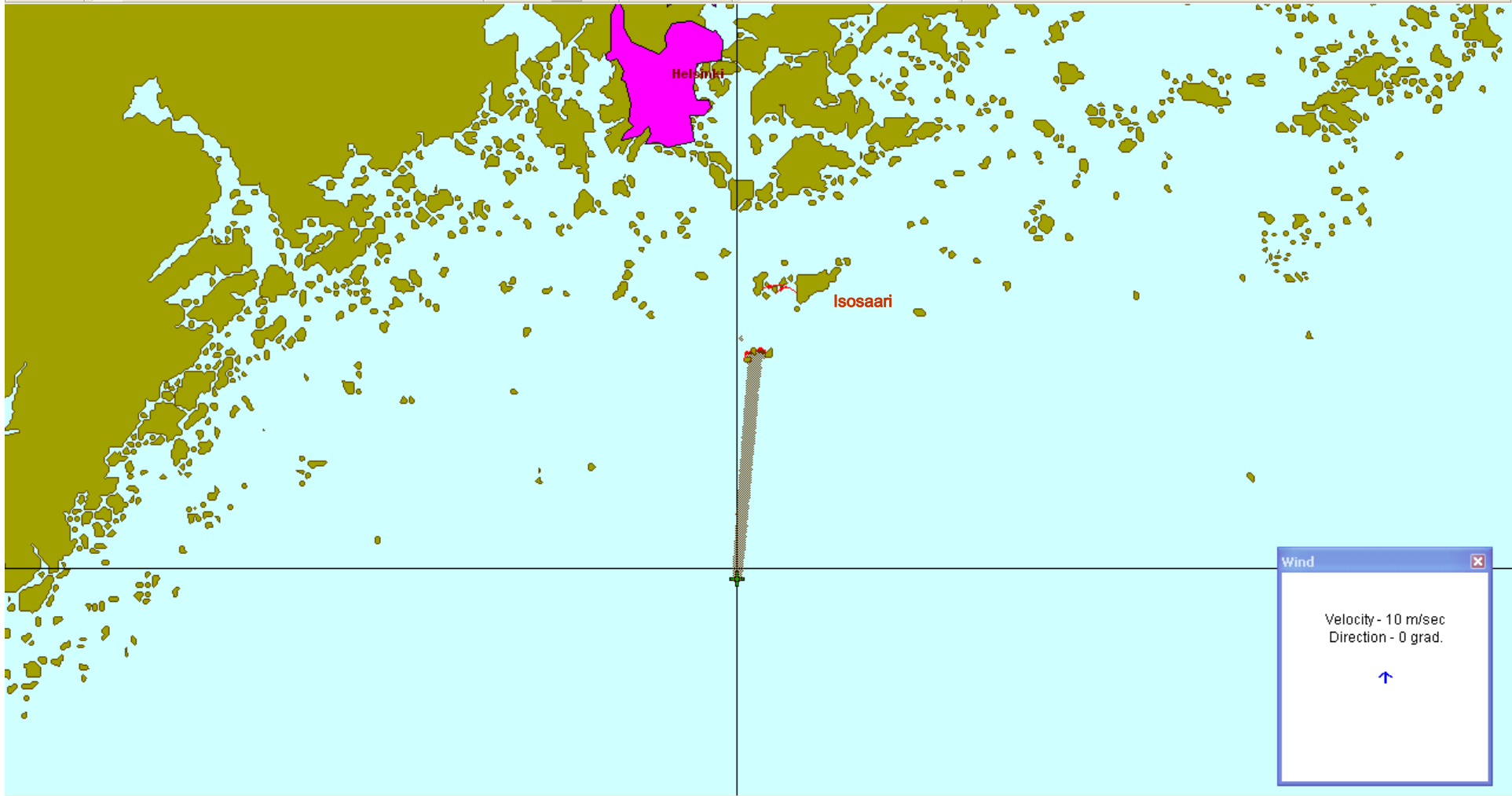
N= 60°11'57" E= 24°47'42" In 1 cm 1.80 km Modelling time 07:00:35 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

start | MapInfo Professional ... | Microsoft PowerPoint ... | SpillMod 2.0 | FI | 13:56

Oil Spill Forecast [Script: "Hki30000s2.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec.



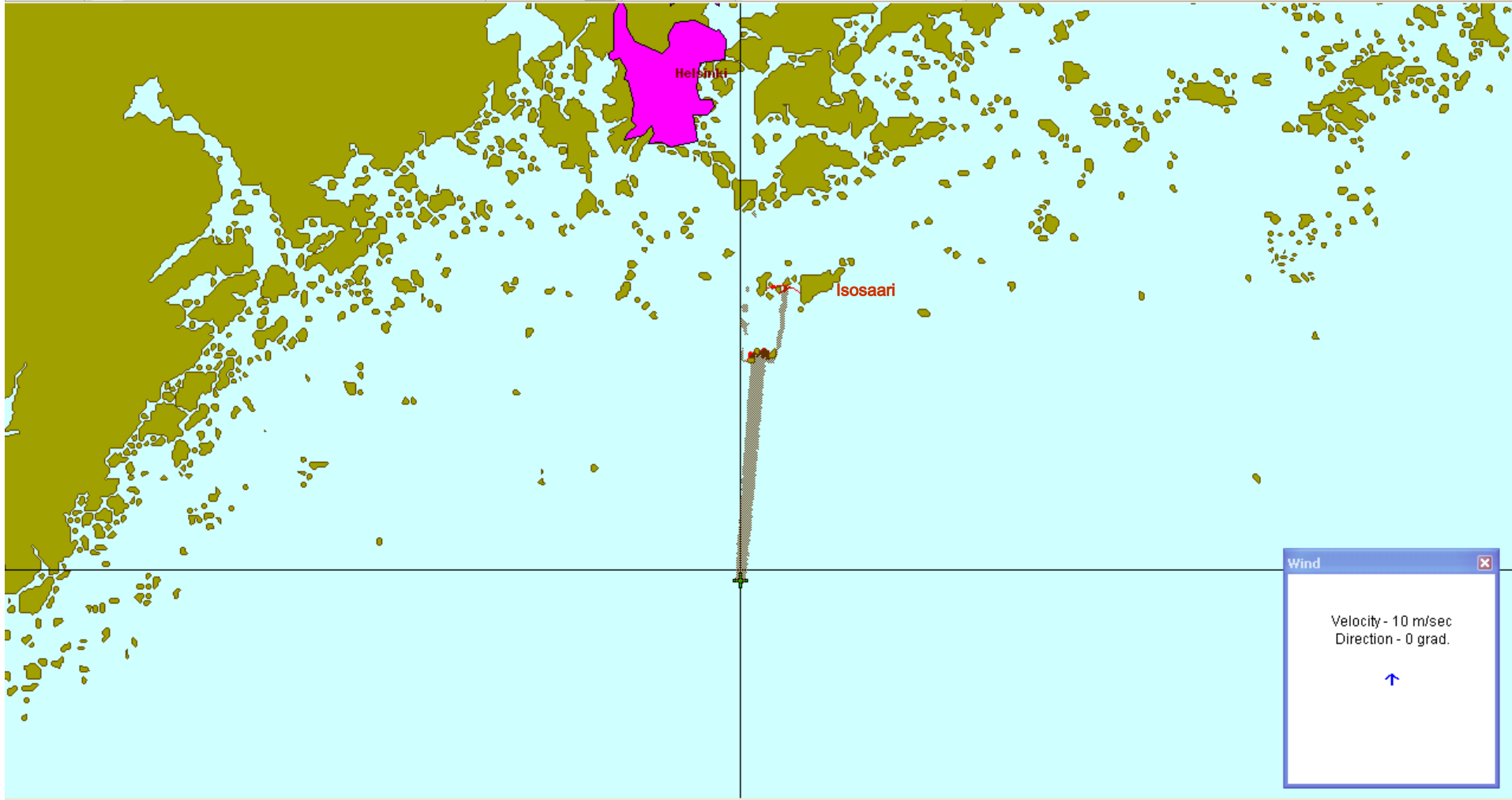
N= 60°11'57" E= 24°47'42" In 1 cm 3 m Modelling time 13:00:20 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

start MapInfo Professional ... Microsoft PowerPoint ... SpillMod 2.0 FI 13:47

Oil Spill Forecast [Script: "Hki30000s2.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec.

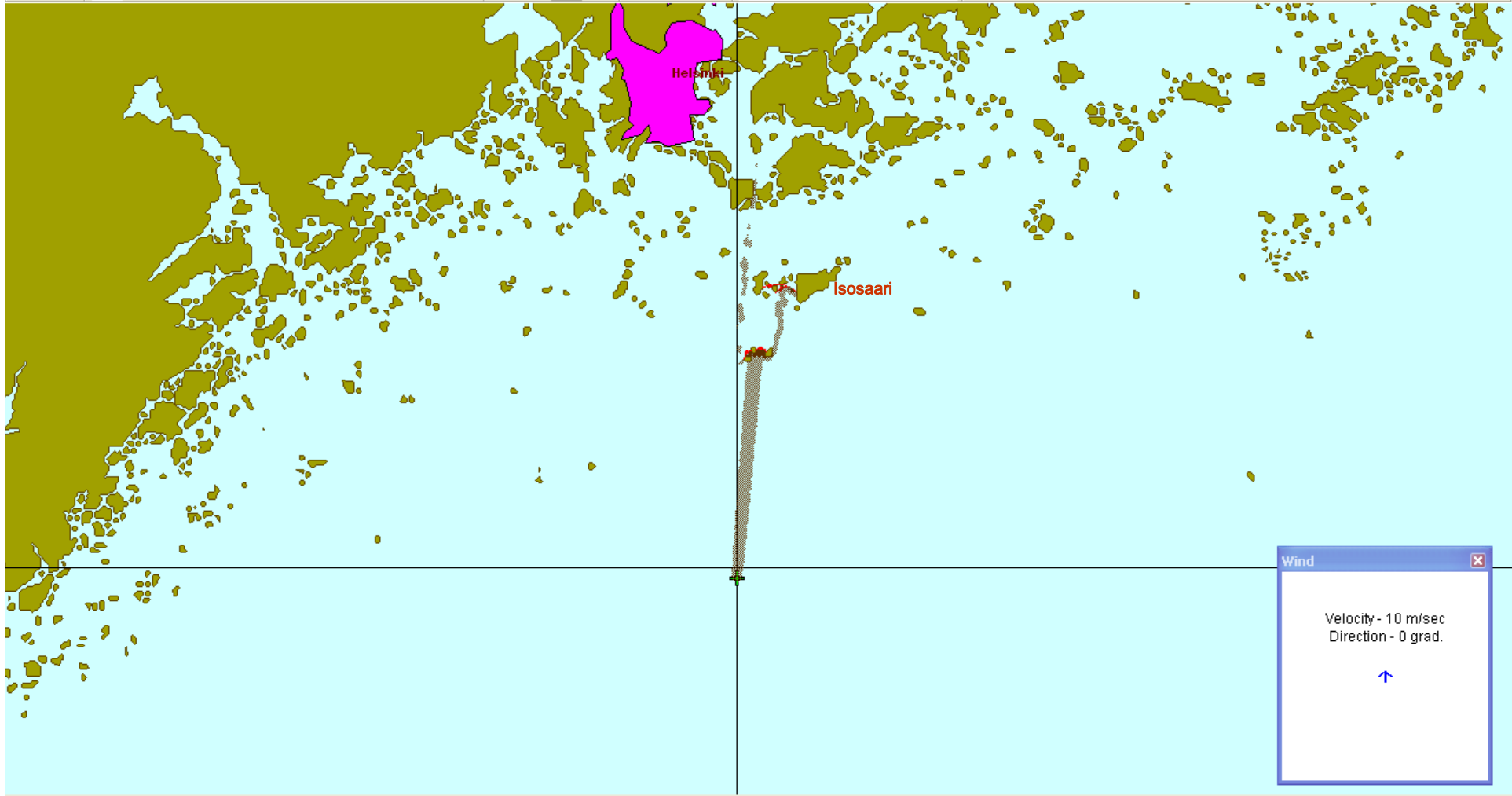


N= 60°11'57" E= 24°47'42" In 1 cm 1.80 km Modelling time 17:00:31 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

Oil Spill Forecast [Script: "Hki30000s2.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec.

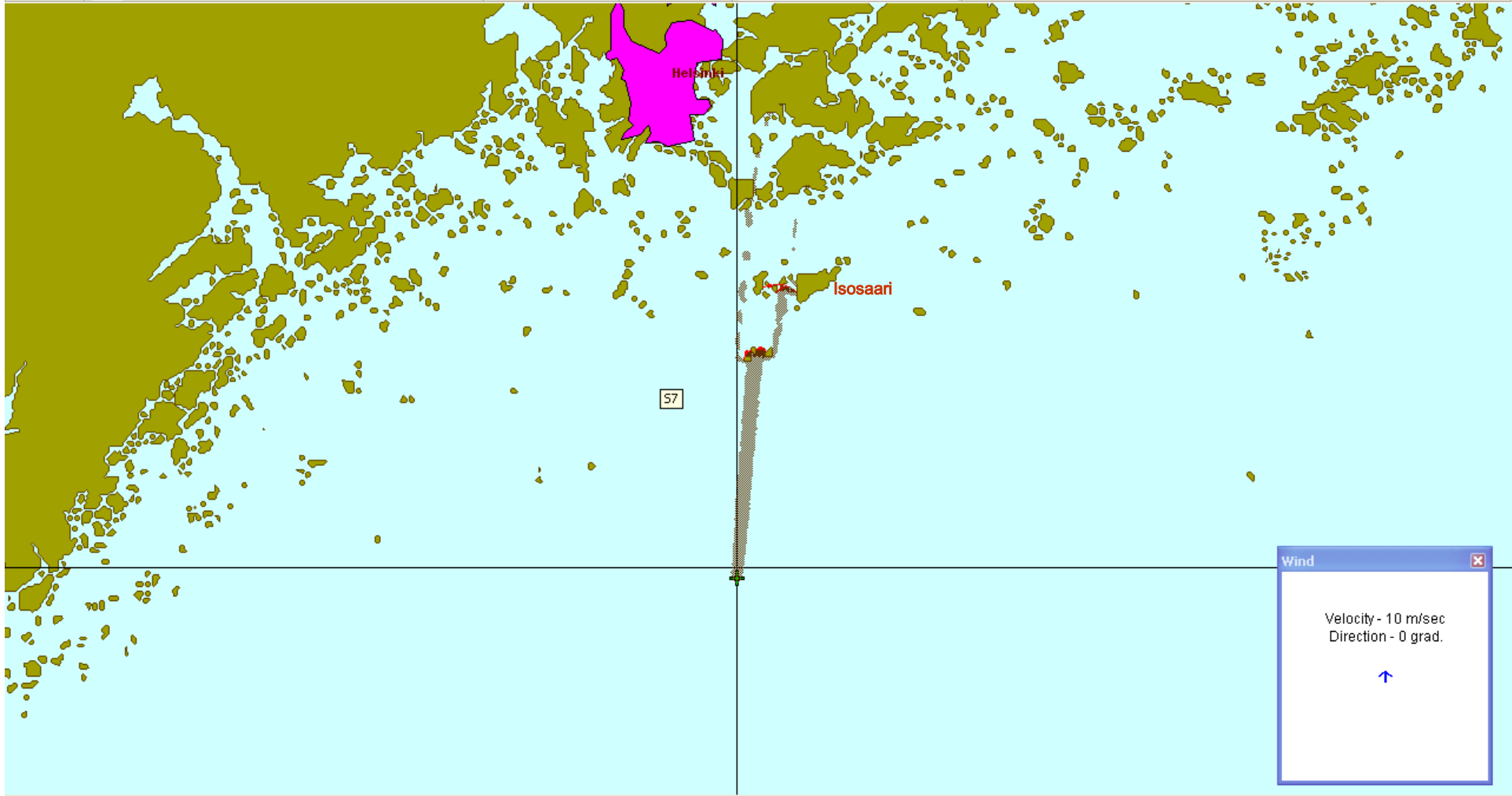


N= 60°11'57" E= 24°47'42" In 1 cm 3 m Modelling time 21:00:06 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

Oil Spill Forecast [Script: "Hki30000s2.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec.

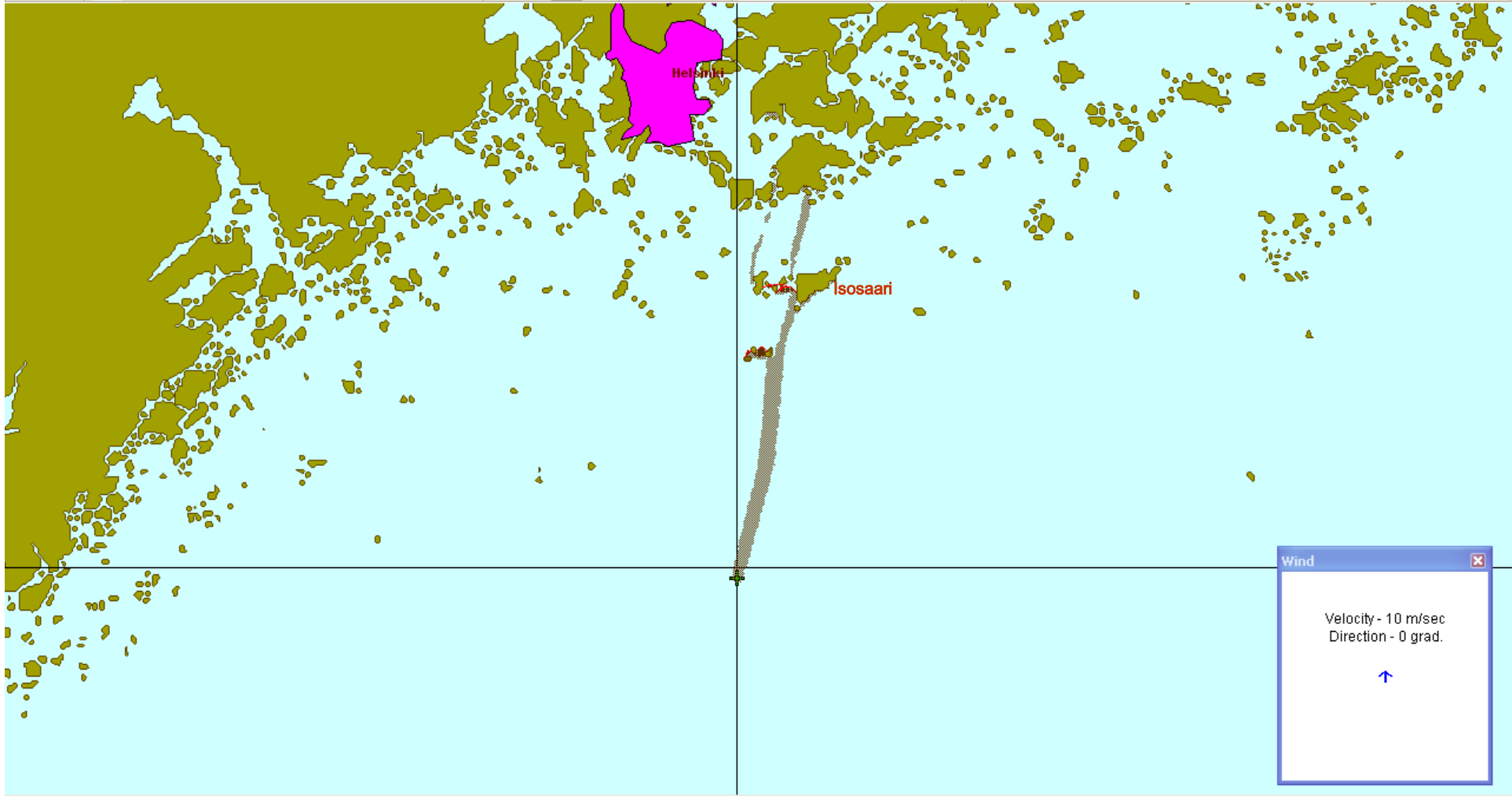


N= 60°11'57" E= 24°47'42" In 1 cm 1.80 km Modelling time 24:00:30 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

Oil Spill Forecast [Script: "Hki30000s2.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec.



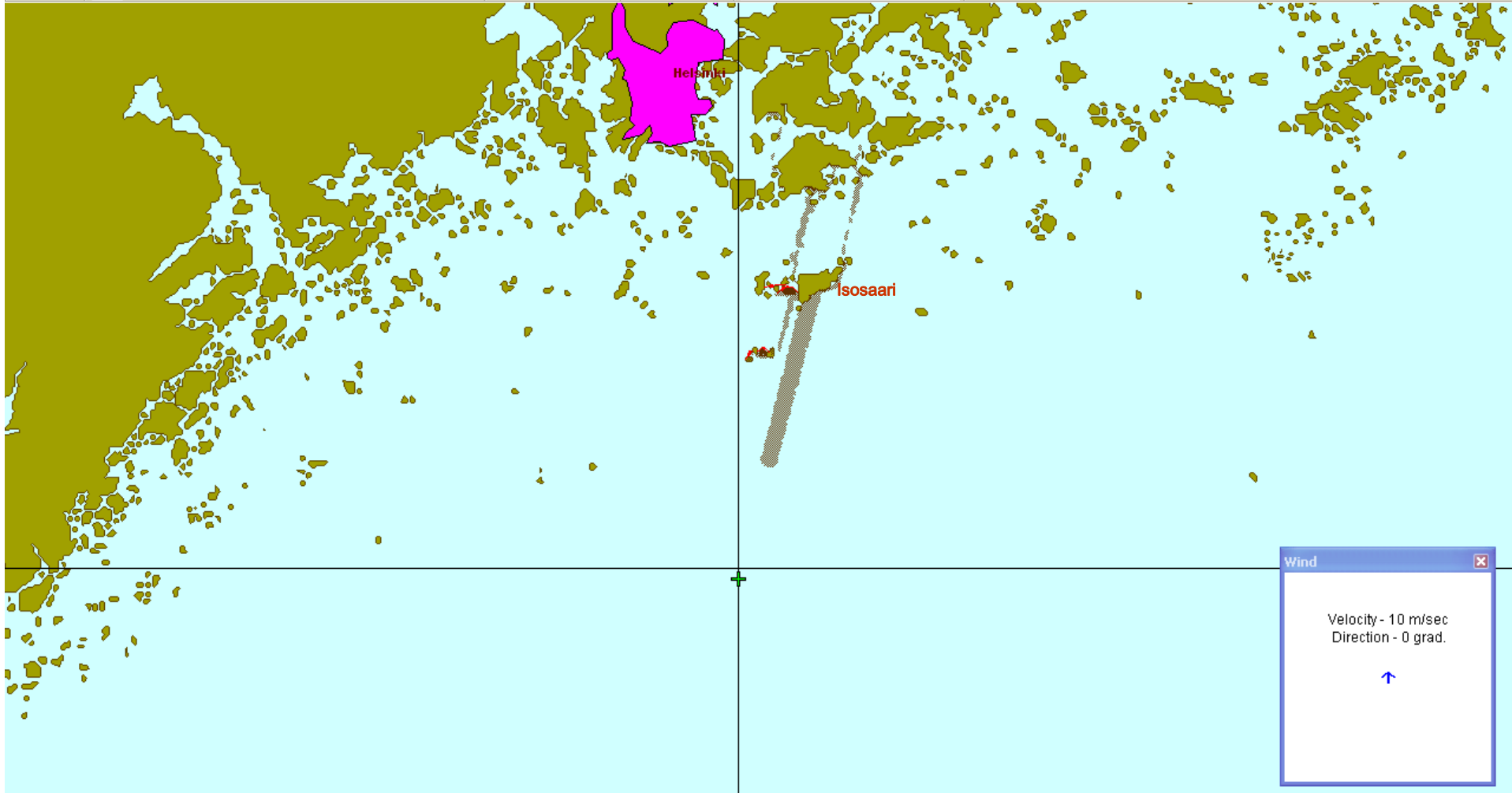
N= 60°11'57" E= 24°47'42" In 1 cm 1.80 km Modelling time 28:00:26 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

start MapInfo Professional ... Microsoft PowerPoint ... SpillMod 2.0 FI 14:08

Oil Spill Forecast [Script: "Hki30000s2.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec.



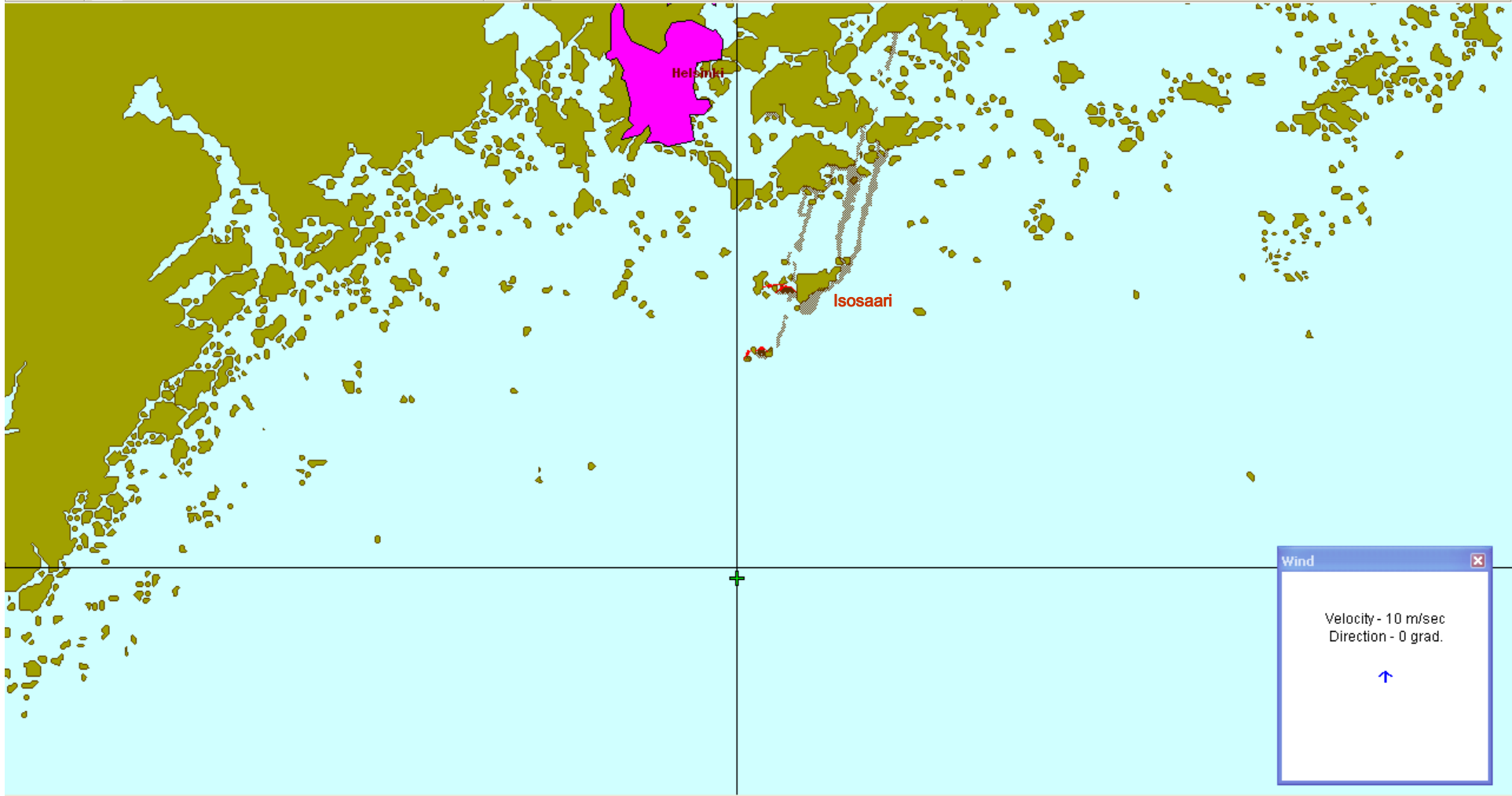
N= 60°11'57" E= 24°47'42" In 1 cm 1.80 km Modelling time 34:00:00 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

start MapInfo Professional ... Microsoft PowerPoint ... SpillMod 2.0 FI 14:13

Oil Spill Forecast [Script: "Hki30000s2.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec.

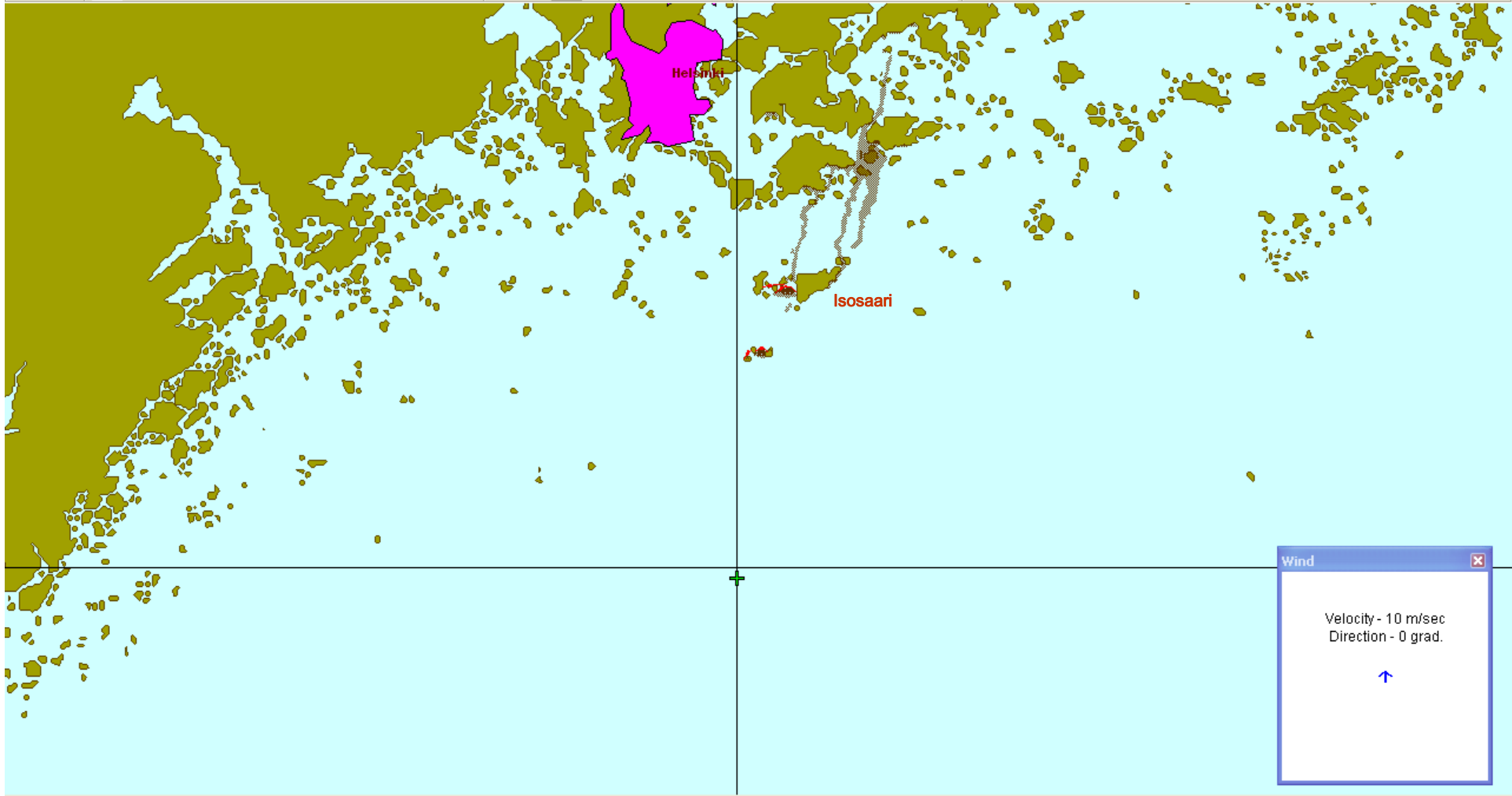


N= 60°11'57" E= 24°47'42" In 1 cm 1.80 km Modelling time 39:00:13 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

Oil Spill Forecast [Script: "Hki30000s2.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec.



Wind

Velocity - 10 m/sec
Direction - 0 grad.

↑

N= 60°11'57" E= 24°47'42" In 1 cm 3 m Modelling time 42:00:23 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

start MapInfo Professional ... Microsoft PowerPoint ... SpillMod 2.0 FI 14:19

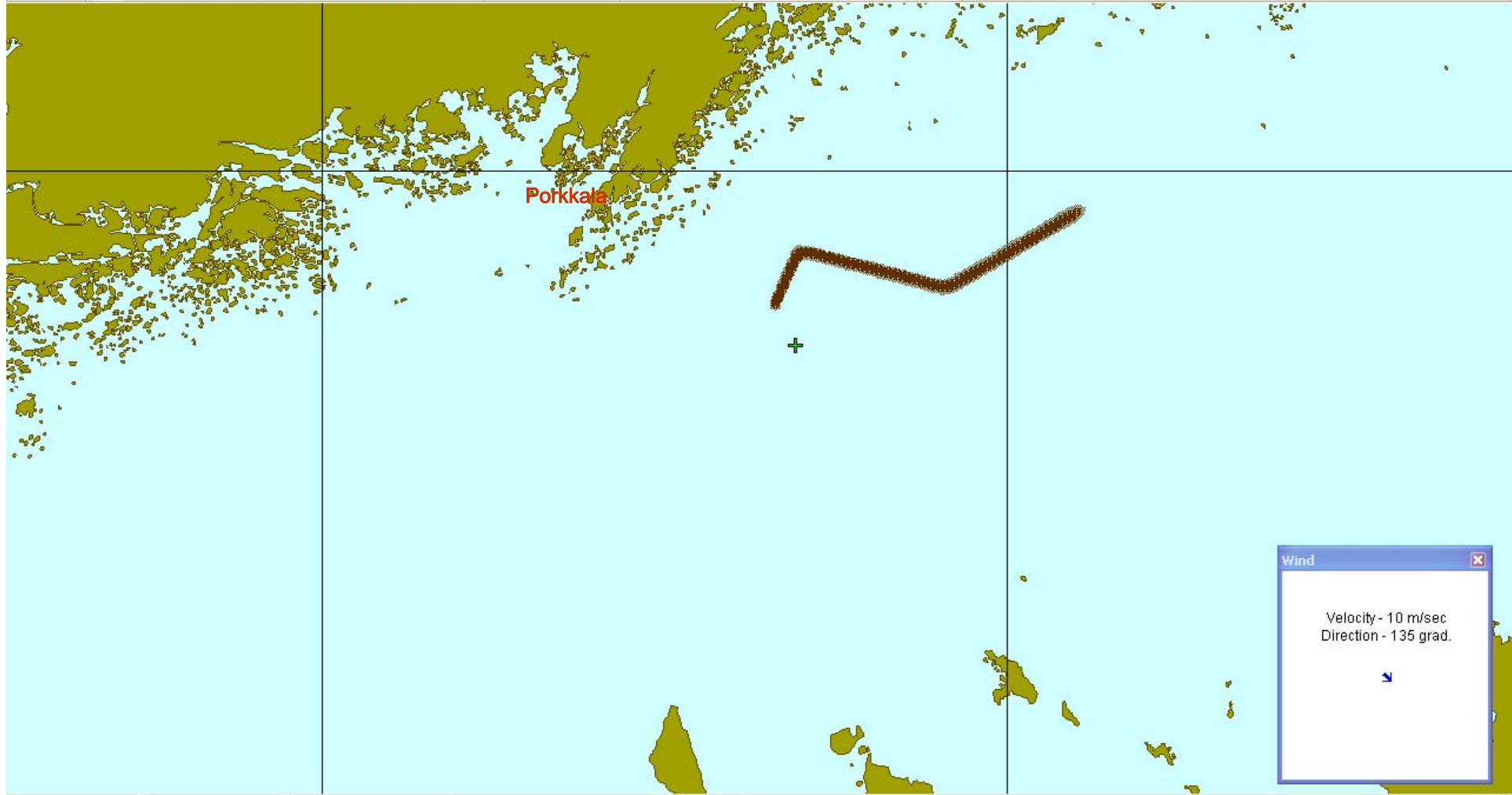
Mihin mallia voi käyttää öljyvahinkojen torjunnassa?

- Vahingon tapahduttua ennusteiden tekeminen: torjuntaan valmistautuminen
- Tuulitiedot voi syöttää myös ”käsin”
- Voi tarkastella siirrettävien puomien sijoittelua

Oil Spill Forecast [Script: "DEMO1.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec



Wind

Velocity - 10 m/sec
Direction - 135 grad.

↘

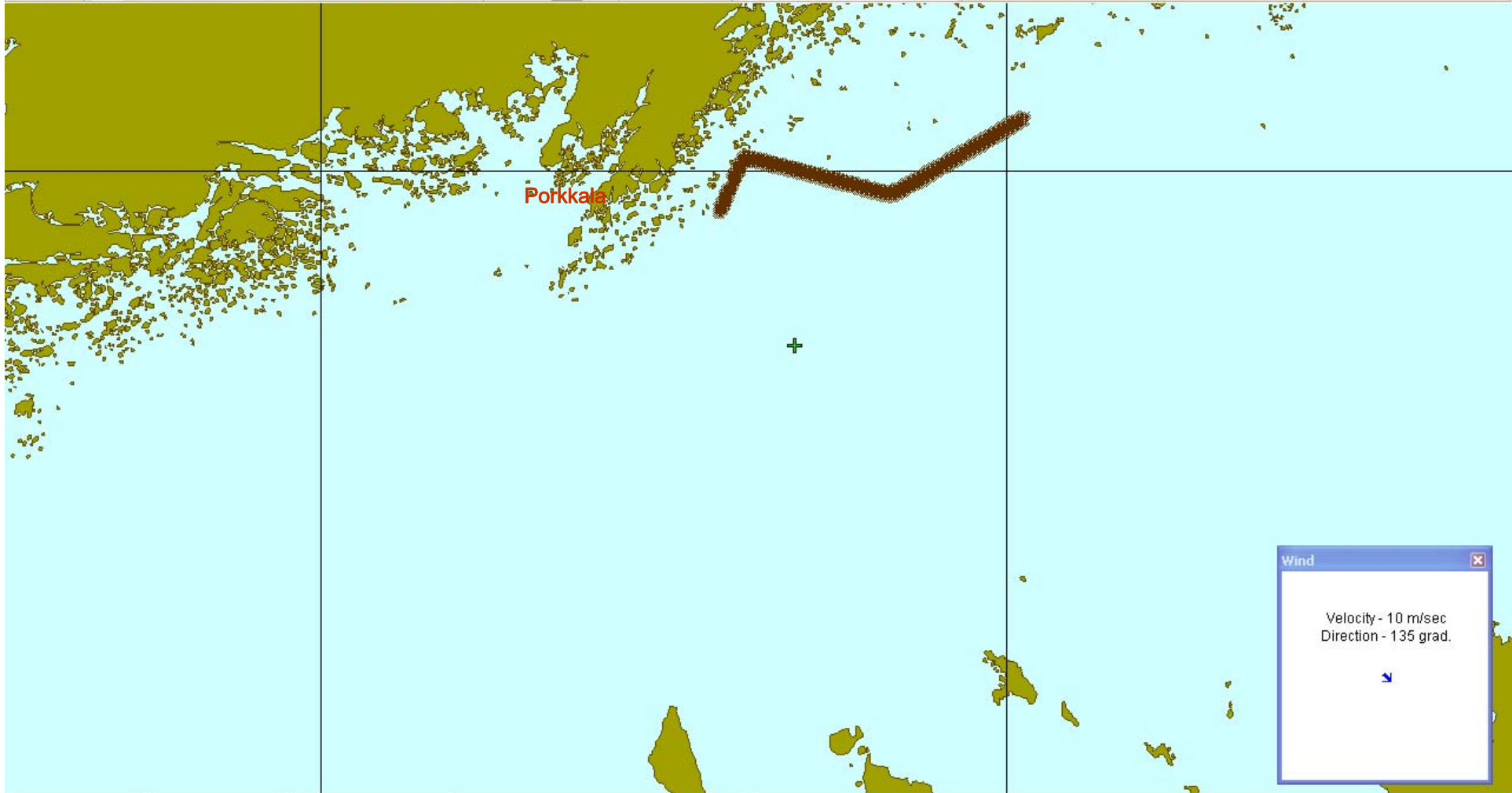
N= 60°06'57" E= 24°29'51" In 1 cm 6 m Modelling time 27:02:35 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

start MapInfo Professional ... SpillMod 2.0 Microsoft PowerPoint ... FI 13:15

Oil Spill Forecast [Script: "DEMO1.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec



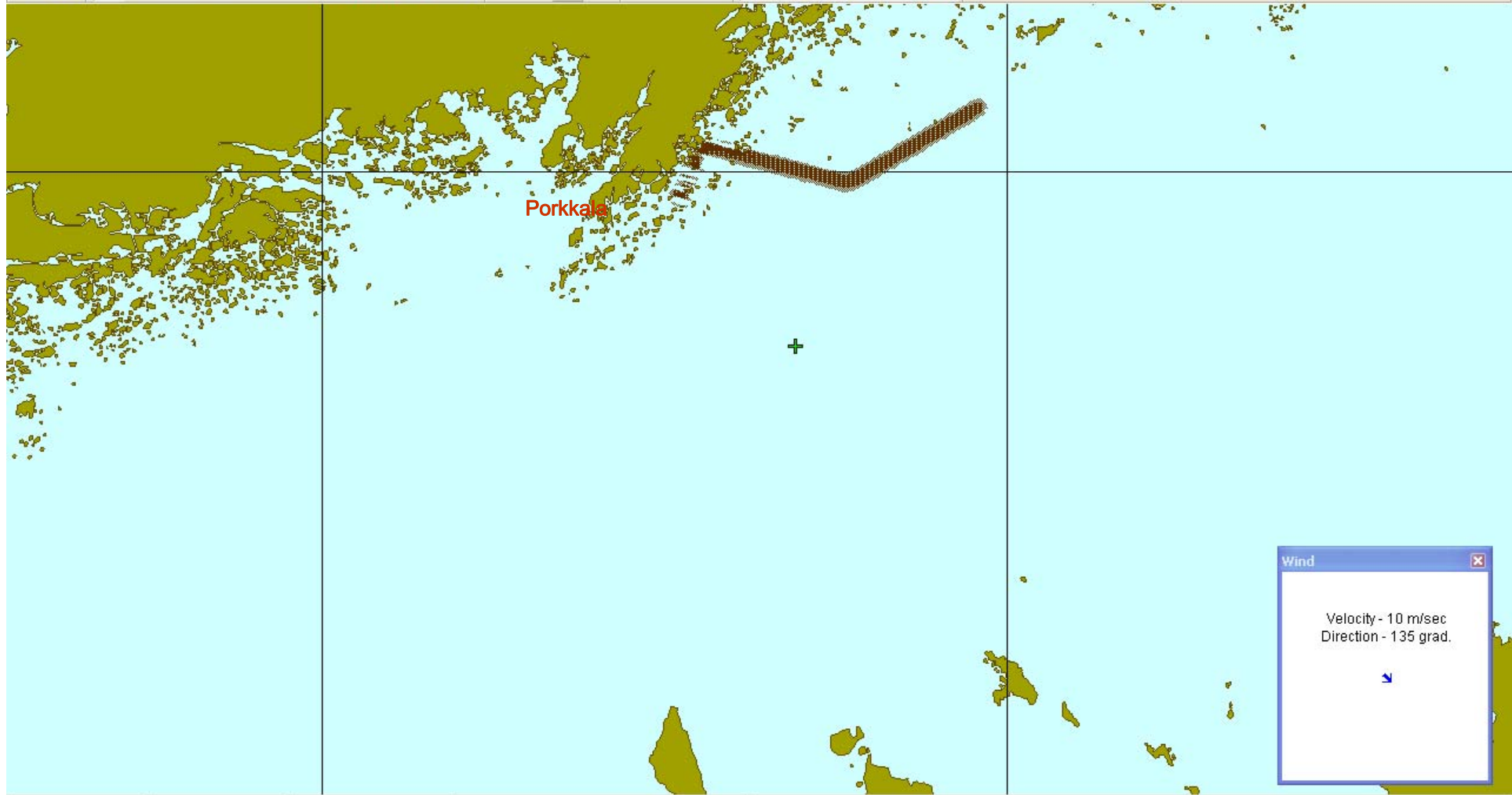
N= 60°06'57" E= 24°29'51" In 1 cm 3.63 km Modelling time 34:01:14 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

start | MapInfo Professional ... | SpillMod 2.0 | Microsoft PowerPoint ... | FI | 13:17

Oil Spill Forecast [Script: "DEMO1.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec

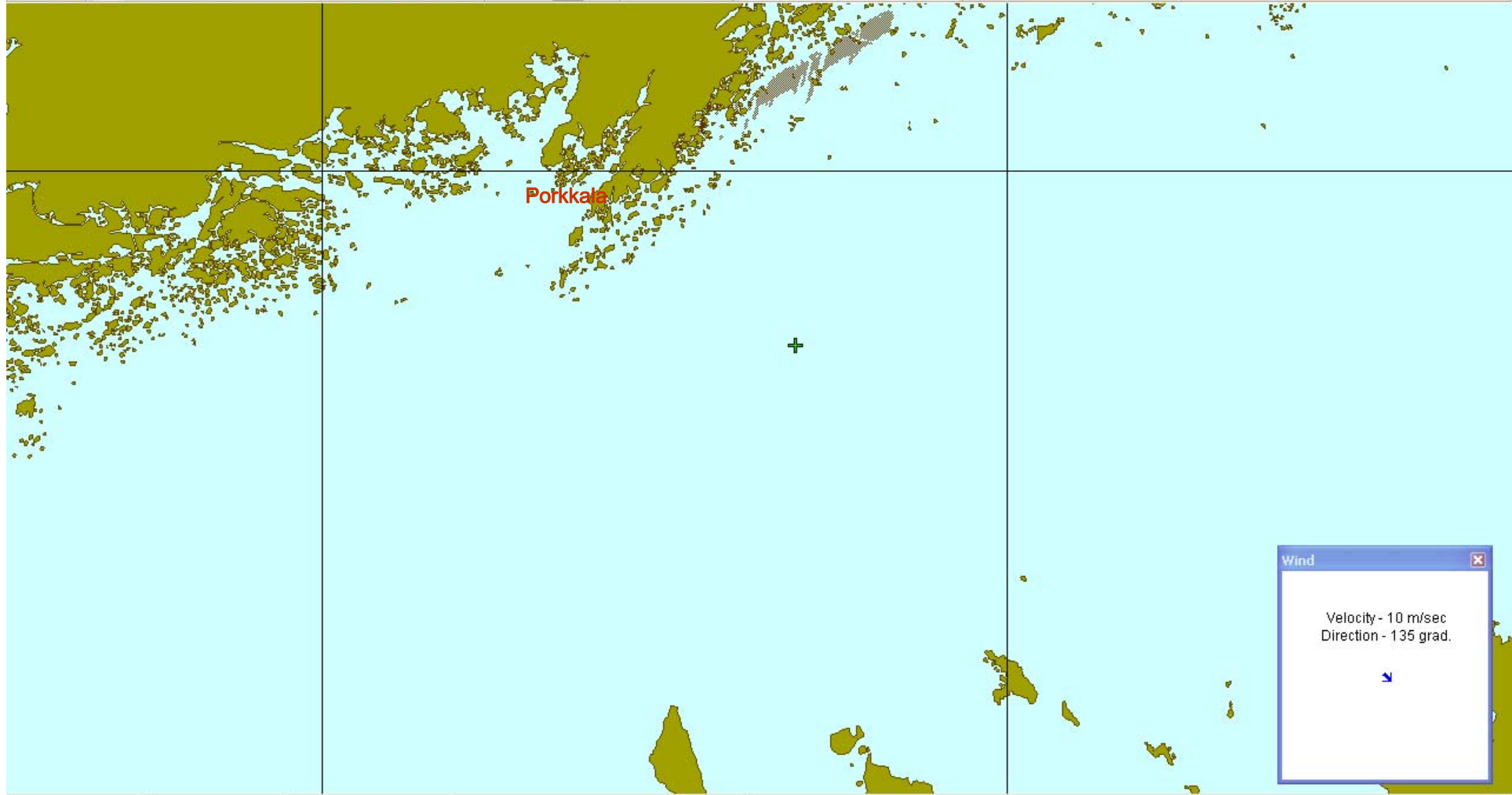


N= 60°06'57" E= 24°29'51" In 1 cm 3.63 km Modelling time 37:00:53 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

Oil Spill Forecast [Script: "DEMO1.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec



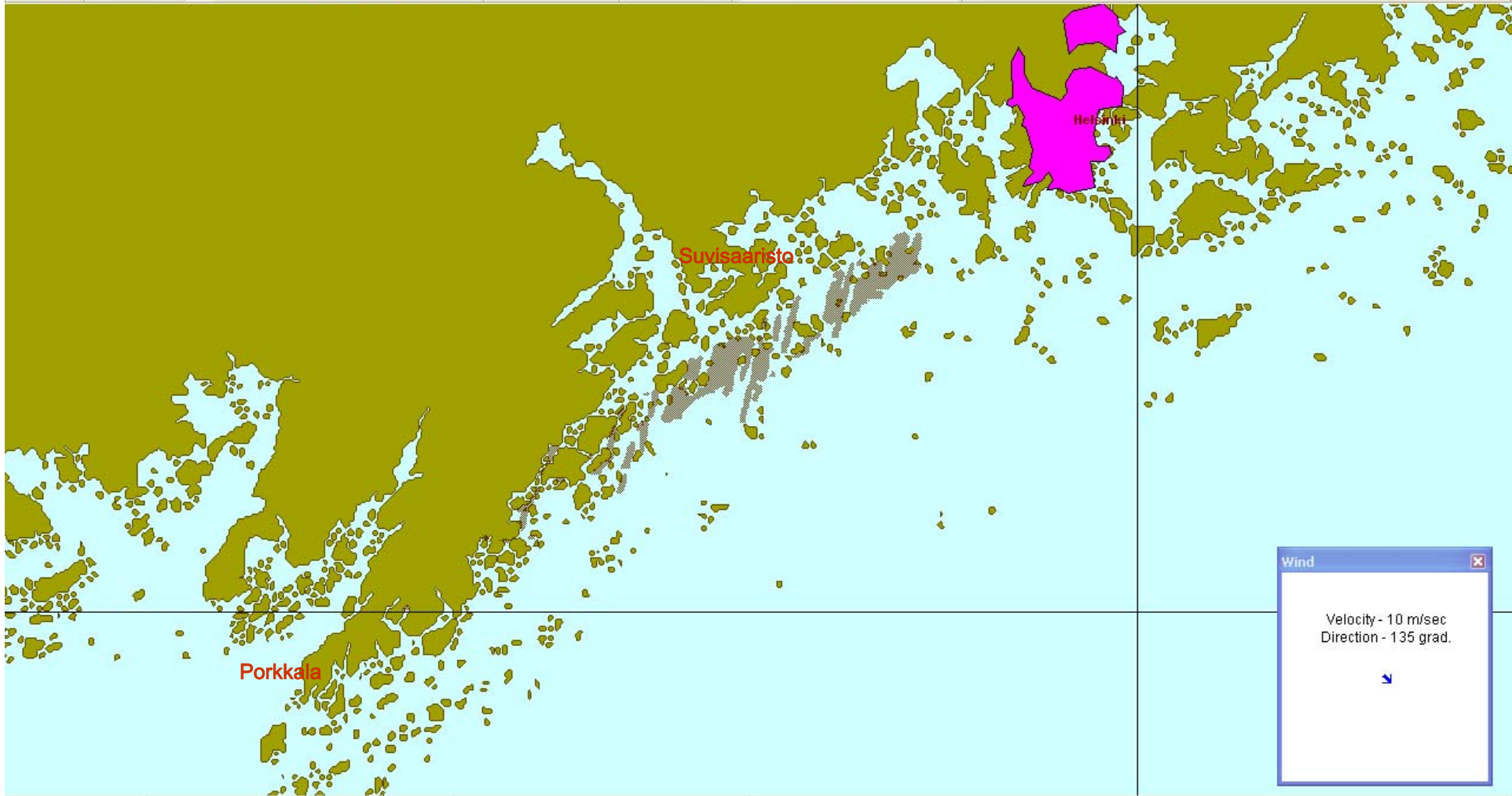
N= 60°06'57" E= 24°29'51" In 1 cm 3.63 km Modelling time 48:00:27 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

start | MapInfo Professional ... | SpillMod 2.0 | Microsoft PowerPoint ... | FI | 13:20

Oil Spill Forecast [Script: "DEMO1.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec.



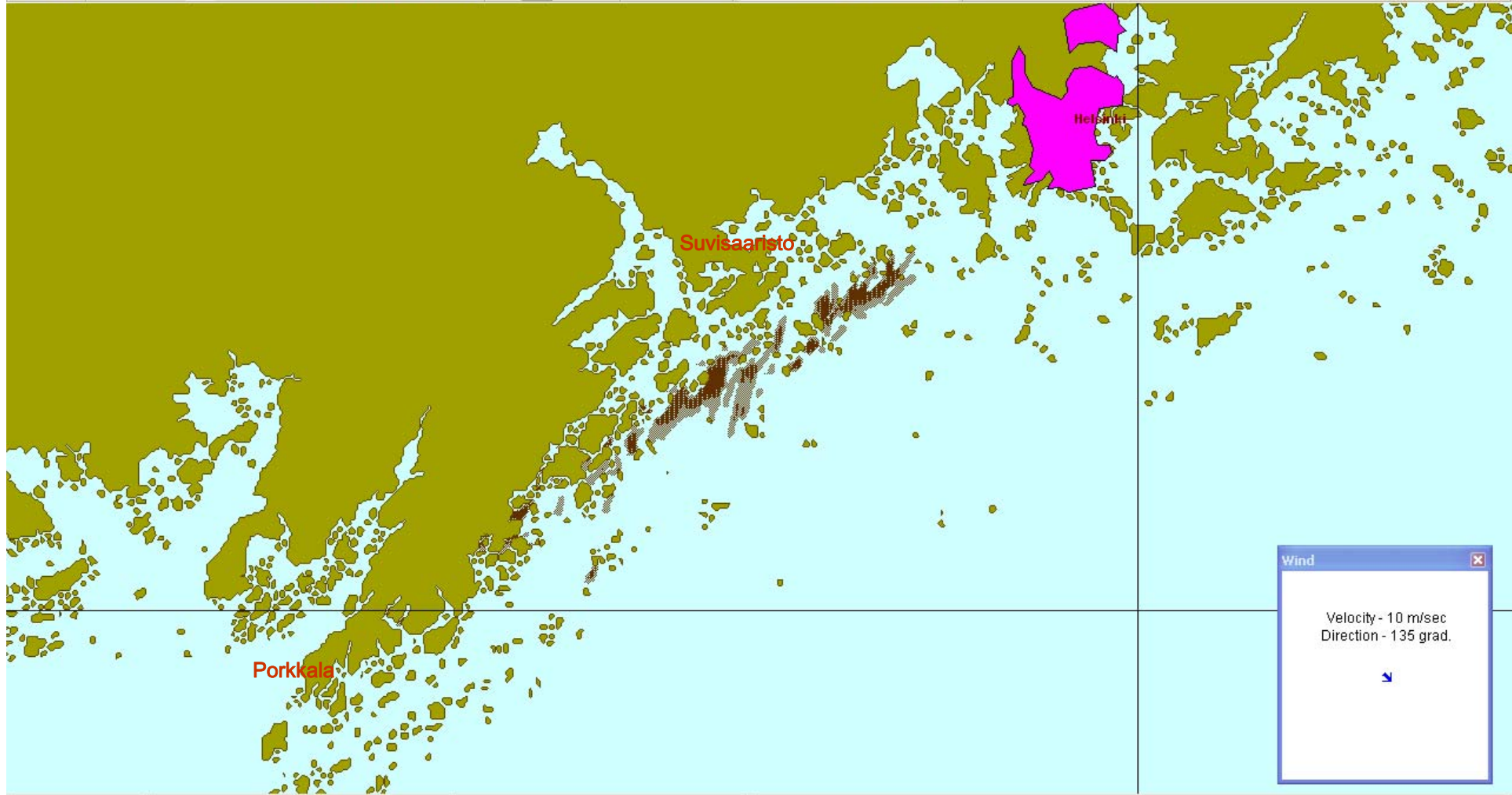
N= 60°02'02" E= 24°45'16" In 1 cm 1.80 km Modelling time 50:00:20 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

start MapInfo Professional ... SpillMod 2.0 Microsoft PowerPoint ... FI 13:23

Oil Spill Forecast [Script: "DEMO1.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec.



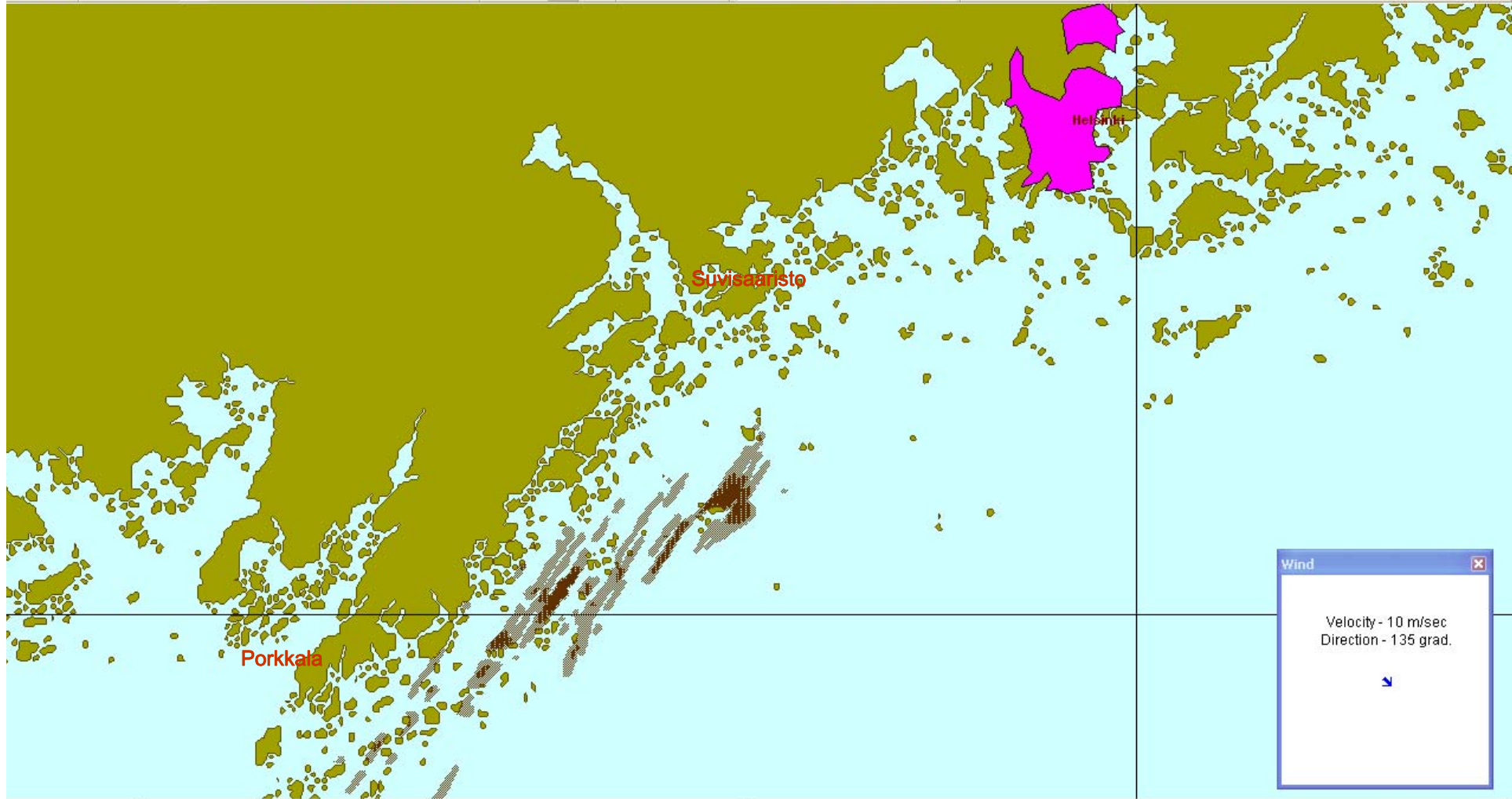
N= 60°12'57" E= 24°32'36" In 1 cm 1.80 km Modelling time 51:00:40 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

start | MapInfo Professional ... | SpillMod 2.0 | Microsoft PowerPoint ... | FI | 13:24

Oil Spill Forecast [Script: "DEMO1.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec



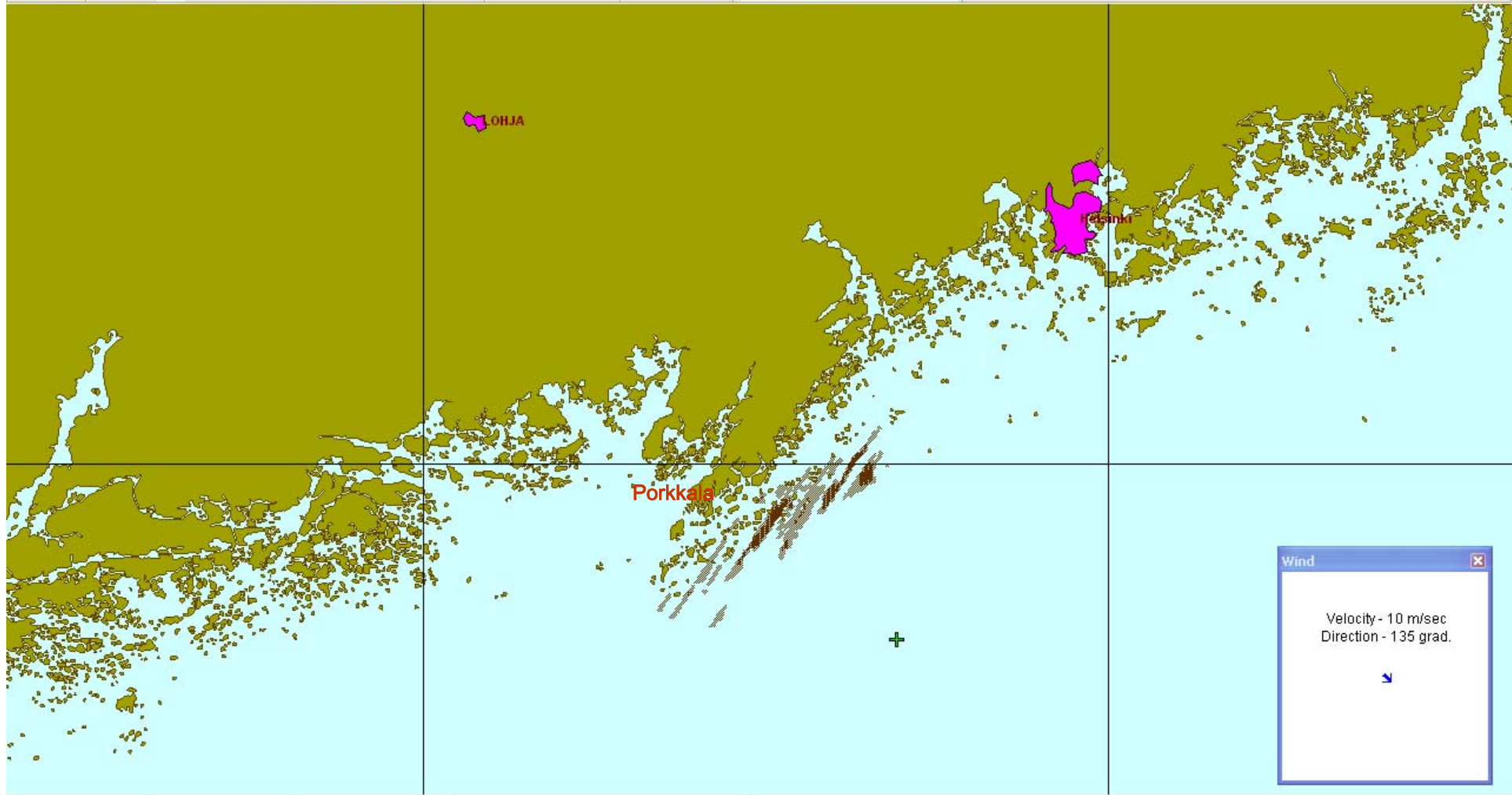
V= 60°13'15" E= 24°33'22" In 1 cm 3 m Modelling time 60:00:26 Map: "W:\RISK\SPILLMOD\BalticSpill.WOR"

start MapInfo Professional ... SpillMod 2.0 Microsoft PowerPoint ... FI 13:26

Oil Spill Forecast [Script: "DEMO1.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec.



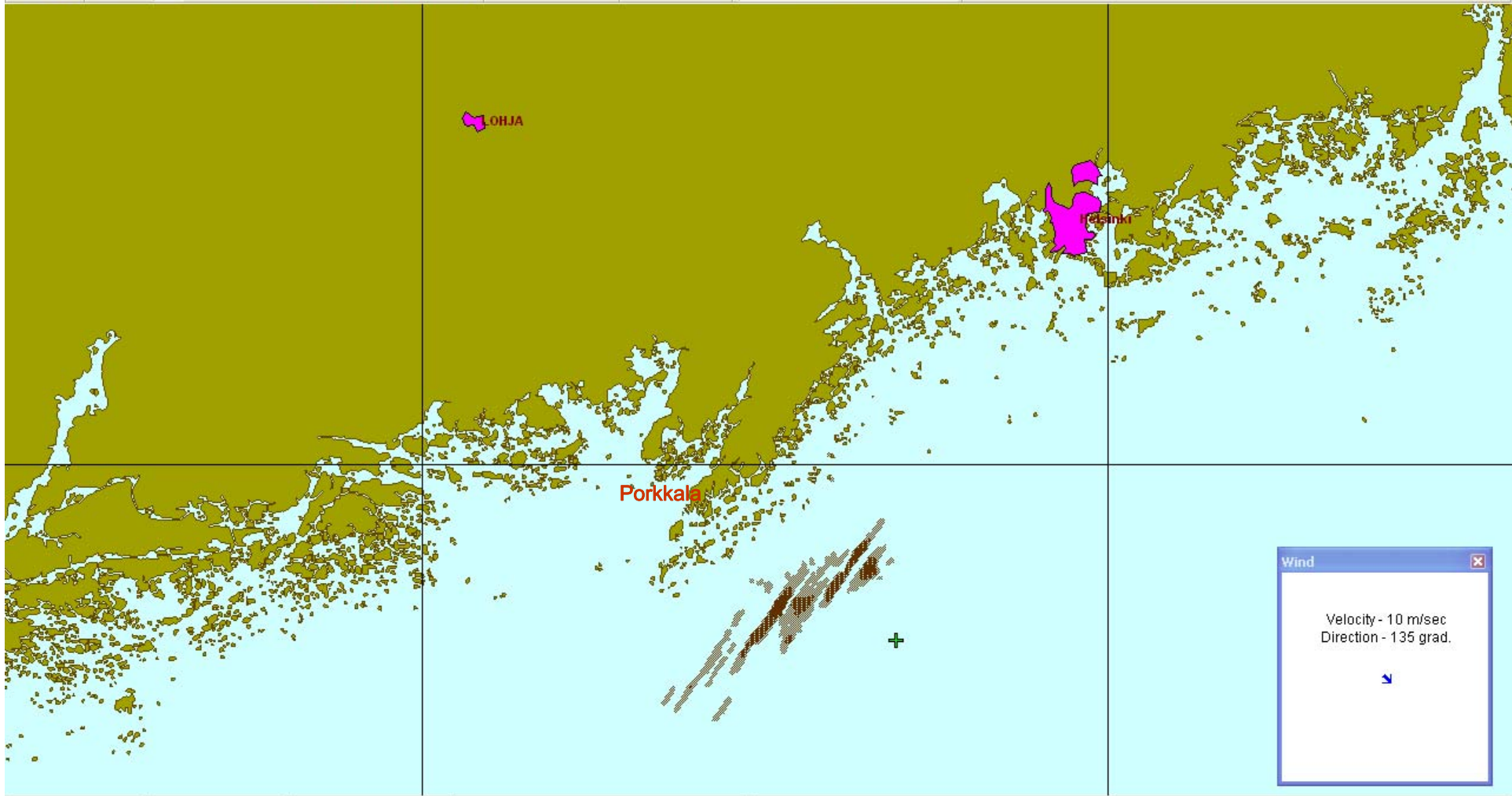
N= 60°03'16" E= 24°29'42" In 1 cm 3.61 km Modelling time 65:01:06 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

start | MapInfo Professional ... | SpillMod 2.0 | Microsoft PowerPoint ... | FI | 13:28

Oil Spill Forecast [Script: "DEMO1.ssc"]

File View Simulation Response facilities Analysis Help data Service Help

Interval: 2 sec.

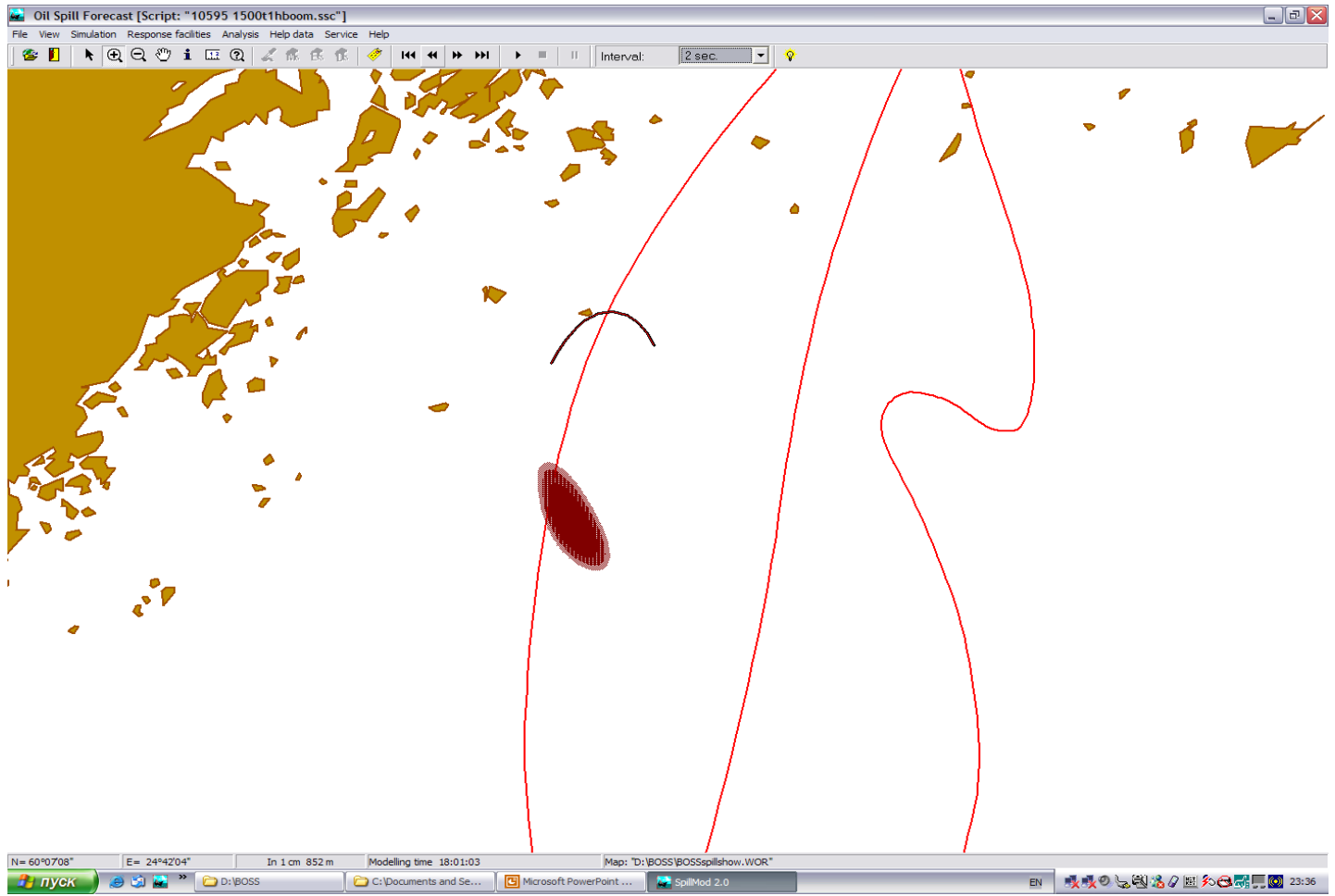


N= 60°19'32" E= 24°17'38" In 1 cm 3.61 km Modelling time 72:02:21 Map: "V:\RISK\SPILLMOD\BalticSpill.WOR"

start MapInfo Professional ... SpillMod 2.0 Microsoft PowerPoint ... FI 13:30

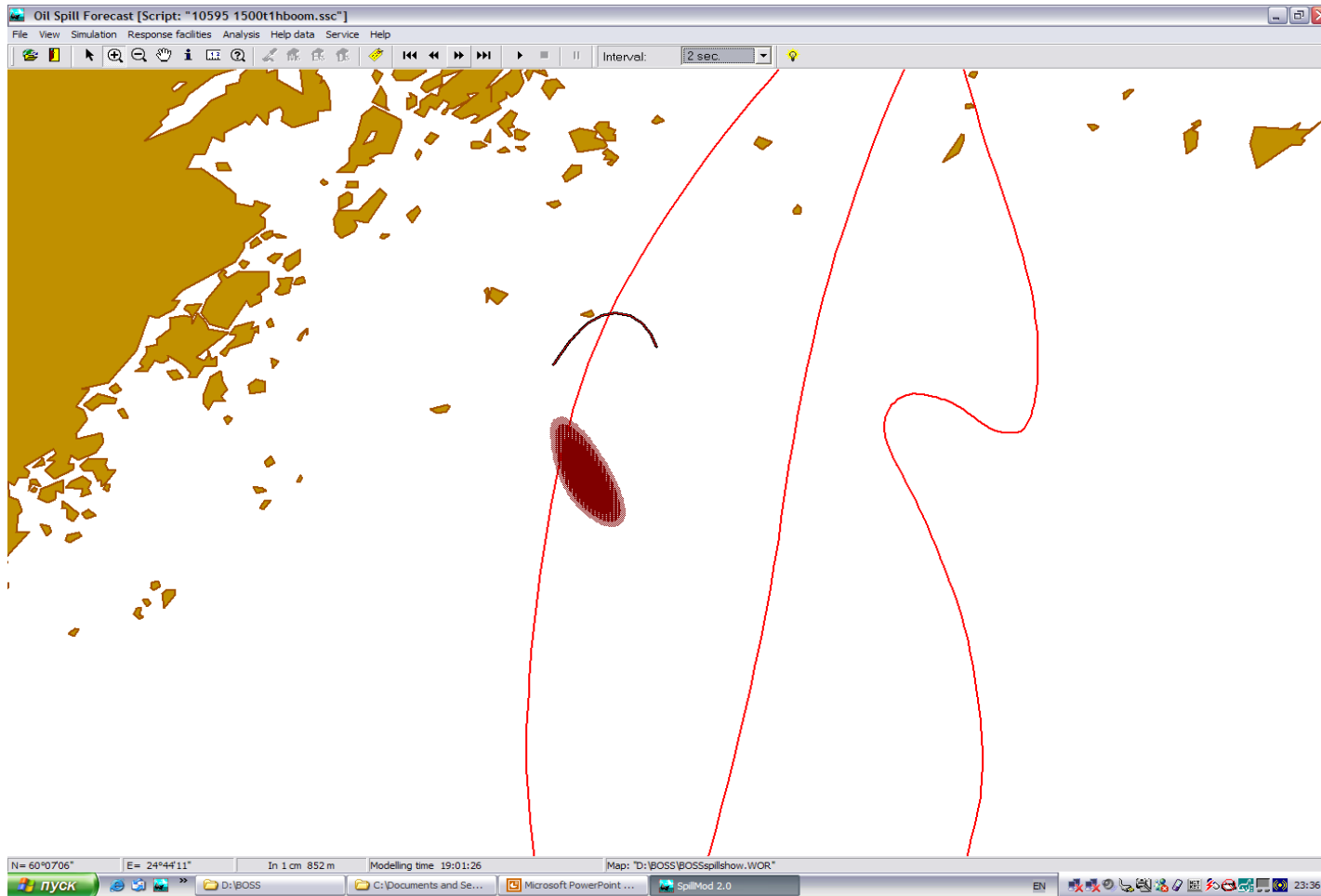
Mihin mallia voi käyttää öljyvahinkojen torjunnassa?

- Harjoittelu!
- Mallilla on helppo etukäteen testata tehtyjä suunnitelmia ja niiden toimivuutta
- Esim. suunniteltaessa puomitusta (tarkoitus estää öljyn kulkeutuminen saaristoon tai rannoille) mallien avulla voidaan testata erilaisilla ajelehtimissuunnilla, miten puomit on sijoitettava, jotta saarten rannat säästyisivät mahdollisimman hyvin
- Toimintatapoja voidaan muuttaa jo ennen vahingon tapahtumista



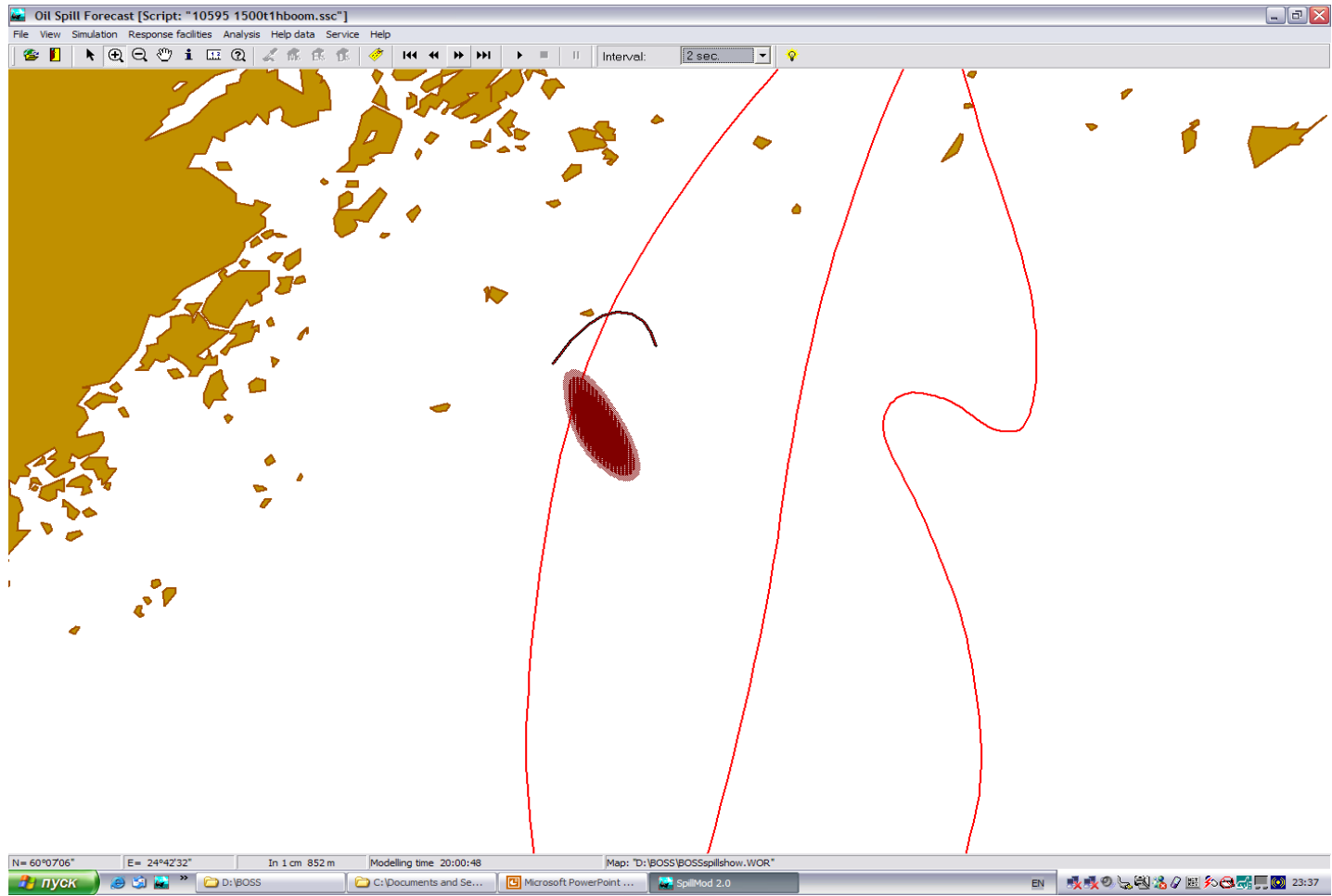
20.5.2008





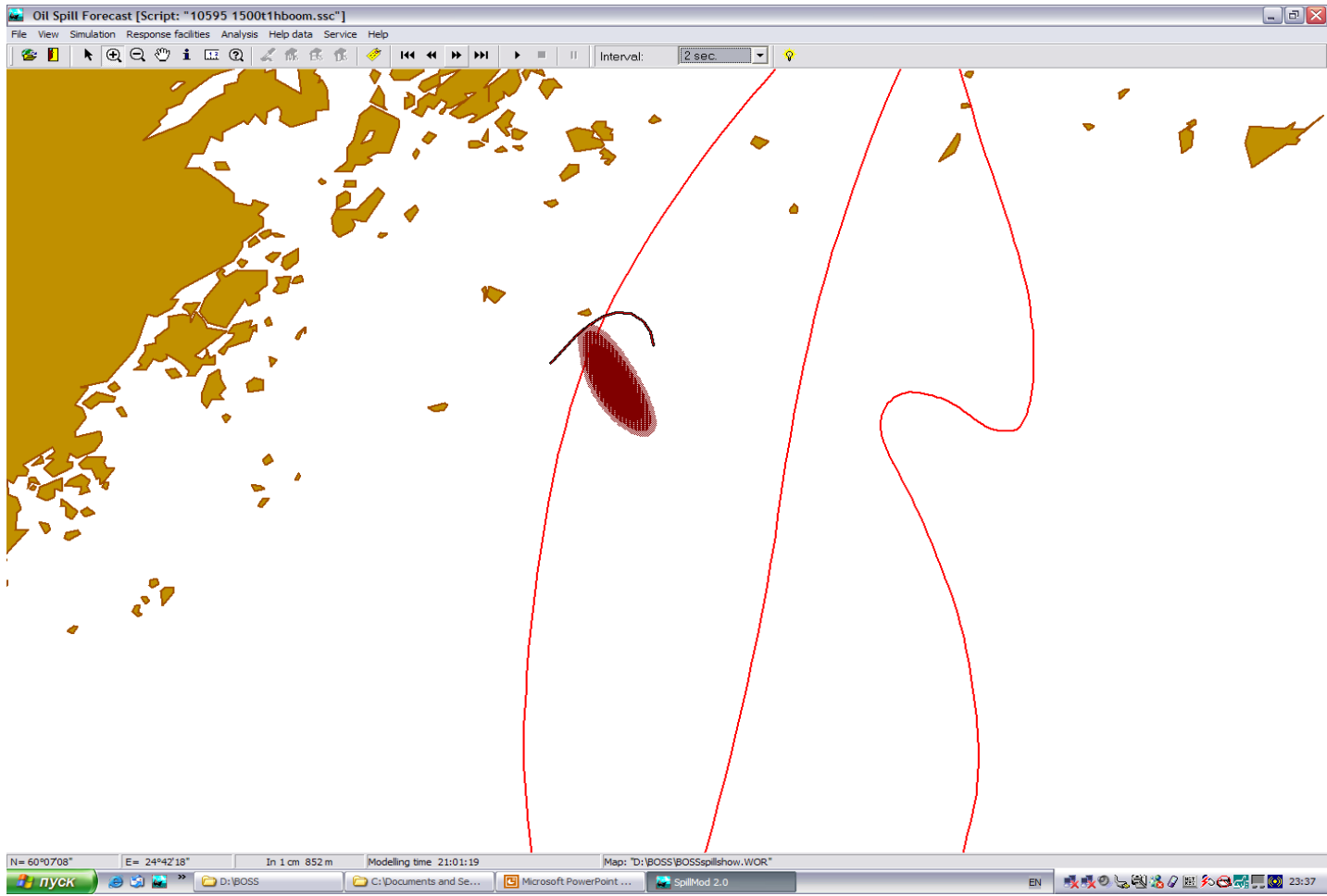
20.5.2008





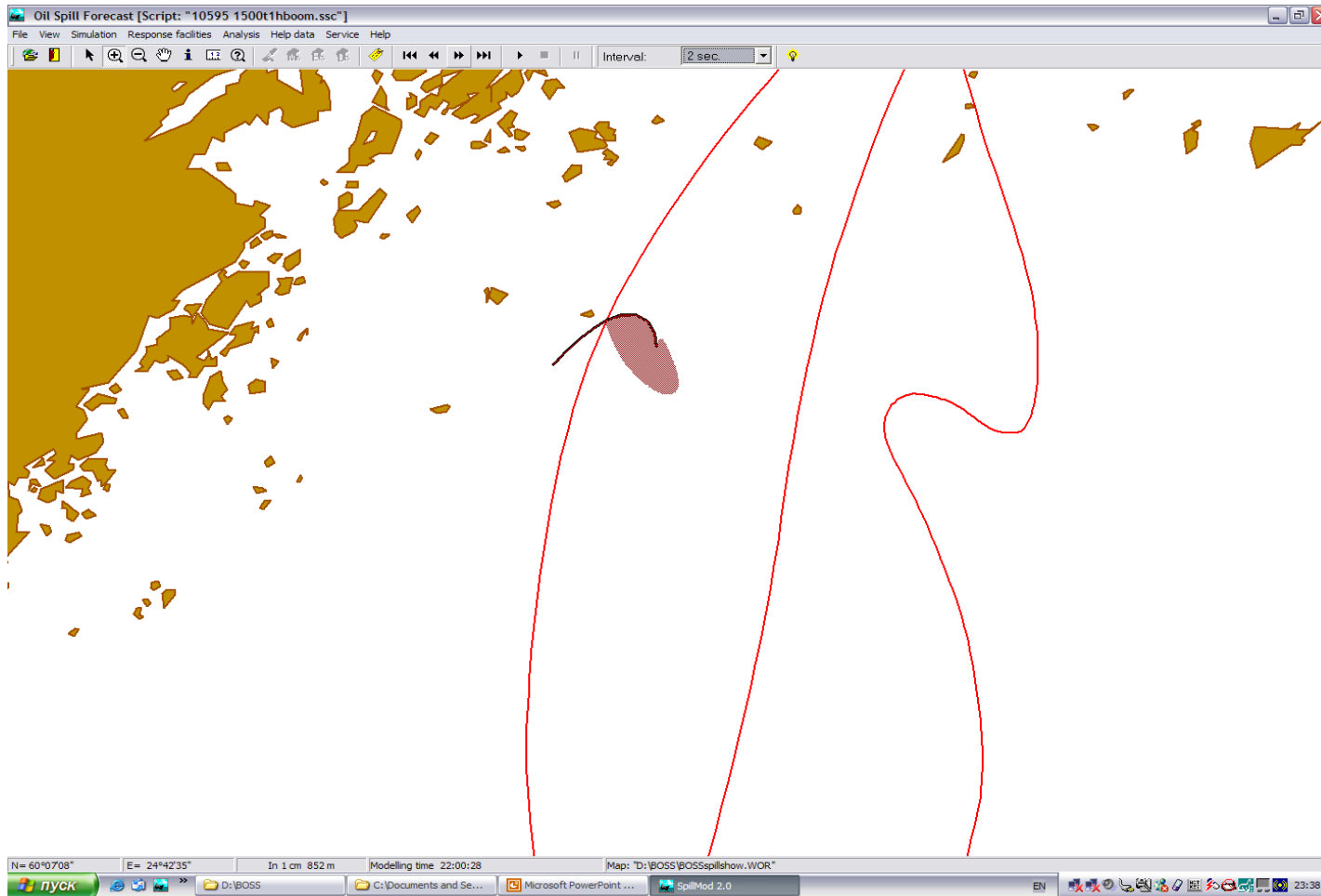
20.5.2008





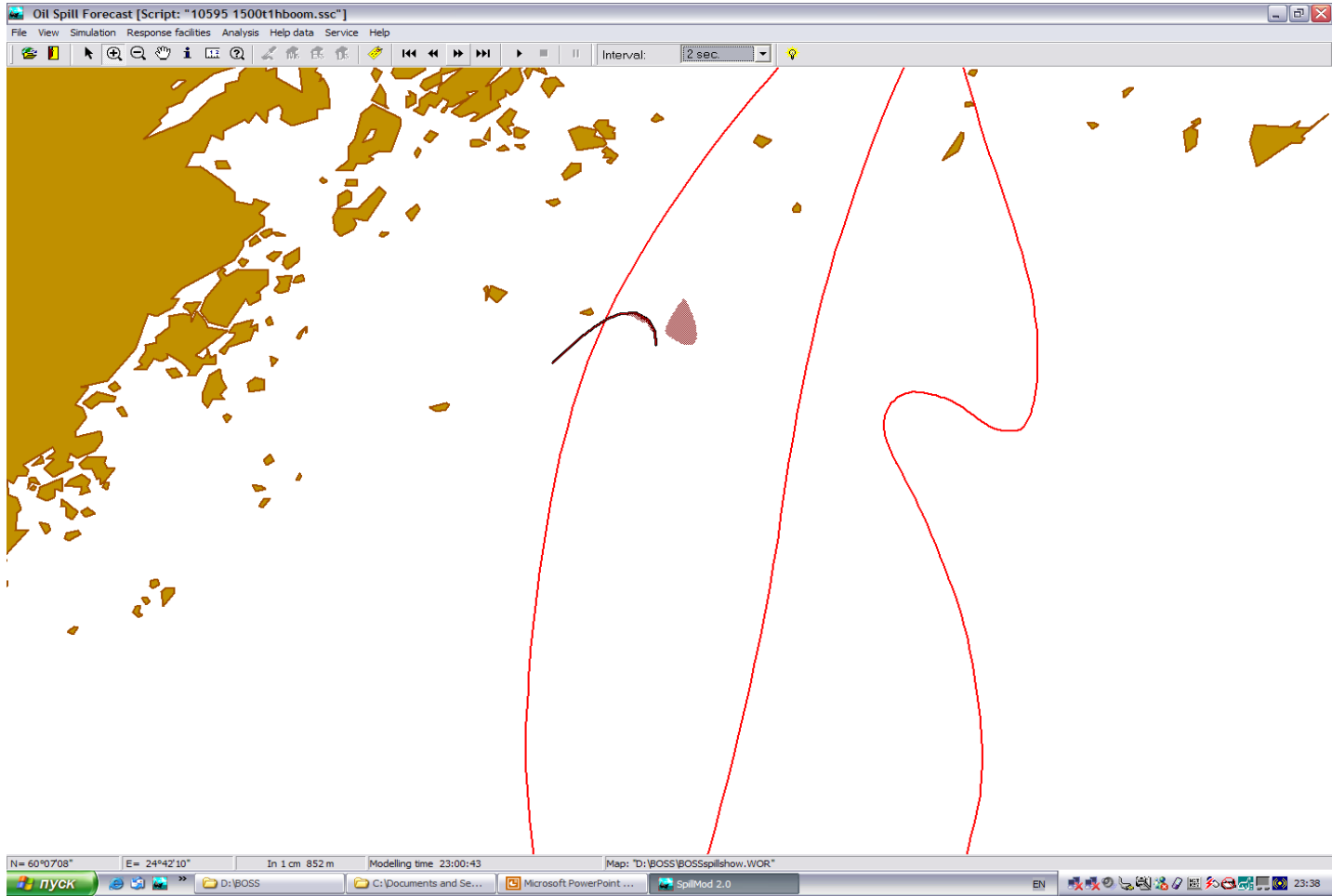
20.5.2008





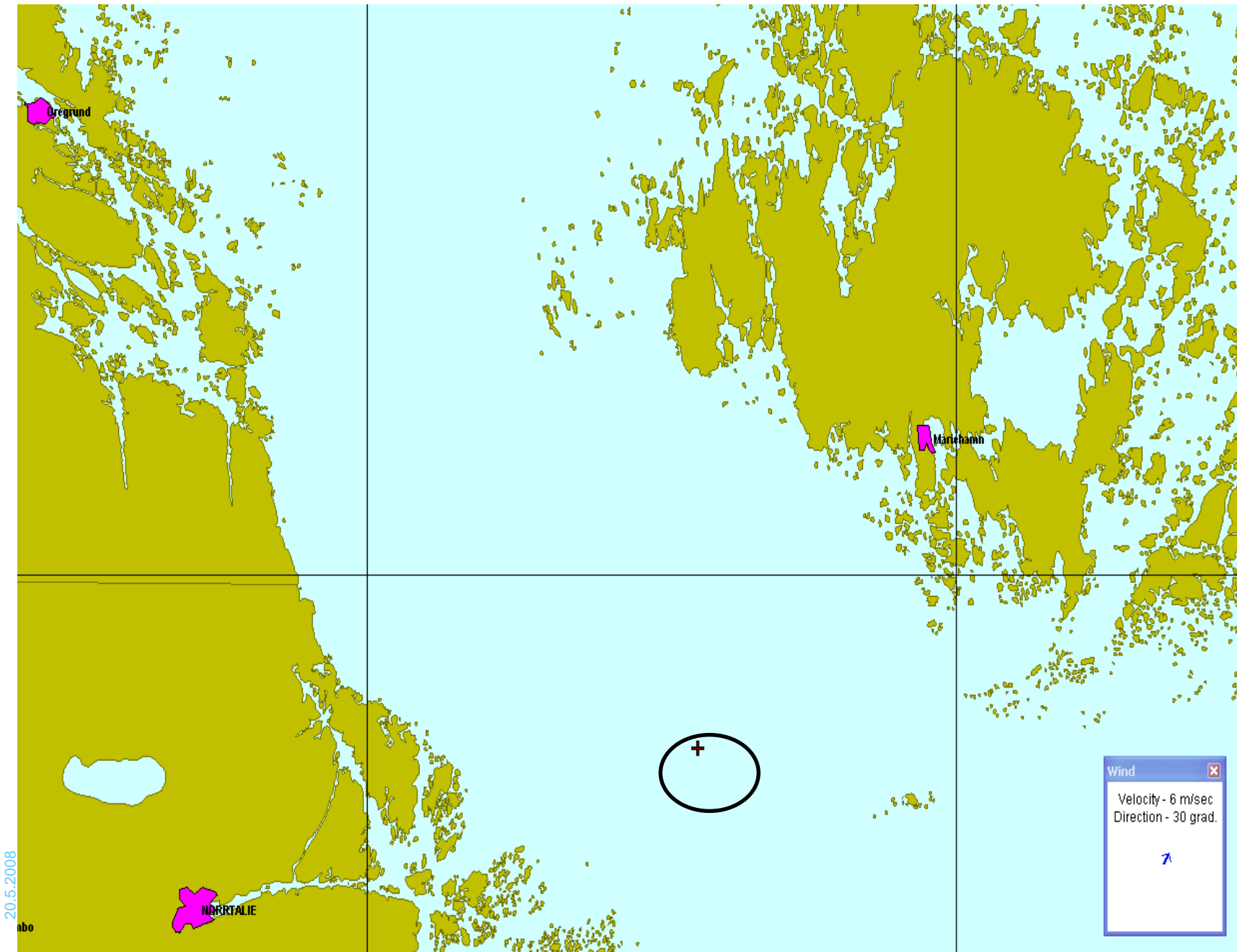
20.5.2008





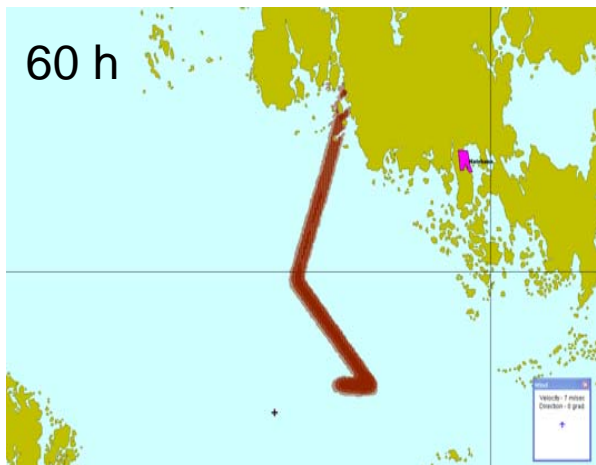
20.5.2008





20.5.2008

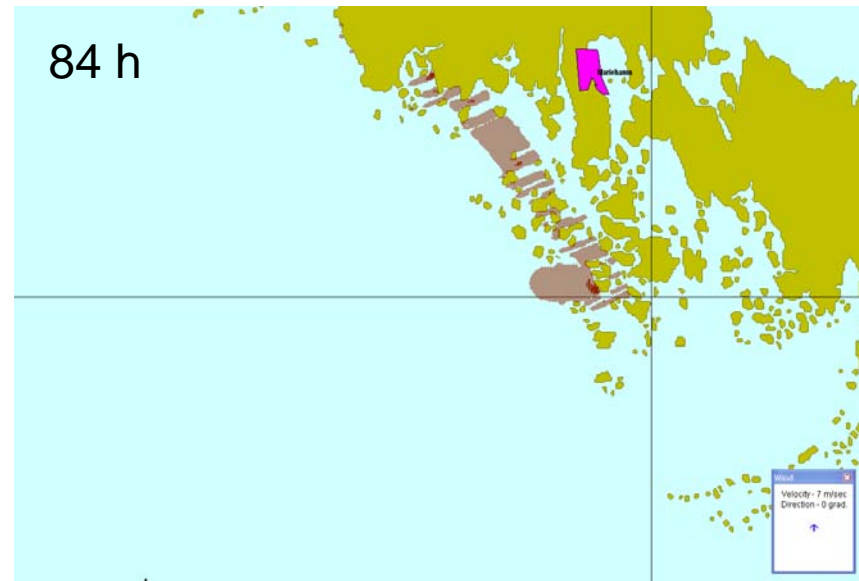
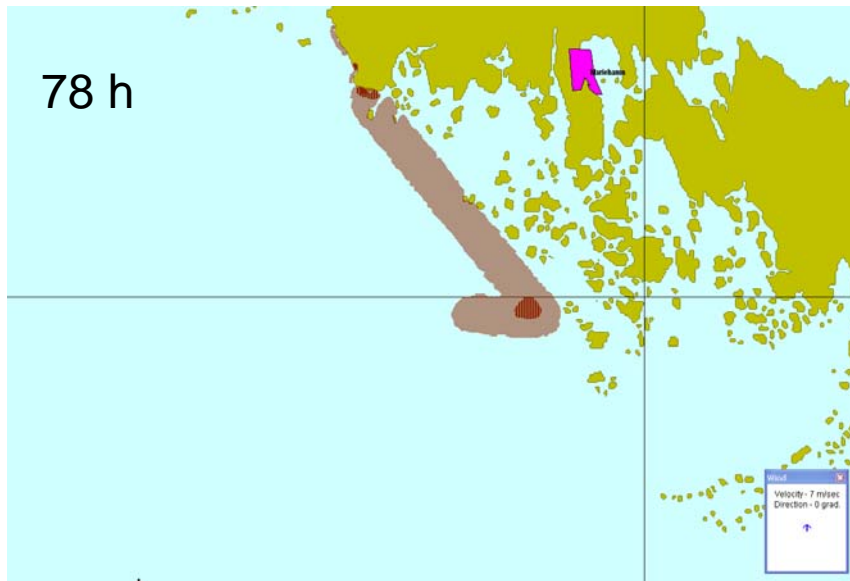
nbo



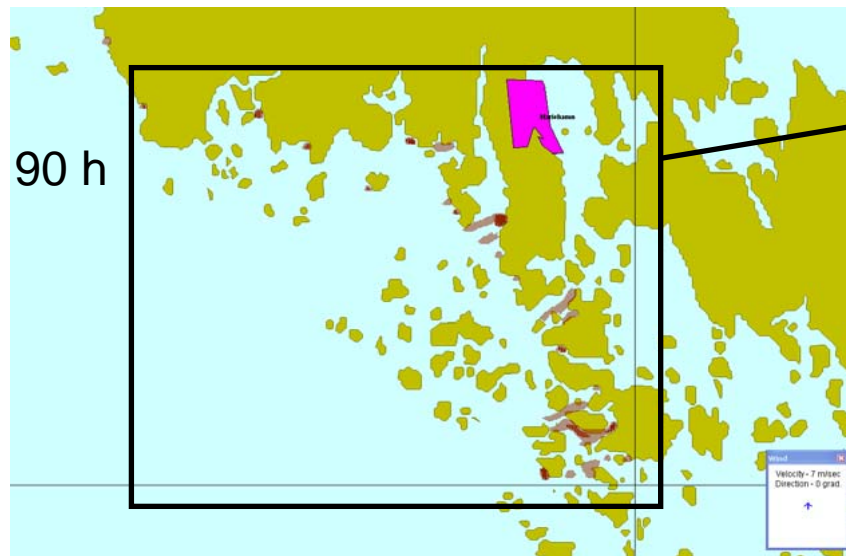
15 000 t 48 h aikana

20.5.2008



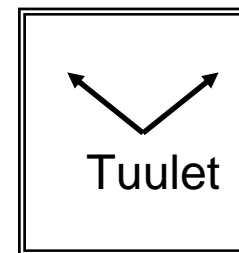
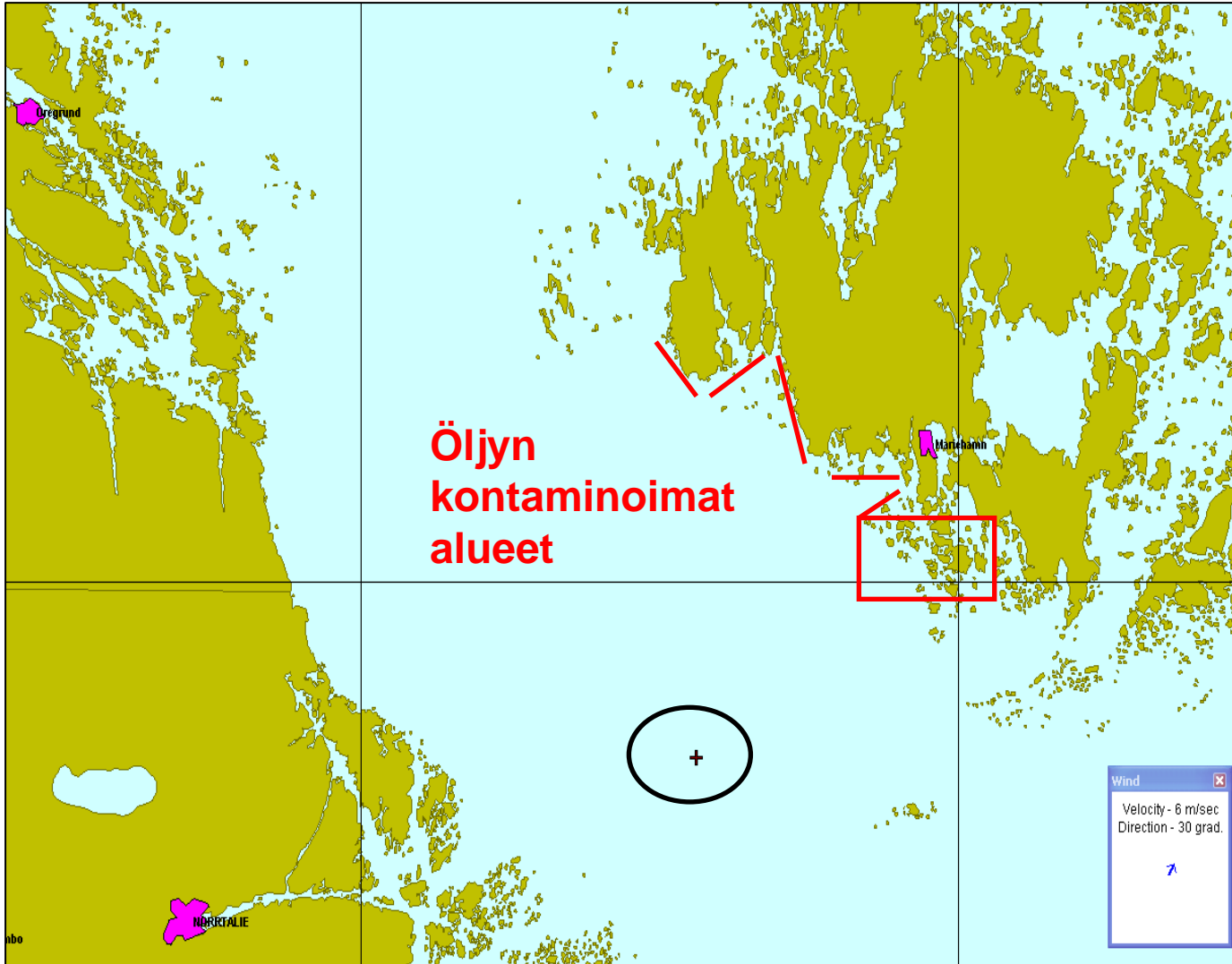


**15 000 t 48 h
aikana**



**Öljyn
massa
1150 t**

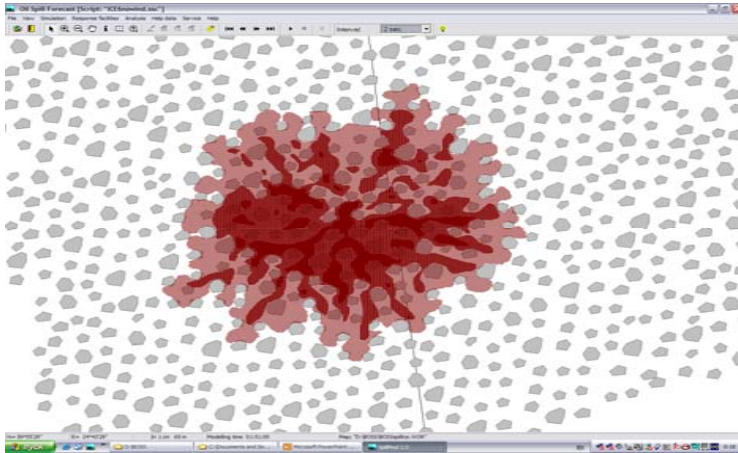
20.5.2008



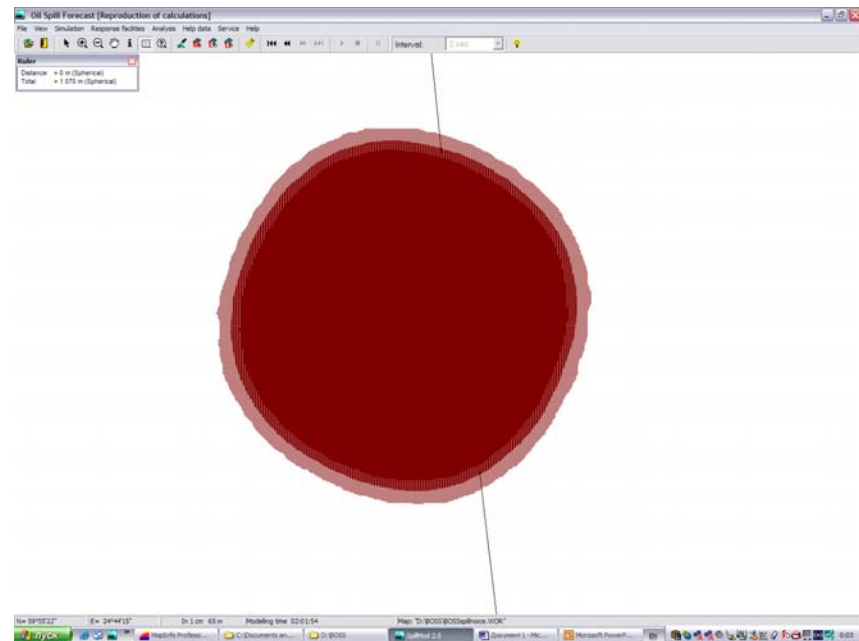
20.5.2008

Kehityskohteita

- Virtaukset
 - Ottaa nykyisellään huomioon tuulet
- Jäämallinnus



Ajojää / jääsohjo



Ei jäätä



20.5.2008



S Y K E