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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "VISIR: Technological infrastructure of an operational service for safe and efficient navigation in the Mediterranean Sea" *by* G. Mannarini et al.

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(In the following "NHESSD" stands for the paper under Review. When not specified, all other references to equations, figures, and tables are relative to the present document.)

General comments

After connecting to the online platform using the user credentials provided I can provide some more feedback about the system presented. VISIR is an impressive platform with several components, while its interface is user friendly and intuitive. From that aspect I

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Discussion paper

would consider it as an example of how science could provide services to the society.

–Authors' response:
We are glad that the Referee took the opportunity to evaluate more closely the VISIR application. As a matter of fact, it was both the TESSA project's and VISIR developers' aim to develop, out of the products of the fundamental research in operational oceanography, a user-friendly application for addressing societal needs.

Specific comments

A - *Some issues which could make the platform even more user-friendly are: (1) every time I was switching from one service to the other, I was asked to log in again; which in theory shouldn't be necessary;*

–Authors' response:
The Referee possibly refers to the fact that, starting from http://www.visir-nav.com, it is possible to switch to other services of the TESSA portfolio (Sea-Conditions, Witoil, Ocean-SAR, MarinEnvironment, Early Warning). Though they can be accessed via the same credentials used for VISIR, the user is required a to sign-on again at each service. A single sign-on for all TESSA applications is not directly related to the usability of VISIR and is thus a low priority feature in the current development roadmap of VISIR.

–Authors' changes to manuscript:
none.

B - *(2) VISIR was often not generating a route due to problems with the calculation area, automatically generated based on the origin and destination point. If I understood correctly that box sometimes can include land areas which are blocking sea access and the calculations fail. Then the user is asked to extend the bounding box something that makes the application less intuitive, and I assume there must be a way that the correct boundaries automatically so that an outcome is always generated.*

–Authors' response:
We are aware of the fact that the selection of the bounding box for route computation may require an extra interaction step by the end-user (see NHESSD, P9, rows 277-284). However, the bounding box is necessary, with the present algorithm and graph structure, for reducing the computational cost and thus, the waiting time for the end-user. The default bounding box may result to be inadequate for successful route computation because of one of the two reasons:

a) the marine domain encompassed by it is not connected (as correctly stated by the Referee);

b) the marine domain is connected, but there is no solution to the routing problem given the navigational safety constraints (see NHESSD, P4, rows 102-107)

Leaving to the end-user the choice of if and how to resize the bounding box certainly introduces a degree of subjectivity in the final results of the route computation. However, it is our experience that, after a few trials, the user easily learns how to do it in a conservative and still effective way. In fact, it is sufficient to obtain a result and then submit a new route with a larger bounding box; if there is no change in the results, convergence has been achieved.
Unfortunately, it was not possible during the frame of TESSA project to develop an automated way to resize the bounding box, and this is left to future improvements.

–Authors' changes to manuscript:
B1.
B1) On P9, row 282, to insert:
"Leaving to the end-user the choice of if and how to resize the bounding box certainly introduces a degree of subjectivity in the final results of the route computation. However, it is our experience that, after a few trials, the user easily learns how to do it in a conservative and still effective way. In fact, it is sufficient to obtain a result and then submit a new route with a larger bounding box; if there is no change in the results, convergence has been achieved."

C - *Apart from the application which is impressive, I insist on my previous recommendation that a manuscript published in NHESS should present, evaluate and discuss the scientific approach the routes are calculated, rather than the IT systems and environments the web interface was built.*

–Authors' response:
For this comment, we refer to our previous answer to the Referee: see Author's Comment #2.

–Authors' changes to manuscript:
none.

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