OIL SPILL MANAGEMENT RAPID RESPONSE SYSTEM

The developed project was structured in a way to provide operational assistance in intelligence to the intervention commander in the case of oil spills to rivers in Slovenia

Rapid response systems for the incident management are next generation tools in the field of civil protection and incident response which integrates the basic components: prevention, preparedness, response and mitigation. The way to achieve this is to integrate the decision making platforms used for all three stages of the civil protection in one, single and comprehensive decision support system.



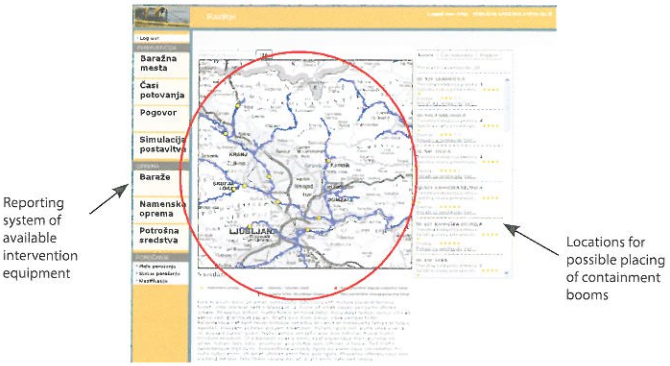
Integration of the pollution incident in the standard civil protection incident management framework

This approach was also a general framework of the national Slovene project BARAŽE 2012 contracted by the Ministry of Defence aiming at the efficient and effective containment measures in the case of oil spills on watercourses. Main measure in such cases is deployment of floating barriers, by which propagation of oil spills along the river is prevented and oil contained in defined space, where it could be abstracted, by oil skimmers or some absorptive substances.

In order to successfully apply those measures it is utmost necessary to:
1) Identify the locations on the hydrographical network where the conditions enable positioning of containment booms;
2) Assess the propagation time of the oil spill along the hydrographical network;
3) Manage the technical and human resources available for the containment of oil spills;
4) Prepare and co-ordinate the rules of engagement of different measures for the containment of oil spills;
5) Establish good information exchange programme.

The integrated contents have been developed as an internet application which is in the civil-protection cycle usually used as a planning tool, which transforms into intelligence DSS for the decision making during an intervention.

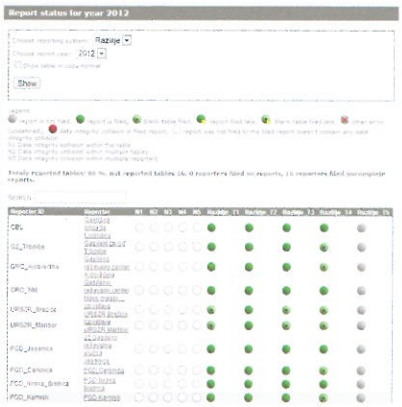
The main integrating framework is the hydrographic network of rivers. On the determined hydrographic network, approximately 100 locations have been considered as priority locations for the oil spill containment on the watercourses.



Integrative internet application showing main GIS window, reporting system, and data on locations of possible placing of containment booms

Important information in the development of adequate intervention response is propagation time of the oil spill. For this purpose one-dimensional hydraulic model SIPOREK was developed. The rapid response system is connected to the online information on discharges which is operated by the Slovenian Environment Agency for the purpose of the identification of propagation time along the river network.

For the efficient and effective intervention response active information on available resources is of key importance and a special reporting system has been developed for this purpose.



Overview site for the reporting system providing information on the efficiency of the reporting

The developed project was structured in a way to provide operational assistance in intelligence to the intervention commander in the case of oil spills to rivers in Slovenia. Its operation was tested on several occasions within the project. It was recognized that the major threat to the system is actual sacristy of the pollution events and therefore the units might, with a time, not be skilled to its use. Therefore we recognize a special importance in continuous training in the use of the rapid response system and actual positioning of containment measures.

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