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UNEP-PNUE

**REGIONAL MARINE POLLUTION EMERGENCY  
RESPONSE CENTRE FOR THE MEDITERRANEAN SEA (REMPEC)**

**CENTRE REGIONAL MEDITERRANEEN POUR L'INTERVENTION  
D'URGENCE CONTRE LA POLLUTION MARINE ACCIDENTELLE (REMPEC)**

**MEDITERRANEAN ACTION PLAN  
PLAN D'ACTION POUR LA MEDITERRANEE**



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**USER'S GUIDELINES**

**ACCIDENTS DATABASE AND**

**GEOGRAPHICAL INFORMATION SYSTEM**



**REGIONAL INFORMATION SYSTEM / PART C / SECTION 2**

**2010**

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## 1. INTRODUCTION

The database on alerts and accidents in Mediterranean Sea, the associated documents and Geographical Information System (GIS) have been prepared by the Regional Marine Pollution Emergency Response Centre for Mediterranean Sea (REMPEC), as a contribution to the implementation of the “Protocol concerning Cooperation in Prevention pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea”.

The database, the associated documents and GIS aims at providing competent authorities of the Contracting Parties to 1976 Emergency Protocol and of the 2002 Prevention and Emergency Protocol, as well as other interested parties with a set of data on accidents in the Mediterranean, which should be used in conjunction with other data such as those relating to maritime transportation of oil and chemical substances, to identify more precisely the risk of accidental pollution and subsequently to facilitate taking appropriate measures concerning preparedness and response at both national and regional levels.

These guidelines aim at explaining how to use the features of the REMPEC online database and of the Geographical Information System (GIS).

## 2. BACKGROUND

In February 1976, the coastal States of the Mediterranean region, by adopting the Protocol Concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency, committed themselves *inter alia* to inform each other, either directly or through the Regional Centre, of all accidents causing or likely to cause pollution of the sea by oil or other hazardous substances and of the presence of spillages observed at sea, as well as of their assessments and actions taken to respond to the pollution and the evolution of the situation. The same commitment remained in the new Protocol concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea, adopted in January 2002.

According to the Guidelines for Co-operation in Combating Oil Pollution (adopted in 1987) the Contracting Parties should report to the Regional Centre, at least all spillages or discharges of oil in excess of 100 cubic metres, as soon as they have knowledge of them.

The Centre started collecting data on oil spills and accidents likely to cause spillages of oil in the Mediterranean in August 1977. Since 1988 this information has been complemented with the information on incidents involving hazardous and noxious substances (HNS) other than oil, and since 1989 all such information recorded at REMPEC has been stored in the Centre's database, which has been revised and modified several times. Information regarding both accidents involving oil or other hazardous and noxious substances in Mediterranean Sea are kept in a single database.

Very often REMPEC is requested by various regional institutions, media and individuals for data that could be extracted from the database maintained and updated by REMPEC. The previous structure of the database did not allow its placing on the REMPEC website, and therefore each such request had to be dealt individually by the Centre. The present application gives public access to any party looking for information on accidents in the Mediterranean Sea at any time directly from REMPEC's website.

### 3. CONTENT AND ABBREVIATIONS

The database is regularly updated. The information on each event recorded in the database includes information on the date and place of the spill or accident, the ship(s) or installation(s) involved, the source of information, the type and quantity of pollutant, a brief description of the accident and, when available, of actions taken and consequences of the accident.

There is a large number of shipping accidents that occur in the Mediterranean every year and REMPEC is regularly informed of these through Lloyd's Casualty Reporting Services (LCRS), Lloyd's List, its national Focal Points or through other sources. Since the majority of such accidents neither results in pollution of the sea nor poses any risk of marine pollution, the lists included in the present document record only the accidents that **actually caused pollution of the Mediterranean Sea by oil or other hazardous and noxious substances (HNS) or were likely to cause it**. The accidents that have been included in the list include those that satisfy one or more of the following criteria:

- Accident happening in the Mediterranean Sea as defined in the Barcelona Convention. Mediterranean Sea is bounded to the west by the meridian passing through Cape Spartel lighthouse, at the entrance of the Straits of Gibraltar, and to the east by the southern limits of the Straits of the Dardanelles between the Mehmetcik and Kumkale lighthouses;
- Accident involving any type of ship, which actually resulted in an oil spill, a spill or release of a hazardous and noxious substance, or in a loss or damage to a container containing HNS;
- Accidents on land (terminals, storage tanks, pipelines, industries, power plants, etc.) that resulted in entry into the sea of oil or HNS;
- Accident involving one or more oil tankers or chemical tankers (either laden or not);
- Collisions, groundings or other accidents causing serious damage to the ships involved, in particular if these carried or could carry significant quantities of fuel oil as bunkers;
- All accidents involving sinking of vessels that had on board any quantity of oil as bunkers;
- All accidents involving sinking of vessels that carried HNS as cargo (either in bulk or in packaged form);

The alerts and accidents in Mediterranean Sea data are available in different versions:

- On-line database ;
- Report containing the data and statistical analysis; and
- A Geographical Information System (GIS).

From the **on-line database**, accidents can be sorted by:

- date;
- accident location (country);
- vessel type; and
- release quantity and type.

In order to enable database users to use the information in a personalized manner, the application enables the end user to export data, entirely or partly after a query, in different formats (.pdf, .doc, .csv).

The information contained in the alerts and accidents database are also reported in the « **List of Alerts and Accidents in the Mediterranean** » which forms the Section 2 of Part C of the Regional Information System (RIS). The publication includes an explanatory introduction to the different elements of the accident reports and a statistical analysis, for accidents occurring since 1977.

Moreover, the geographic coordinates for each accident enabled to represent, at a regional scale, the distribution of the accidents in the Mediterranean Sea using a **geographic information system** (GIS).

For presentation purposes, field names vary from the application versions to report versions. Terms and abbreviations are described and developed in the following table.

<b>Applications</b>	<b>Reports</b>	<b>Descriptions</b>																				
Date	Accident Date	<b>Day /month / year</b> of the accident.																				
Latitude Longitude	LAT LONG Position	<b>Geographical coordinates</b> of the position in which the accident occurred, presented in this document are only approximate and are to be considered only as a rough guidance. In some cases, due to lack of precise coordinates, and based on the information received, REMPEC assigned approximate coordinates to the place of accident, in order to georeference it.																				
Country of Accident Accident location	Country Location	Indicates the <b>name of the nearest point on land, port, island, cape, bay</b> , etc., and the <b>country</b> whose territorial waters were concerned or nearest to the site of the accident.																				
Accident Type	Accident Type	Indicates the <b>type of accident</b> that caused or was likely to cause the pollution.																				
		<table border="0"> <tr> <td>Cargo transfer failure</td> <td>Problem during transfer of cargo.</td> </tr> <tr> <td>Collision</td> <td>Contact between two ships.</td> </tr> <tr> <td>Contact</td> <td>Contact between a ship and another object.</td> </tr> <tr> <td>Engine breakdown</td> <td>Breakdown or malfunctioning of the ship's main (propulsion) engine.</td> </tr> <tr> <td>Fire/explosion</td> <td>Fire and/or explosion on board a ship.</td> </tr> <tr> <td>Foundering/weather</td> <td>Sinking of a ship (due to adverse weather conditions).</td> </tr> <tr> <td>Grounding</td> <td>Grounding</td> </tr> <tr> <td>Hull structural failure</td> <td>Accident caused by structural failure of a ship's hull.</td> </tr> <tr> <td>Machinery breakdown</td> <td>Breakdown or malfunctioning of any vital piece of ship's machinery other than propulsion engine.</td> </tr> <tr> <td>Other</td> <td>Any other type of accident resulting in pollution of the sea (spills from land resulting in marine pollution, pipeline leakages, hose failures, war operations, etc.).</td> </tr> </table>	Cargo transfer failure	Problem during transfer of cargo.	Collision	Contact between two ships.	Contact	Contact between a ship and another object.	Engine breakdown	Breakdown or malfunctioning of the ship's main (propulsion) engine.	Fire/explosion	Fire and/or explosion on board a ship.	Foundering/weather	Sinking of a ship (due to adverse weather conditions).	Grounding	Grounding	Hull structural failure	Accident caused by structural failure of a ship's hull.	Machinery breakdown	Breakdown or malfunctioning of any vital piece of ship's machinery other than propulsion engine.	Other	Any other type of accident resulting in pollution of the sea (spills from land resulting in marine pollution, pipeline leakages, hose failures, war operations, etc.).
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Information Source Source Country Source Other Info	SourceType Source Country Other Info	Indicates the <b>origin of the first information</b> on the accident received by REMPEC. Sources of information are listed as:																				

Focal point/country	The Focal Point of REMPEC in the country affected by the accident or close to the site of it.
Lloyd's (LCRS)	Lloyd's Casualty Reporting Service.
Lloyd's list	Lloyd's List.
Media	TV, radio, newspapers (except Lloyd's List).
OSIR	Oil Spill Intelligence Report.
Other National Authorities	Another national authority of the country affected by the accident or close to the site of it.
Vessel	The vessel involved in the accident or informed of it.
Others	Any other source of report or information.

IMO Number      Vess IMO Num      Indicates **IMO identification number** with seven digits, proper to each vessel, assigned during its building. It allows an efficient follow-up of the changes in vessel name, flag, etc. Warships, barges, fishing vessels, and pontoons do not have assigned IMO numbers in the database.

Vessel name      Vessels Involved      Indicates the **names of vessel(s)** that were involved in the accident. With exception of collisions, in all other types of accidents the name of only one vessel appears under "vessels involved". If the source of spill was a tank, pipeline or another installation on land this space was left blank.

Vessel Type      Vessels Type      Indicates the **type of vessel(s)** involved in the accident. The following terms, used by the Lloyd's, have been utilized in the applications and associated documents:

Any other type	LNG carrier	Ro-ro (roll-on/roll-off)
Barge	LNP carrier	Ro-ro Container carrier
Bulk carrier	LPG carrier	Salvage Tug
Chemical tanker	Oil tanker	Supply vessel
Container carrier	Oil/bulk/ore	Tug boat
Ferry	Passenger ship	Tug supply
General cargo	Passenger Ro-ro ship	Unknown

Flag      Flag      **Flag** of the country in which the ship was registered. The flag abbreviations of the countries' names used in the database and associated documents are those used in the Lloyd's Maritime Directory:

Only flags pointed in the database are detailed in the following list :

ALB	Albania	IRQ	Irak
ANT	Netherlands Antilles	ISR	Israel
ATF	French Southern Territories	ITA	Italy
ATG	Antigua and Barbuda	JPN	Japan
AZE	Azerbaijan	KHM	Cambodia
BGR	Bulgaria	KWT	Kuwait
BHS	Bahamas	LBN	Lebanon
BLZ	Belize	LBR	Liberia
BMU	Bermuda	LBY	Libya
BRB	Barbados	MAR	Morocco
CHN	People's Republic of China	MCO	Monaco
COM	Comoros	MHL	Marshall Islands
CNI	Canary Islands	MLT	Malta
CYM	Caymans Islands	NIS	Norwegian Int. Reg.
CYP	Cyprus	NLD	Netherlands
DEU	Germany	NOR	Norway
DIS	Danish Int. Register	PAN	Panama
DNK	Denmark	PHL	Philippines
DZA	Algeria	PMD	Madeira
ROM	Romania	PRK	People's Republic of Korea
EGY	Egypt	RUS	Russia
ESP	Spain	SAU	Saudi Arabia
FRA	France	SGP	Singapore
GBR	United Kingdom	STP	Sao Tome & Principe
GEO	Georgia	SVN	Slovenia
GIB	Gibraltar	SWE	Sweden
GNQ	Equatorial Guinea	SYR	Syria
GRC	Greece	TON	Tonga
HKG	Hong Kong	TUN	Tunisia
HND	Honduras	TUR	Turkey
HRV	Croatia	TUV	Tuvalu
HUN	Hungary	URY	Uruguay
IND	India	USA	United States of America
IOM	Isle of Man	VCT	St. Vincent & Grenadines
IRN	Iran	YUG	Yugoslavia

Year of Built	Year Built	Indicates the <b>year</b> in which the ship was built.																																		
DWT GT	DWT GT	Indicates the <b>metric deadweight tonnage</b> of the ship. Indicates the <b>gross tonnage</b> of the ship.																																		
Cargo Type	Cargo	Indicates the <b>type of cargo</b> carried by the ship at the time of accident (when available). The following terms have been used in the database and associated documents :																																		
		<table border="0"> <tr> <td>Bulk</td> <td>Any products carried in bulk</td> </tr> <tr> <td>Chemicals/gas</td> <td>Any HNS carried as cargo</td> </tr> <tr> <td>Containers</td> <td>Products carried in container</td> </tr> <tr> <td>Crude oil</td> <td>Crude oil</td> </tr> <tr> <td>Empty</td> <td>Vessel empty of cargo at the time of accident</td> </tr> <tr> <td>Fuel oil</td> <td>Motor fuel oil</td> </tr> <tr> <td>Gas</td> <td>Gaseous products</td> </tr> <tr> <td>Gas oils</td> <td>Gas oils of various grade</td> </tr> <tr> <td>Gasoline</td> <td>Gasoline</td> </tr> <tr> <td>In ballast</td> <td>Vessel in ballast at the time of accident</td> </tr> <tr> <td>Kerosene</td> <td>Kerosene</td> </tr> <tr> <td>Liquid chem in bulk</td> <td>Liquid chemical products carried in bulk</td> </tr> <tr> <td>Oil</td> <td>Crude, fuel, or unspecified oil carried in bulk</td> </tr> <tr> <td>Packages</td> <td>Goods in packaged form, such as containers, drums, etc.</td> </tr> <tr> <td>Solid</td> <td>Solid material carried in bulk</td> </tr> <tr> <td>Other</td> <td>Other type of cargo</td> </tr> <tr> <td>Unknown</td> <td>Unknown cargo</td> </tr> </table>	Bulk	Any products carried in bulk	Chemicals/gas	Any HNS carried as cargo	Containers	Products carried in container	Crude oil	Crude oil	Empty	Vessel empty of cargo at the time of accident	Fuel oil	Motor fuel oil	Gas	Gaseous products	Gas oils	Gas oils of various grade	Gasoline	Gasoline	In ballast	Vessel in ballast at the time of accident	Kerosene	Kerosene	Liquid chem in bulk	Liquid chemical products carried in bulk	Oil	Crude, fuel, or unspecified oil carried in bulk	Packages	Goods in packaged form, such as containers, drums, etc.	Solid	Solid material carried in bulk	Other	Other type of cargo	Unknown	Unknown cargo
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Release Status	Spilled	Indicates whether there was a spill. Terms “spilled”, “none” and “unknown” respectively state that there was a spill, there was no spill, or that the state of the release is unknown																																		
Type of Release Product Released Form of Release	Product Released	« Type of Release » indicates the <b>type of product</b> (oil or HNS), « Product Released » <b>the source of the pollution with respect to the vessel involved itself</b> (cargo, ballast, etc.), and « Form of Release » <b>the pollutant category</b> (fuel, gasoil, etc.). In the reports, these three specifications are gathered in the same category « Product Released » and separated by « / ».																																		

Pollutant Name	Pollutant Name	Indicates <b>the pollutant name</b> .
		Several significant examples used in the database and associated documents are listed below :
	Cargo / crude oil - type	Indicates that the accident resulted in the release of “crude oil” carried as cargo. The type of crude oil is also specified whenever known, and when not it is described as “UNSPECIFIED”.
	Cargo / fuel oil - type	Indicates the spillage of “fuel oil” carried as cargo. The type of fuel oil is also specified when known; otherwise it is described as “UNSPECIFIED”.
	Cargo / Refined oil product	Indicates the spillage of a “refined oil product carried as cargo, with the type of product specified when known.
	Bunkers / type	Indicates the spillage of ships fuel (bunkers), with the type of the fuel specified when known.
	Bilges	Indicates the release of bilge waters from a ship.
	Ballast	Indicates the release of dirty ballast waters.
	Cargo tank washings	Indicates the release of residues from the washing of cargo tanks.
	Slops	Indicates the release of “slops”.
	Lubricant	Indicates the release of lubricating oil.
	Other oily wastes	Indicates the release of any other type of not specified oily wastes.
	Unknown	Indicates that information on the type of spilled oil was not reported to REMPEC.
Release Quantity	Quantity	Refers to the quantity of product (pollutant) actually spilled or released, given in metric tonnes if not otherwise specified. Since in the reports received by REMPEC the quantity of the product that was actually spilled was not always precisely reported the figures included in the database and associated documents should be considered as <b>approximate</b> . To all spills that were defined as “minor”, or when a quantity was described as “small” or similar, REMPEC assigned under this heading the value of <b>1 (one) metric tonne</b> . When there was no indication of the quantity spilled in a certain accident the value is given as UNKNOWN.
Response Remarks	Response Remarks	A brief description of actions taken as a response to the accident and/or spill. Other relevant information such as description of the accident, actions taken by REMPEC (up to 1990 ROCC), etc.

## 4. DATABASE

The figure 7 illustrates the database main window.

The screenshot displays the REMPEC (Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea) online database interface. At the top, the REMPEC logo and name are visible, along with the date 'Monday, September 24, 2007'. Below the header, there is a search section with the following filters:

- Date Range
- Country of Accident
- Vessel Type
- Release Quantity Range
- Accident Type

The main content area is divided into two sections:

**(b) Accidents**  
 Accident 1 of 471

Reference Number:	1	Information Source:	TV, radio, newspapers (except Lloyd's List).
Accident Date:	Saturday, August 13, 1977	Response:	94T OF FINASOL USED TO DISPERSE THE SPILL IN ADDITION TO CONTAINMENT AND RECOVERY ON SHORE AND IN PORT.
Latitude:	35.35	Remarks:	SPILL PARTLY DISSIPATED, PARTLY EVAPORATED. NO IMPACT AS CLEANUP SUCCESSFUL. REPORT RECEIVED FROM ITALIAN AUTHORITIES IN OCT. 77.
Longitude:	16.11 East	Total Vessels Involved:	2
Country of Accident:	Italy		
Accident Type:	Contact between two ships.		
Accident Location:	S.E. SICILY		
Other Accident Info:			

Move to Accident:  >>

**(c) Vessels**  
 Vessel 1 of 2

Reference Number:	Label	Release Status:	Spilled
IMO Number:	0	Release Type:	Oil
Name:	AGIP VENEZIA	Product Released:	Cargo
Type:	Oil tanker	Release Form:	Crude Oil
Flag:	ITA	Pollutant Name:	AMNA (HIGH POUR)
DWT:	52127	GRT:	30696
Year of Build:	1961	Quantity Released:	5000 t
Cargo Type:	UNKNOWN		

Export to Doc | Export to Excel | Export to Pdf

Download Windows version of this database (Requires .NET Framework 1.1)

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Figure 1 : On line database interface

The online database includes a search tool on the top of the page (a).

General information about the accident (b) and data regarding the involved vessel(s) (c) are displayed in the same page.

Reports can be exported using the buttons (d), (e) and (f), according to the required format (.doc, .csv, or .pdf).

The search tool enables to sort the information by:

- « Accident Date » : Enables to select a period between two precise dates;
- « Country of Accident » : Enables to select the accident country amongst 24 Mediterranean countries (with their current or former name);
- « Vessel Type » : Enables to select the type of vessel involved;
- « Release Quantity Range » : Enables to select a range of values in tonnes for the release quantity; and
- « Accident Type » : Enables to sort by potential type of release, oil or hazardous and noxious substances (HNS).



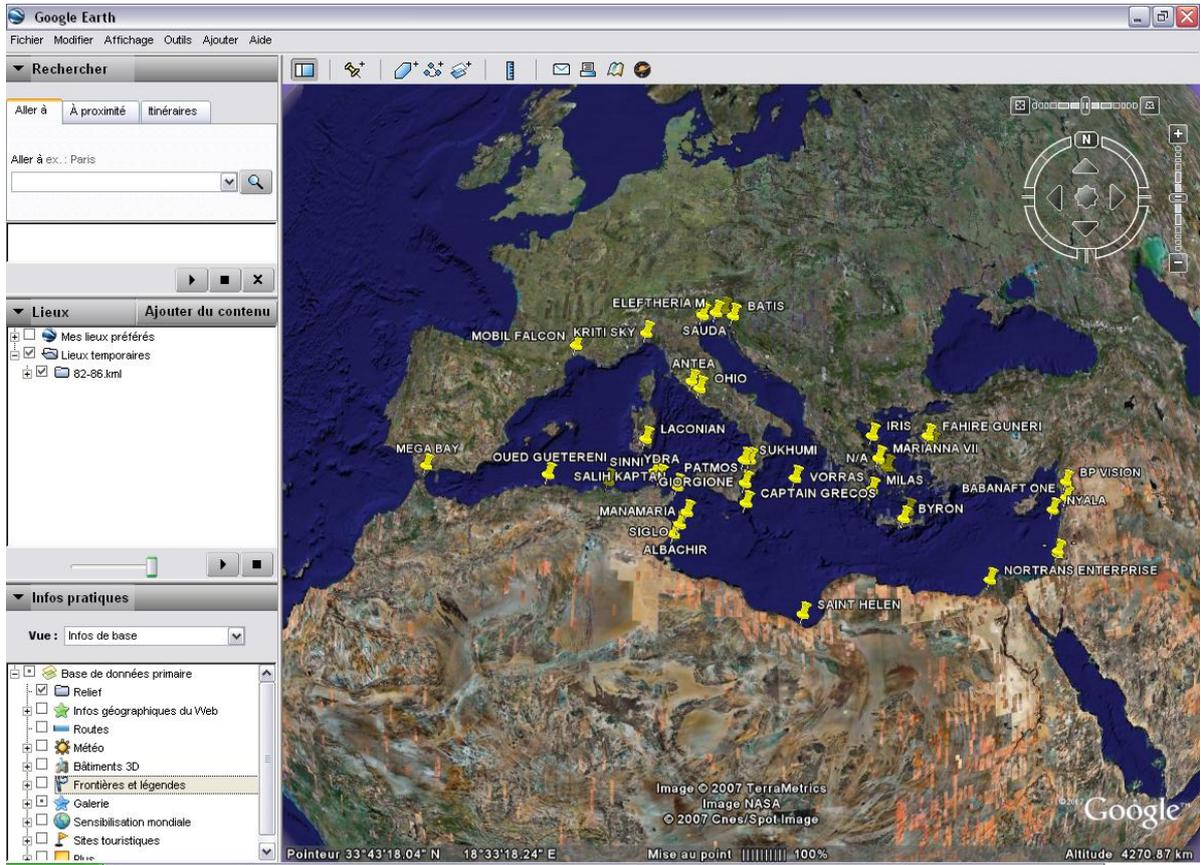


Figure 3: example of accidents distribution visualized with Google Earth

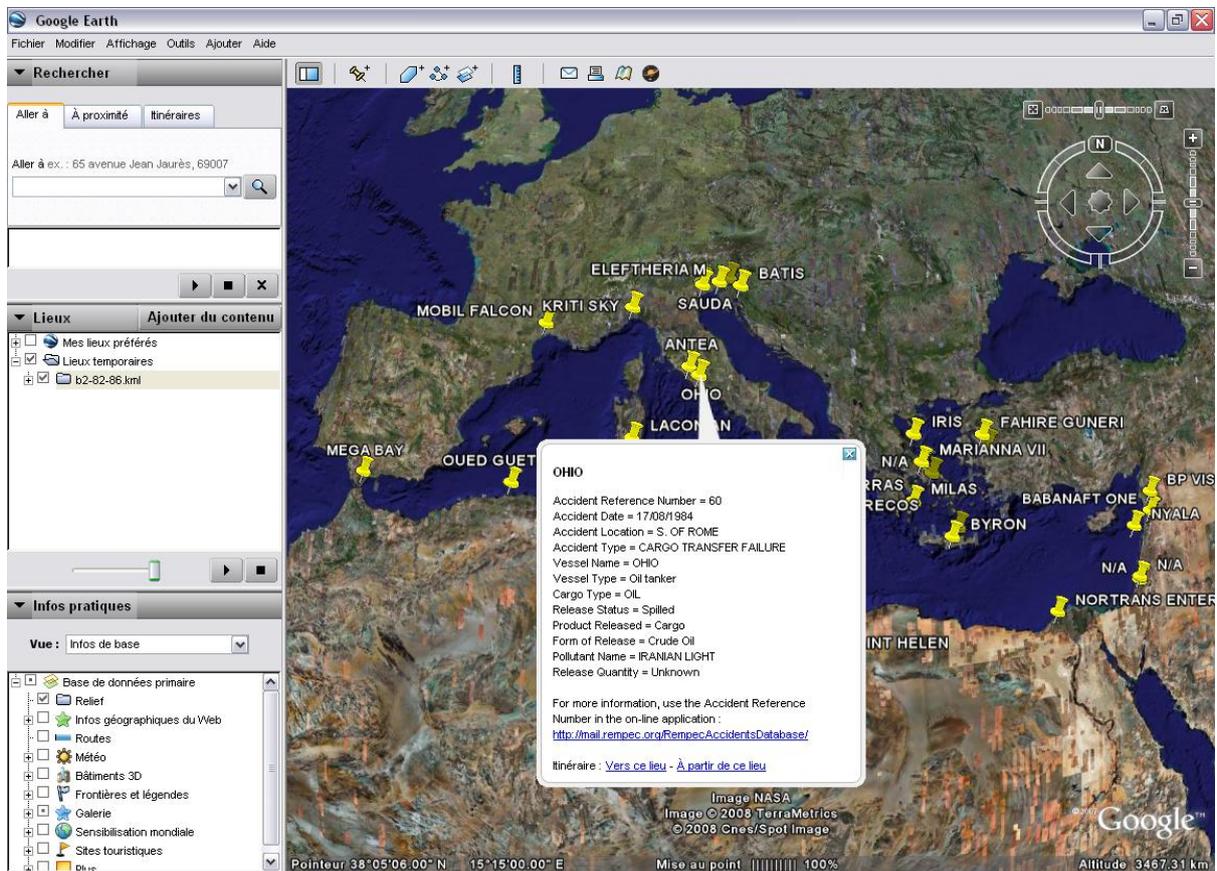


Figure 4 : Example of brief accident description