



Applying Open Standards in Oil Spill Responses

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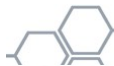
OGC at a glance



- Founded in 1994, not for profit, consensus based and voluntary
- 475+ member organisations (industry, government, academia) (Feb 2014)
<http://www.opengeospatial.org/ogc/members>
- 23 staff members
- 35+ adopted OGC Standards (some are ISO Standards)
<http://www.opengeospatial.org/standards>
- Several hundred software products, implementing OGC Standards
<http://www.opengeospatial.org/resource/products>
- Broad user community worldwide, many policy positions for NSDI based on OGC standards
- Multi-disciplinary (aviation, defence, hydrology, metoceans, 3D, IoT etc)
<http://www.opengeospatial.org/projects/groups/wg> and <http://www.opengeospatial.org/projects/groups/swg>
- Cooperation with other standards organisations and foundations, ISO/TC 211, OSGeo, W3C, OASIS and others <http://www.opengeospatial.org/ogc/alliancepartners>

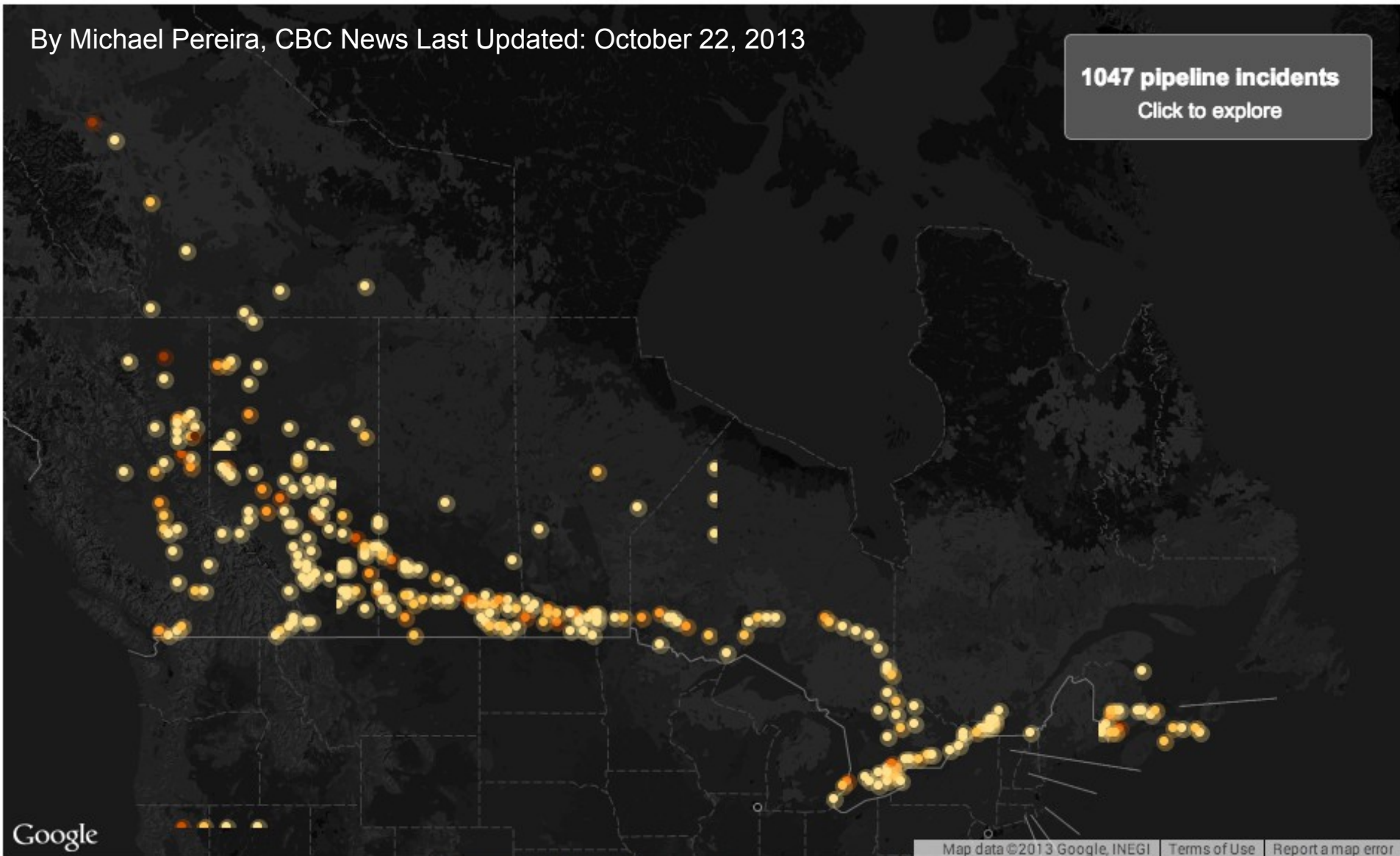
Pipeline map: Any incidents near you?

From small to large-scale spills to fires, explosions & worker deaths



By Michael Pereira, CBC News Last Updated: October 22, 2013

1047 pipeline incidents
Click to explore



Deepwater Horizon – Gulf of Mexico, April 2010



Oil Industry Response to Deepwater Horizon



- Oil and Gas Producers (OGP) formed a 3-year Joint Industry Project (JIP) funded by oil industry members.
- Oil Spill Response JIP managed by IPIECA for OGP based on its long-standing experience with Oil Spill Response
- OSR JIP composed of several Work Programs (Wps)
 - WP1 - In-Water Surveillance
 - WP2 - Surface Surveillance
 - WP3 - Modelling & Prediction
 - WP4 - Metocean Databases
 - WP5 - GIS/Mapping and Common Operating Picture



<http://oilspillresponseproject.org/>

OSR JIP WP5

GIS/Mapping and Common Operating Picture



- Produce a Recommended Practice for GIS/Mapping
 - Support of Oil Spill response using of GIS technology
 - Geo-information in a “Common Operating Picture” for management of the response
- OGP and IPIECA choose OGC and RDI to lead an open process to develop a recommended practice based on open standards
- The OGC Interoperability Program
 - An essential part of OGC’s fast, effective, inclusive user-driven process to develop, evolve, test, demonstrate and promote OGC Standards.

OGC IP Introduction



Link to Video: <http://www.opengeospatial.org/ogc/programs/ip>



OGC Concept Development



- Initiative to assess emerging technologies & architectures to support interoperability initiatives and open standards.
- Process
 1. Request for Information (RFI)
 - Wide request for input on relevant technologies and open standards
 - RFI contains draft Recommended Practice
 2. Engineering Workshops
 - Workshop to discuss and advance the concepts in the RFI
 - Workshop participants selected from the RFI Responses
 3. Reference Architecture and Feasibility Report
 - Engineering Report of open standards and architecture views
 - Describe implementations indicating feasibility and maturity



OGP/IECA Oil Spill Response COP Concept Development

OGP-IPIECA Oil Spill Response COP



- Oil Spill Response Common Operating Picture
 - Request for Information (RFI) – Responses due 30 October 2013
 - Engineering Workshops – Dec 2013 in UK, January 2014 in USA
 - Prepare a Reference Architecture and Feasibility Report, 2014
- Team
 - OGP (International Association of Oil and Gas Producers)
 - IPIECA (Global oil and gas association for environmental and social issues)
 - Resource Data Inc. (RDI)
 - OGC

Common Operating Picture

Type of Equipment	Equipment purchased to Date	Amount of equipment left in good service
Booms, Skowline (in metres)	8,200	7,410
Booms, Offshore (in metres)	2,200	4,200
Skowline, Offshore and Skowline (units)	0	153 (various)
Aerial Dispensant Spraying Capability	1	<ul style="list-style-type: none"> 1 x Hercules aircraft 1 x Aerial Dispensant Systems for Hercules 1 x UNCS aircraft with spraying capacity 1 x BACAT aircraft All stock available
Dispensants	0	
Vessel mounted dispensant spraying capability	2	11
Fluorometers (for monitoring the effectiveness of dispensant spraying)	2	1

Oil Containment & Recovery Data



Location and Status of Response Assets



Procurement Status



Spend & Payment Tracking



Claims and Recovery



Resource ETA & Capability



Aerial Surveillance & Control



Response Objectives and Tactics

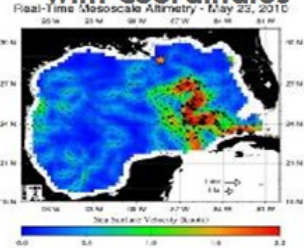


Spill Trajectory Modelling

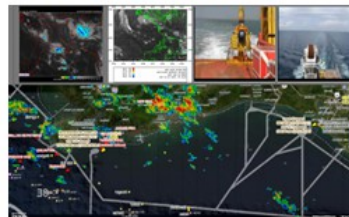
ROV Data & Imagery



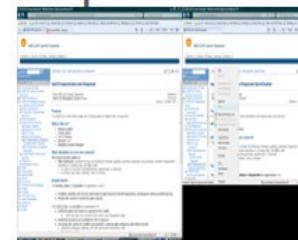
Satellite Imagery with Coordinates



Map Overlays & Video Feed



Situation Status Reports



Sensitive Areas Protection Plan



RFI Candidate definition of OSR COP



- **A COP is established and maintained by gathering, collating, synthesizing, and disseminating of incident information to all appropriate parties involved in an incident.**
- Achieving a COP allows on–scene and off–scene personnel to have the same information about the incident, including the availability and location of resources, personnel, and status of requests for assistance.
- Additionally, a COP offers an overview of an incident thereby providing incident information which enables the Incident Commander (IC), Unified Command (UC), and supporting agencies and organizations to make effective, consistent, and timely decisions.
- In order to maintain situational awareness, communications and incident information must be updated continually.
- Having a COP during an incident helps to ensure consistency for all emergency management/response personnel engaged in an incident.

Common Operating Picture

Type of Equipment	Equipment purchased to Date/Year	Amount of equipment left in good service
Booms, Skimmers (in metres)	8,200	7,410
Booms, Offshore (in metres)	2,300	4,200
Skimmers, Offshore and Shoreline (units)	0	153 (on-site)
Aerial Dispenser Spraying Capability	1	<ul style="list-style-type: none"> 1 x Hercules aircraft 1 x Aerial Dispenser Systems for Hercules 1 x LINCOS aircraft spraying capacity 1 x BACAT aircraft (all stock available)
Dispensers	0	
Vessel mounted dispersant spraying capability	2	11
Fluorimeters (for monitoring the effectiveness of dispersant spraying)	2	1

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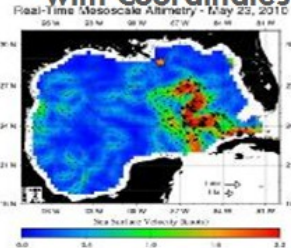


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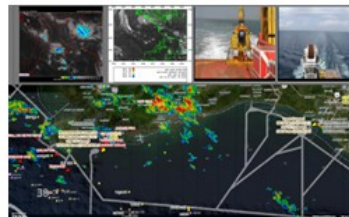
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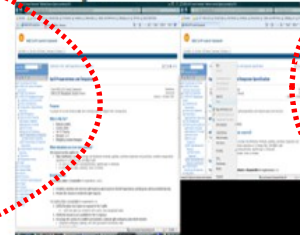
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Sensitive Areas Protection Plan



Oil Spill COP Workshops

presentations: <http://www.opengeospatial.org/projects/initiatives/ogpoilspill>



- Objectives of the Stakeholder Workshops:
 - Review responses to the Request for Information
 - Engage the stakeholder community in discussion
 - Refine the focus for the Recommended Practice

UK Workshop

- December 19, 2013
- Hosted by ExxonMobil,
- Leatherhead, England.
- 47 people registered

US Workshop

- January 9, 2014
- Hosted by Shell
- Houston, Texas.
- 68 people registered

Responses to the Oil Spill COP RFI



- ASA Science
- Astrium
- EMSA
- ERM
- Esri
- Finland SYKE
- GeoCento
- Jacobs Univ.
- IHO
- MDA
- MWCC
- NOAA ERMA
- Oceaneering
- Primal Innovation Tech
- SINTEF
- Terradue
- Witt Obriens
- 34 North

Oil Spill COP Recommended Practice



- By March 2014: Recommended Practice Outline – based on RFI
 - Enterprise Viewpoint (COP Definition, Users, Scenarios)
 - Information Viewpoint (base map & reference information, drill & incident information)
 - Delivery/Services Viewpoint (Web Services, Schemas & Encodings, disconnected users, records retention etc.)
 - Deployment Viewpoint
- Major Emphasis
 - Data Types, Map Templates, Symbology
 - Data Types Task Team; Application Schema/Data Models
 - Portal Based; Funneling inputs into a dashboard.
 - Coordinate with other JIPs for surveillance and modeling
 - “Deployment View” added; basis for planning drill/exercise

Questions? Get involved!



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