

Environmental Response Data Collection

What is NOAA doing now?

Can this workshop provide a better direction for our future?

Ian Zelo

Durham, NH – September 25, 2007



Overview

ORR Field Tool Project

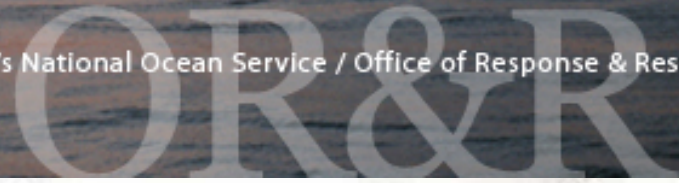
- Beginnings
- Goals
- Current direction
- Partnership with Marine Debris and CRRC

Goal of the Workshop

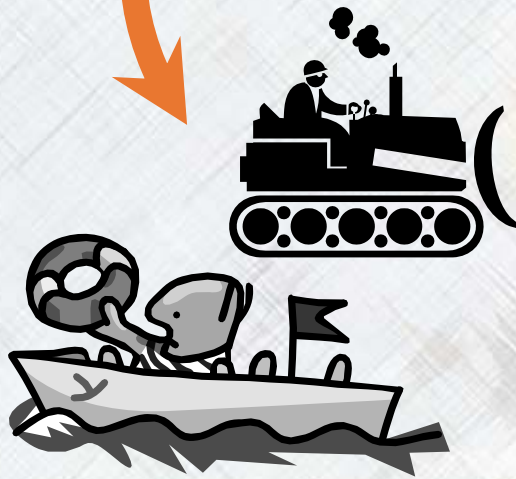
- What we hope to accomplish this week
- Where we hope to go in the future

Information Flow On-Scene

NOAA's National Ocean Service / Office of Response & Restoration



The Planning Cycle



Overflights

SCAT

Problems

- Slow data flow to planning
- Keeping lots of data organized
- Integrating data across missions
- Digital Photo Management



NOAA Background

OR&R



Selendang Ayu – Spray Cape, Unalaska

Selendang SCAT Database

NOAA's National Ocean Service / Office of Response & Restoration



Zone Information
Menu ObservID: 169

Selendang Ayu SCAT Observations - **AND6 - A**

Observation

Segment:

Zone:

Date:

Time:

Segment Length / Surveyed (m)
 Add Segment

Remobilized oil

Recoverable oil

Primary Zone

Buried oil

Air Observation

Grnd Observation

Zone Information

Length (m):

Width (m):

Tidal Zone:

Backshore:

Substrate:

Shore Type:

Lat: Long:

Start

End

Zone Description:

Surface Oil

Distribution:

Thickness:

Character:

Categorization:

Trench Data

Lat	Long	Sub-surface concentration	Penetration depth - cm	Sub-surface categorization	TR OBS	utoNumber
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>

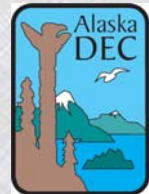
Trench Comment:

Record: of 1

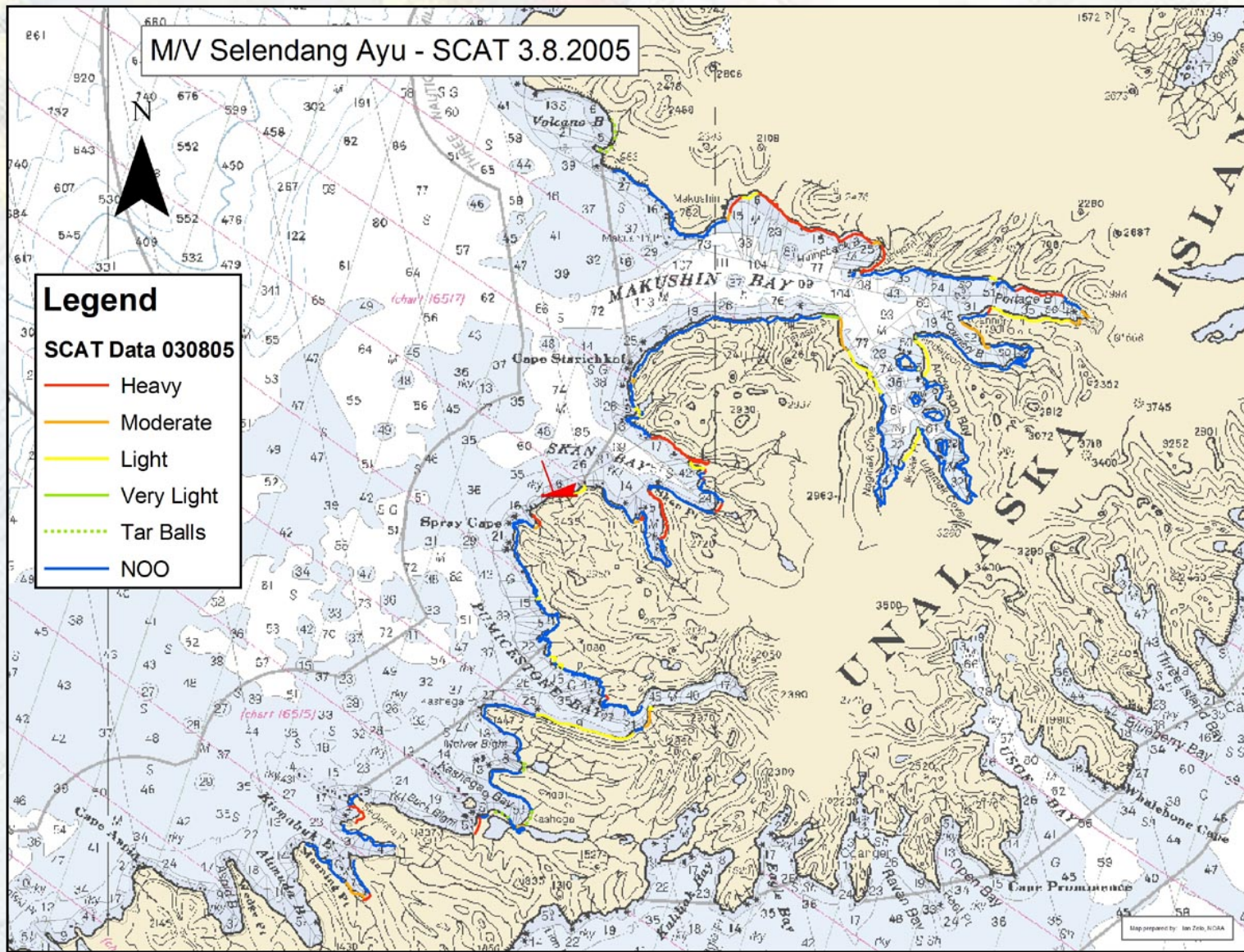
Zone Comments:

Field Notes: Image Folder:

Record: of 386



SCAT Map



FTT Goals

- Improve our data collection with digital tools
- Build tools that are easily distributable
- Build tools that are customizable
- Unification through SCAT community
- Integration across other disciplines

NOAA Field Tool Team

Improve Methods

- Faster, more accurate data collection
- More consistent data between groups
- Rapid incorporation of data into planning cycle and response

Customizable & Distributable

- Adjust for different response or different purpose
- Low cost tools
- Accessible software
- Ease of use (less training)

- Unified tools and methods through the SCAT community
- Integrate tools / methods / data through other response missions
 - Marine Debris
 - Natural Resource Damage Assessment
 - Wildlife for Response
- Integrate across other field collected data
 - Intertidal Monitoring
 - Biological Observations
 - Cultural / Human Use Surveys



SCAT Database

Old SCAT Database

SCAT Forms

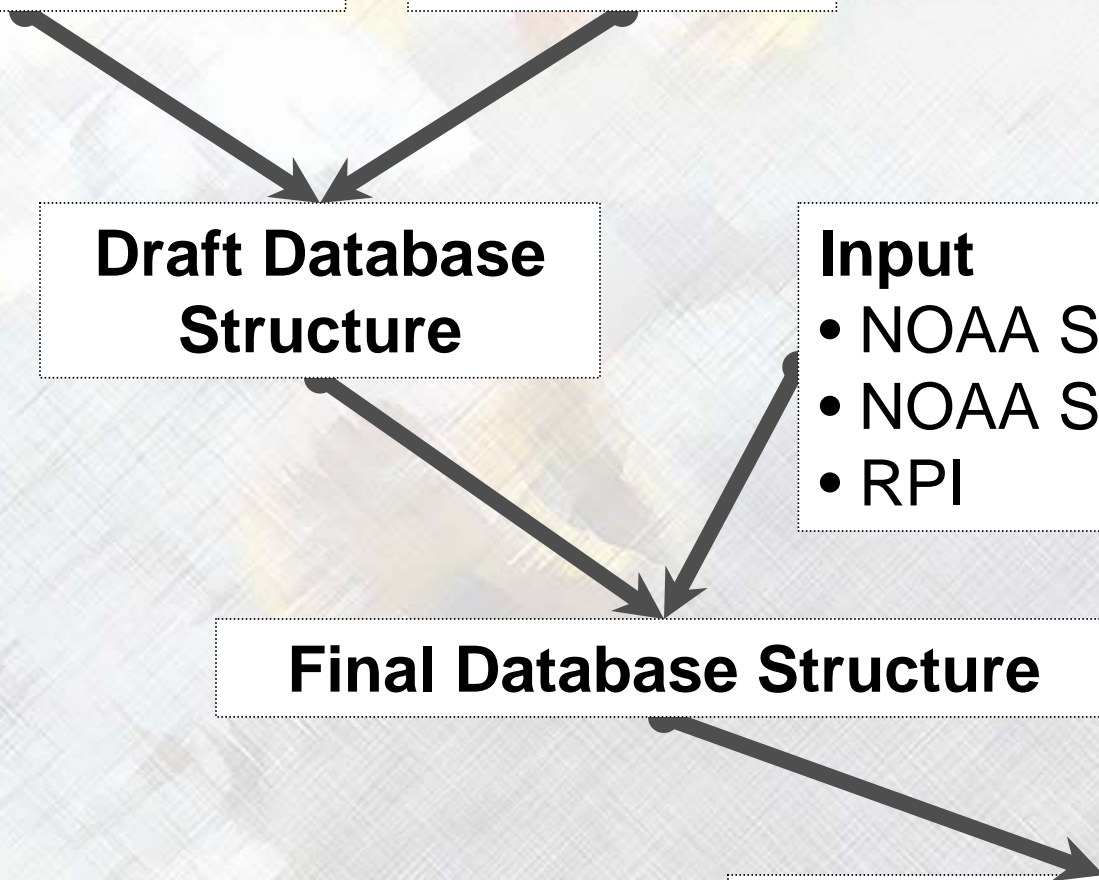
Draft Database Structure

Input

- NOAA SSC's
- NOAA Staff
- RPI

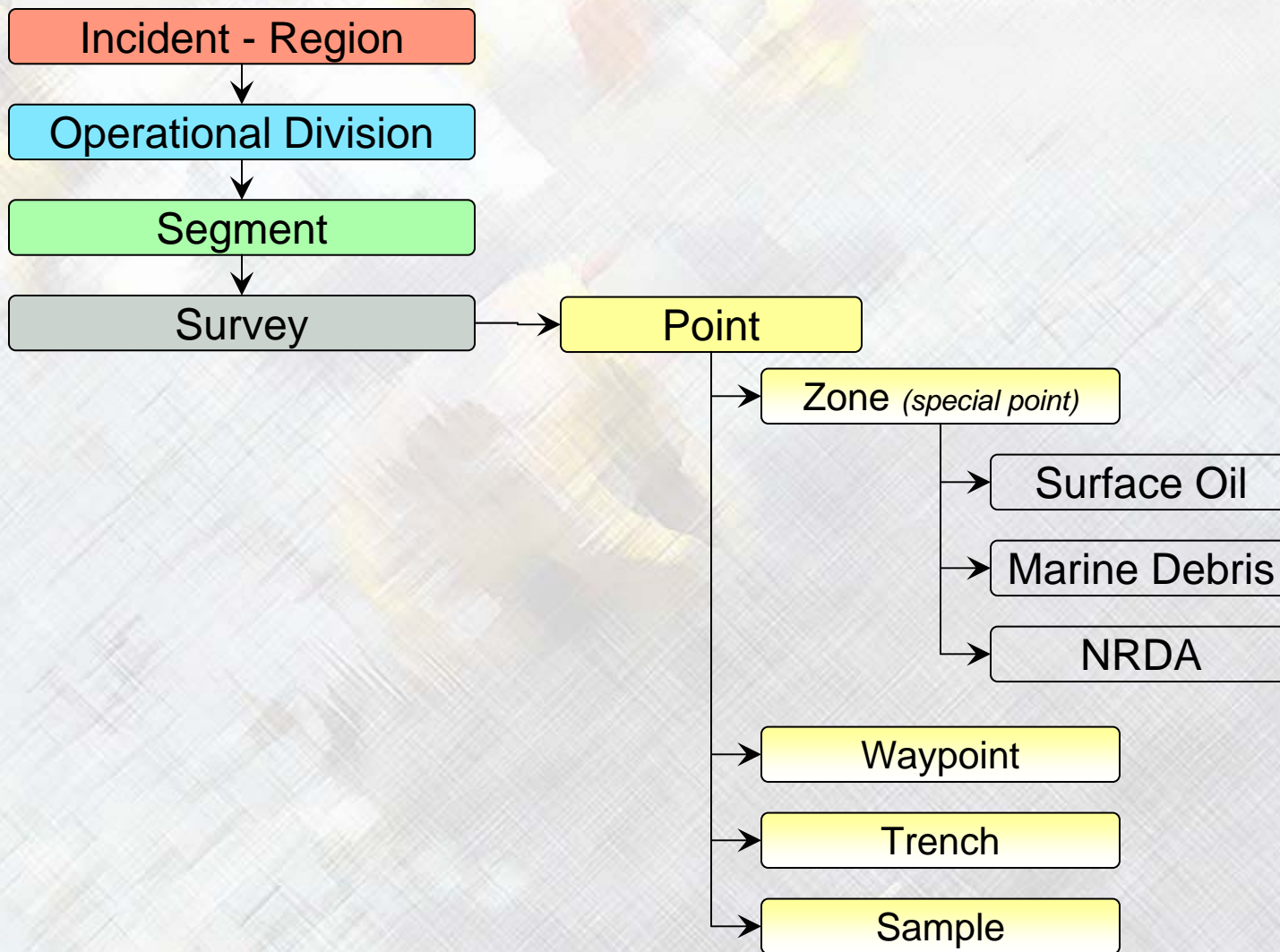
Final Database Structure

Current SCAT Database

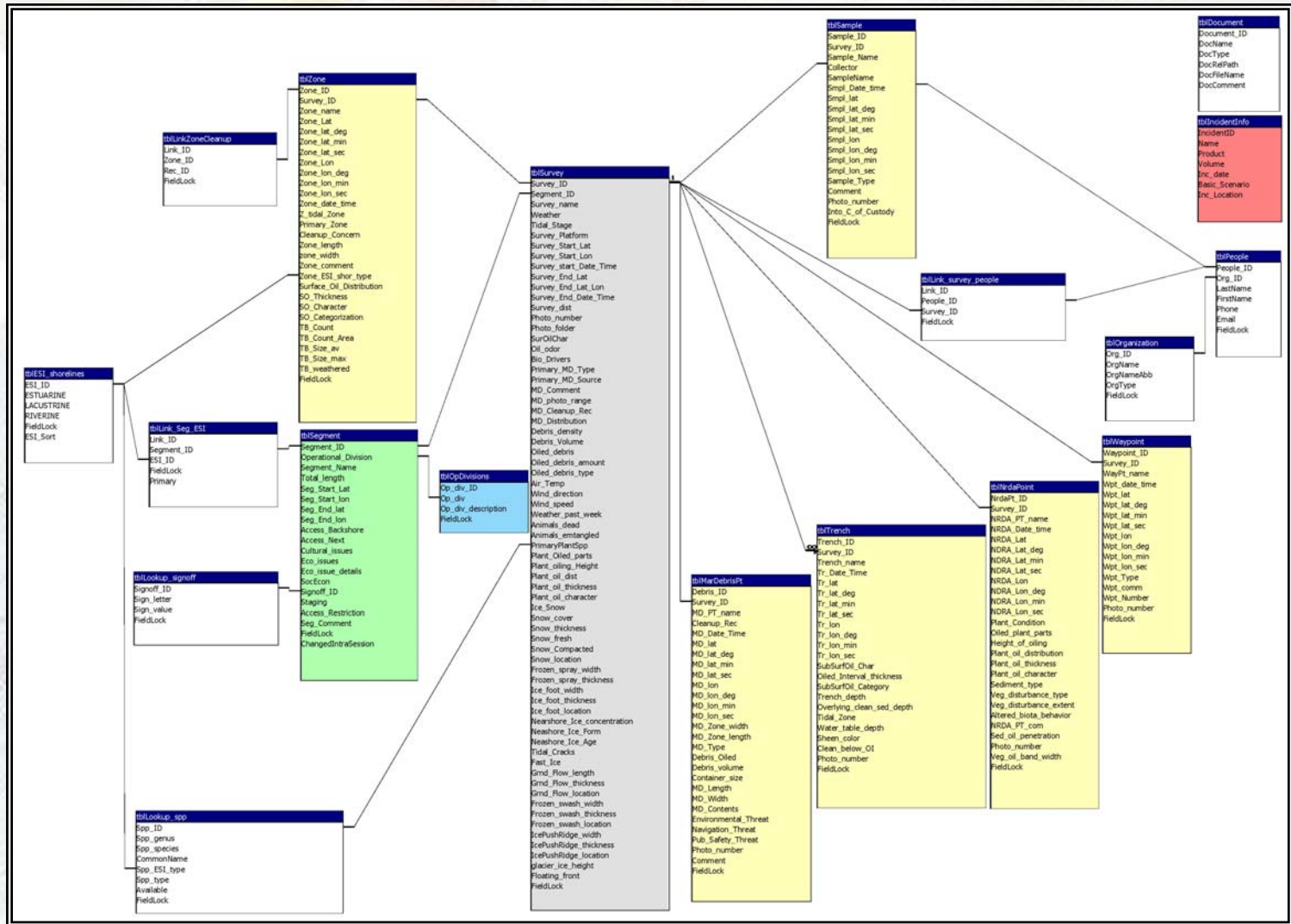




Current SCAT Structure



SCAT Database



Region
Division
Segment
Survey
Point

SCAT Database

- Organized
- GIS Integrated
- PDA or
- Paper Forms
- Searchable
- Imports & Exports
- Standard Products

frmSurvey : Form

SCAT Surveys MR-O-1 MR-O Zones: 1 Trenches: 0 ID: Survey20070629152540

General Zone Trench Waypoints Team Samples M. Deb Basic M. Deb Pt. NRDA NRDA Pt. Winter

Name: a Position: D/M/S/DD
 Tidal Zone: LI Lat: 25 25 25 25.424
 Length / Width (m): 25 x 2 Lon: 140 45 45 140.76
 Date/Time: 01/01/2007 13:45
 Dist (%): 45
 Thickness: CV
 Character: MS
 ESI Type: 2A - Exposed wave-cu
 Primary Zone Cleanup Concern
 Categorization: **Moderate**
 Comment: Get some guys out here quickly.

Cleanup Recommendation
 Flooding
 Mechanical Removal

Record: 1 of 1

SEGMENT DATA ISSUES DOCUMENTS FOR SURVEY

Start: 25° 45' 45.000", 140° 22' 1.000" Access Backshore: Trail Total length (m):
 End: 25° 46' 0.000", 140° 22' 40.000" Access Next: Previous 50
 Comment: Signoff: -

Record: 1 of 10

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SCAT Surveys MR-O-1 MR-O Zones: 1 Trenches: 0 ID: Survey20070629152540

General Zone Trench Waypoints Team Samples M. Deb Basic M. Deb Pt. NRDA NRDA Pt. Winter

Primary Type: Derelict fishing (Distribution: 1 Collection Pair Oiled debris

Primary Source: Sea Density: O.D. amount (%) 20

Photo range Volume (m2): 5 Oiled debris type Small, man-made

Cleanup Rec: Manual Remova

Comment:

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General Zone Trench Waypoints Team Samples M. Deb Basic M. Deb Pt. NRDA NRDA Pt. Winter

Snow Ice/Snow Present
 Thickness (cm):
 Fresh
 Compactec
 Location:
 Cover (%)
Glacier
 Ice Height (m):
 Floating Front
Frozen spray
 Width (m):
 Thickness (cm):

Frozen Swash
 Width (m):
 Thickness (cm):
 Location:
Ground floes
 Length (m):
 Thickness (cm):
 Location:
Ice Foot
 Width (m):
 Thickness (cm):
 Location:

Ice Push Ridge
 Width (m):
 Thickness (cm):
 Location:
Nearshore Ice
 Concentration
 Form:
 Ice Age:
 Tidal Cracks
 Fast Ice

SEGMENT DATA ISSUES DOCUMENTS FOR SURVEY

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Electronic SCAT Tool (eSCAT)



Benefits:

- Enforced quality control
- Improved consistency
- Spatial data
- Rapid product generation
- Easily distributable
- Customizable

eSCAT: Adding a Surface Oiling Zone



Zone Spatial Info

Zone Oiling Info

Oil Distribution Visual Help

Cleanup Recommendations

The screenshot shows the eSCAT software interface. At the top, the title bar reads 'eSCAT' and includes system icons for network, volume, and time (7:52). Below the title bar, the main window contains several sections:

- Seg: 1 > Surv: 07:50, Mon (09-20)**: A yellow highlighted header.
- Intertidal Location**: A yellow highlighted section with a blue dropdown menu.
- Spatial Extent**: A white section with two input fields labeled 'Width [m]:' and 'Length [m]:'.
- ESI type**: A yellow highlighted section containing a list of environmental sensitivity types: 'Coarse-grained sand beaches', 'Exposed rocky shores', 'Exposed scarps and steep slope', 'Exposed tidal flats', 'Exposed wave-cut platforms in', and 'Exposed solid man-made struct'. A red box highlights 'Oiled Vegetation' at the bottom of this list.

At the bottom of the window, there are two tabs labeled 'Obs' and 'Zone', with 'Zone' currently selected.

eSCAT: Adding a Surface Oiling Zone



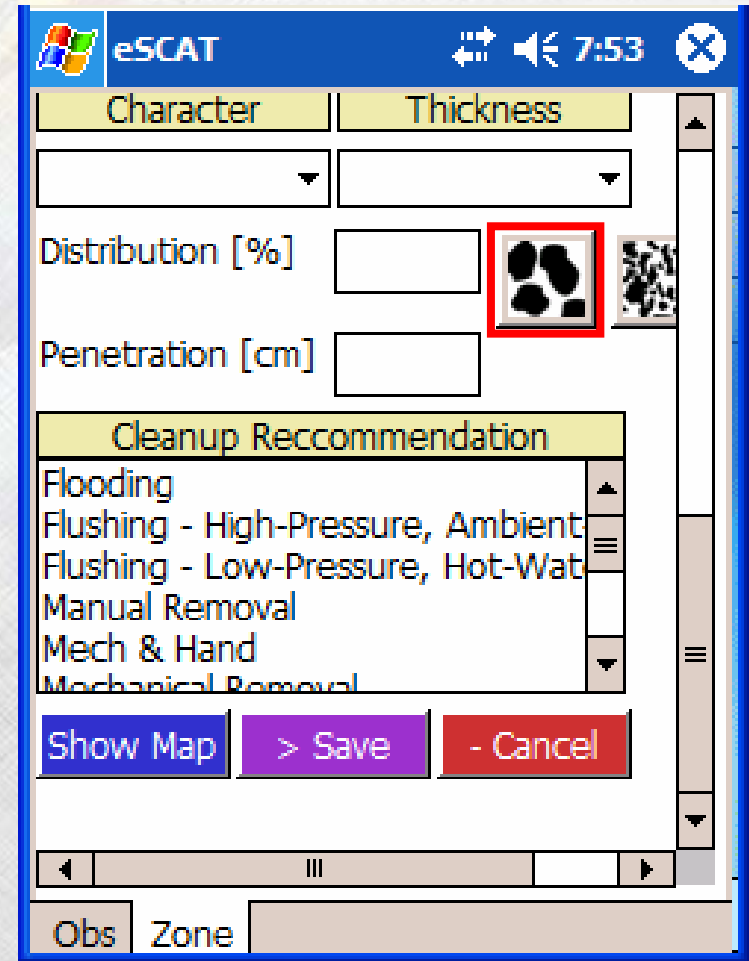
Zone Spatial Info



Zone Oiling Info

Oil Distribution Visual Help

Cleanup Recommendations



eSCAT: Adding a Surface Oiling Zone



Zone Spatial Info

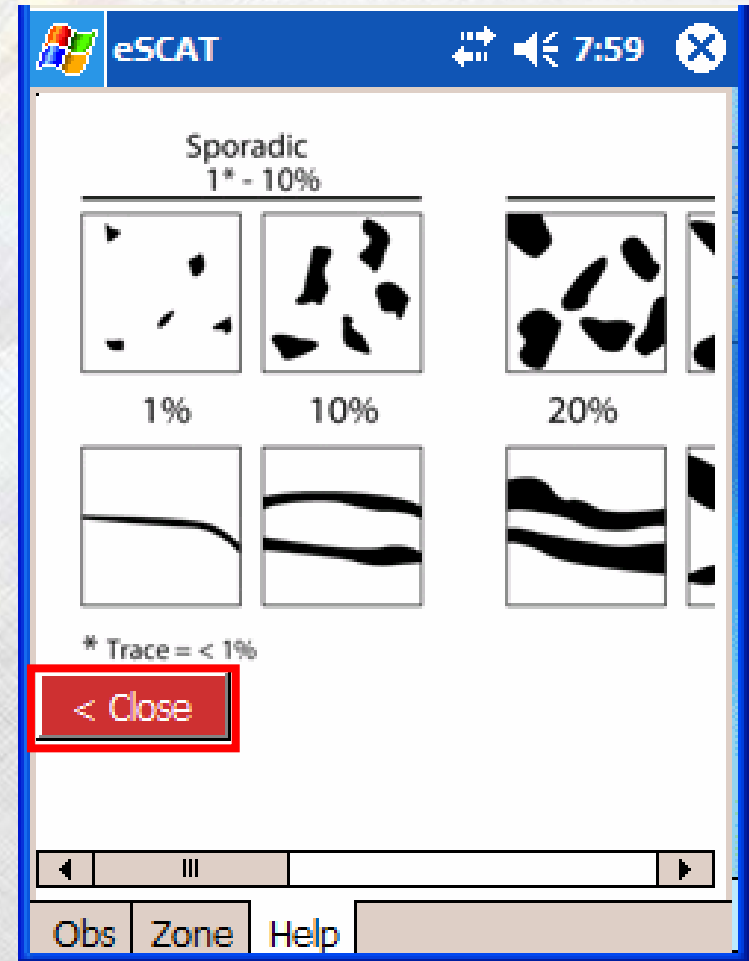


Zone Oiling Info



Oil Distribution Visual Help

Cleanup Recommendations



eSCAT: Adding a Surface Oiling Zone



Zone Spatial Info



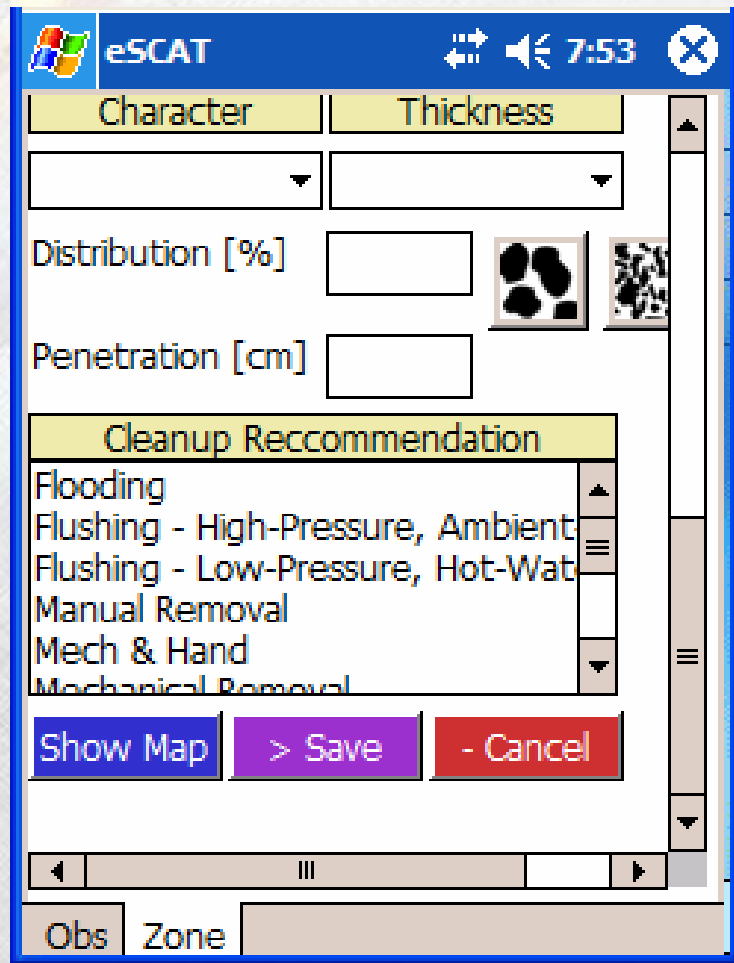
Zone Oiling Info



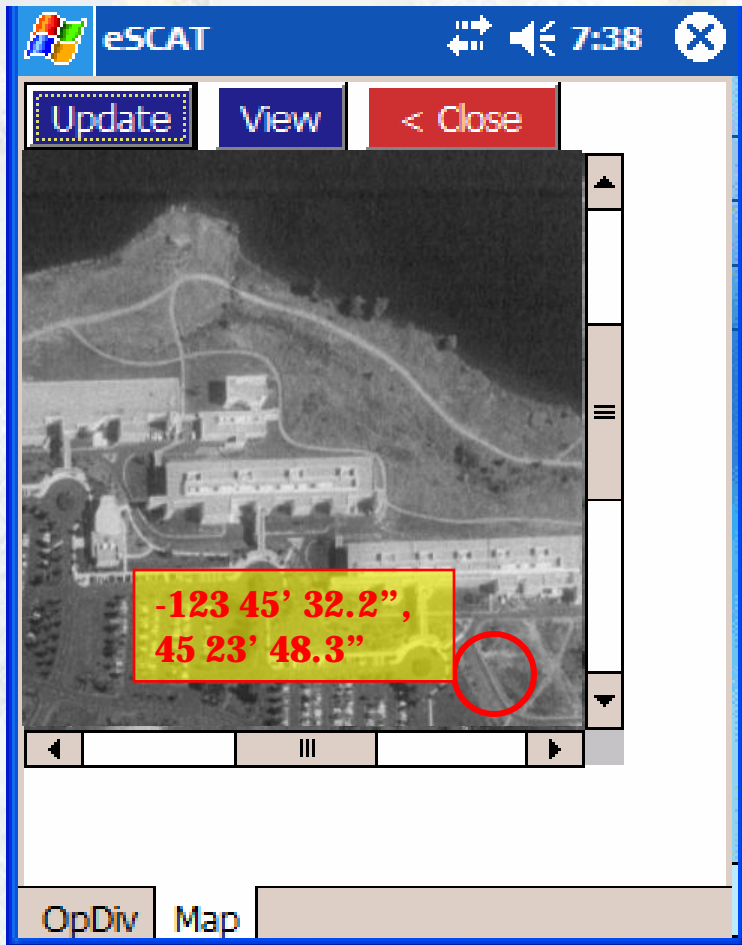
Oil Distribution Visual Help



Cleanup Recommendations



eSCAT: Field Map



Overlays:

- Current GPS position
- GPS Track
- SCAT related waypoints

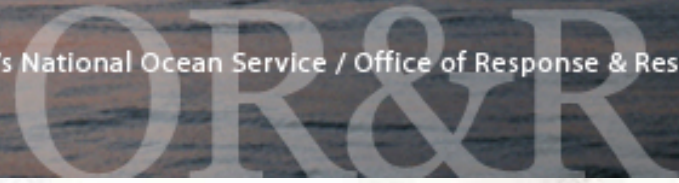
Base-layers & other available data:

- Segments
- Points of interest
- Previously observed oiling zones
- Other maps: ESI, NOAA charts,...

Key functionality:

- Allows collection of current and distant locations

(you can make an observation about a point you can see but can't get to)



eSCAT Data Transfer

Currently:

- Email from laptop with wireless card
- Download at the command post

Soon:

- Email from laptop with satellite modem

Eventually:

- Direct communication from handheld to command?



Partnerships

- University of New Hampshire
- NOAA Marine Debris Program
- NOAA Assessment & Restoration Division

Outside Interest

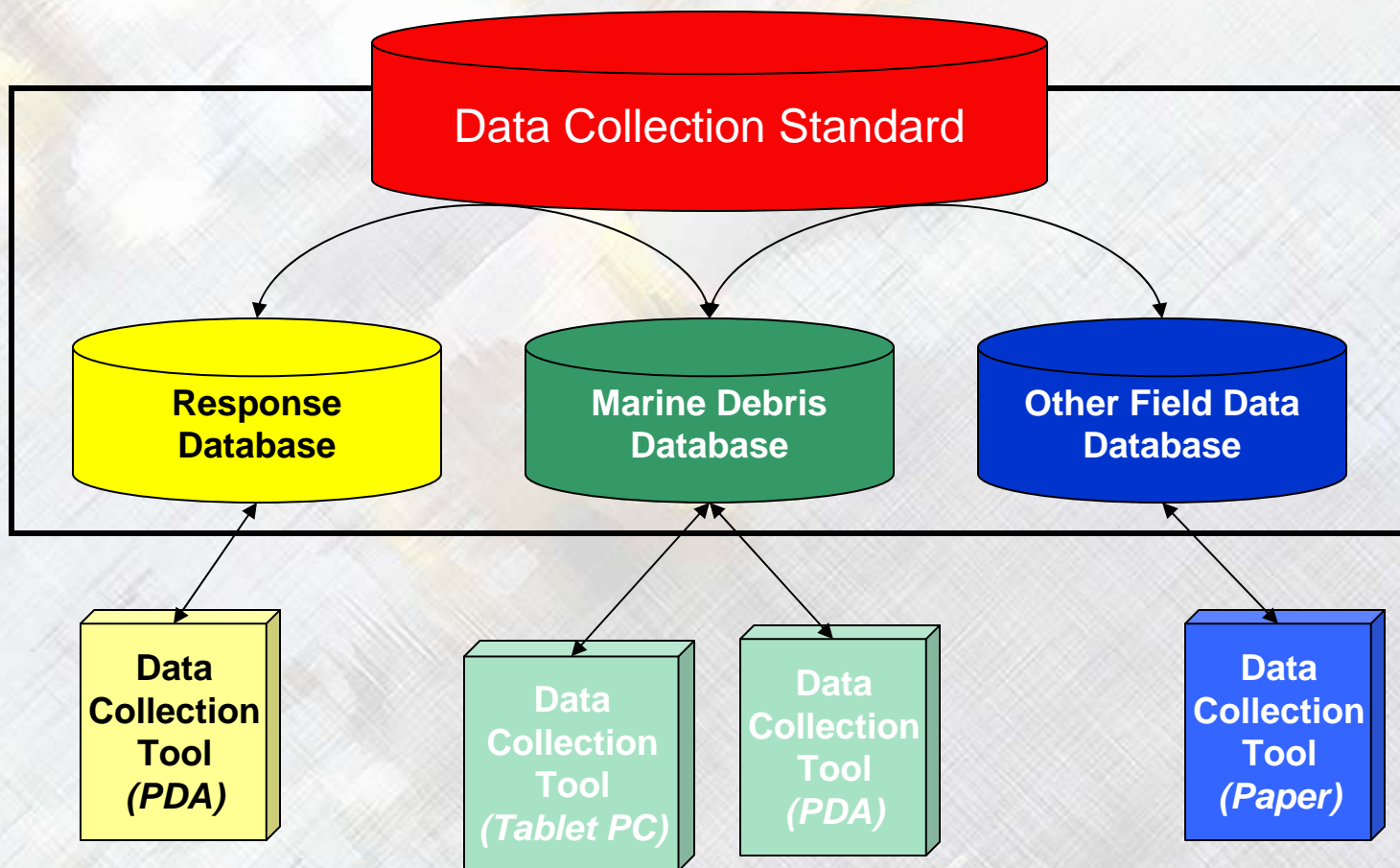
- Polaris, Entrix
- International Whaling Commission

Related Subjects



Data Standard Model

(Field Collected Shoreline Data)



What Does the Standard Look Like?

NOAA's National Ocean Service / Office of Response & Restoration

OR&R

I don't know but hopefully you do....

You are the stakeholders

Goals of the Workshop

- Understand needs and goals
- Use them to consider a path for the future
- Develop some ideas on how to get there
- Build consensus and buy in

Workshop Goals

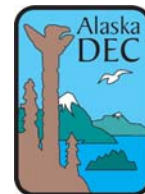
My bottom line:

- Tap the strength of those in the room
- Consider old ideas and new possibilities
- Stay grounded in what can be done
- Maximize the benefit of the work that NOAA and our partners are doing



Attending Today.....

A rare opportunity for so many to be in one place



Sheavly
Consultants

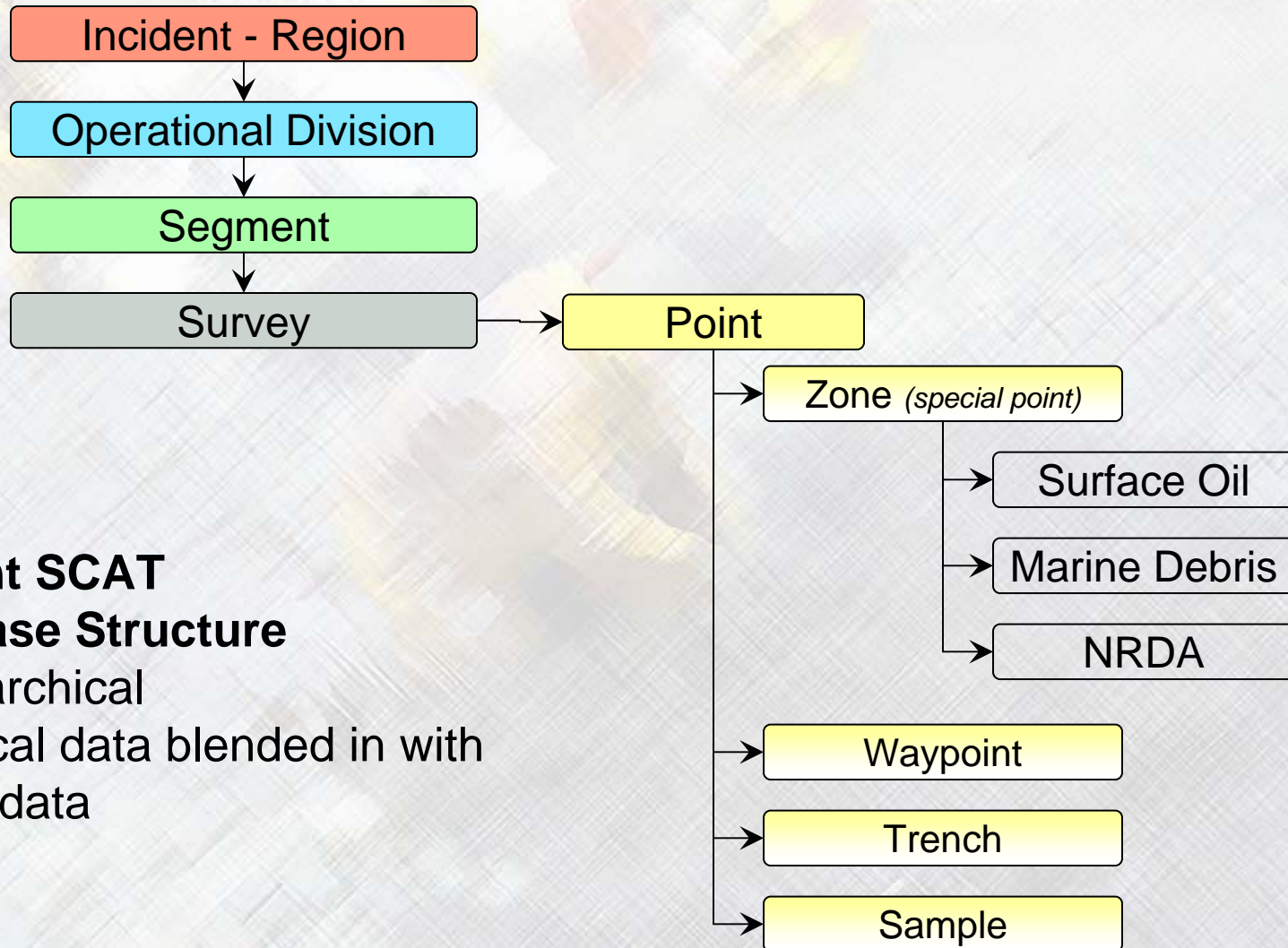


Workshop Goals

My bottom line:

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One New Possibility: Modularity

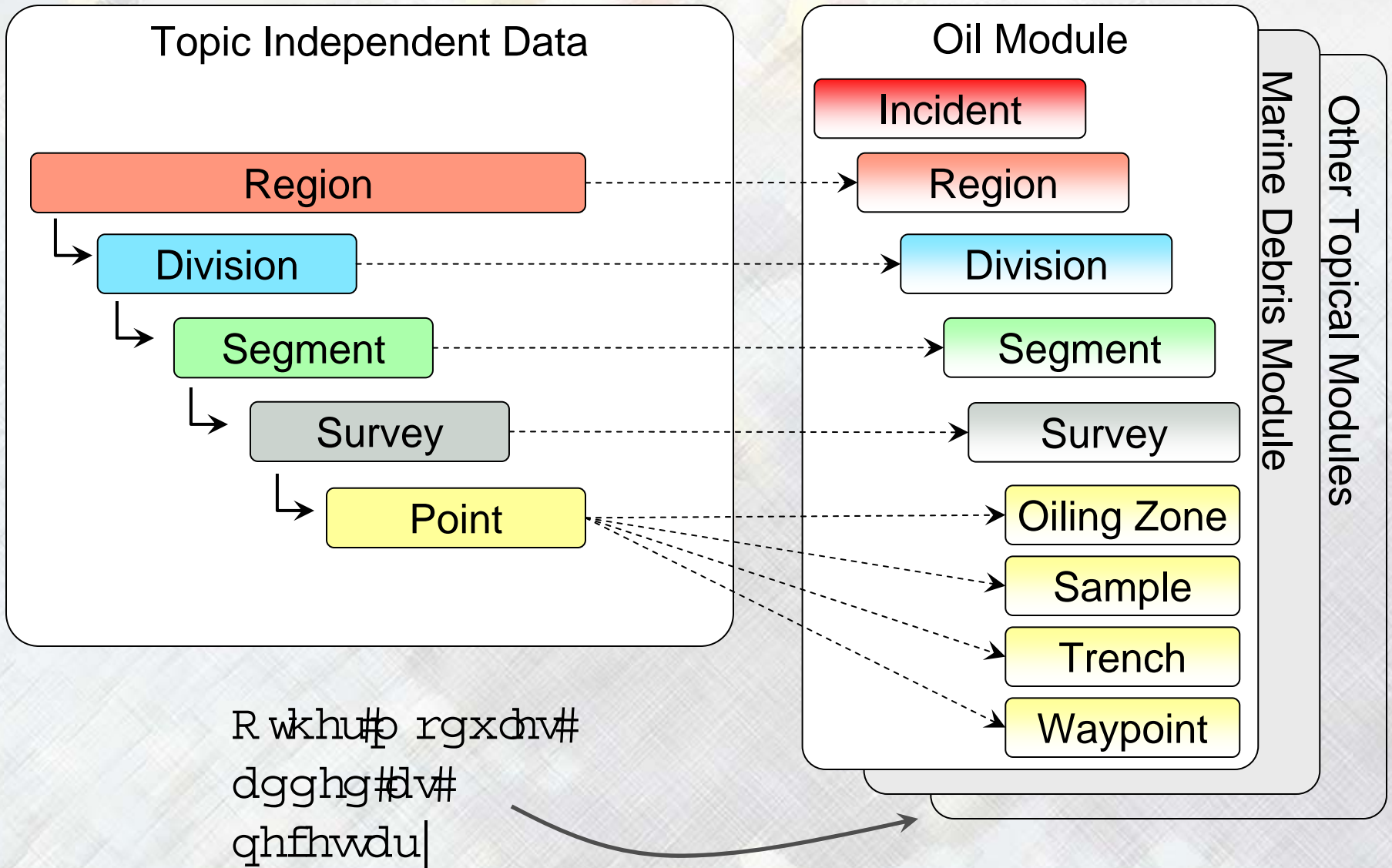


Current SCAT Database Structure

- Hierarchical
- Topical data blended in with core data



Future SCAT Structure?



Questions?



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