

POLARIS INTEGRATED SCAT MANAGEMENT APPLICATION (PRISM)

*Improved SCAT Field Data Collection, Management,
Distribution & Storage*

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Shoreline

Primary Shoreline

MR Oiling

MAX Oiling

Segment Status

Overlays



PRESENTATION

1. Traditional SCAT data workflow and limitations
2. Desired improvements to the SCAT data workflow
3. Details of PRISM

BACKGROUND – TRADITIONAL WORKFLOW

Traditional SCAT data workflow:

- Notebooks or paper forms
- Handheld GPS units
- Camera
- Maps, previous paperwork
- Turn into data personnel
- Data/GIS products

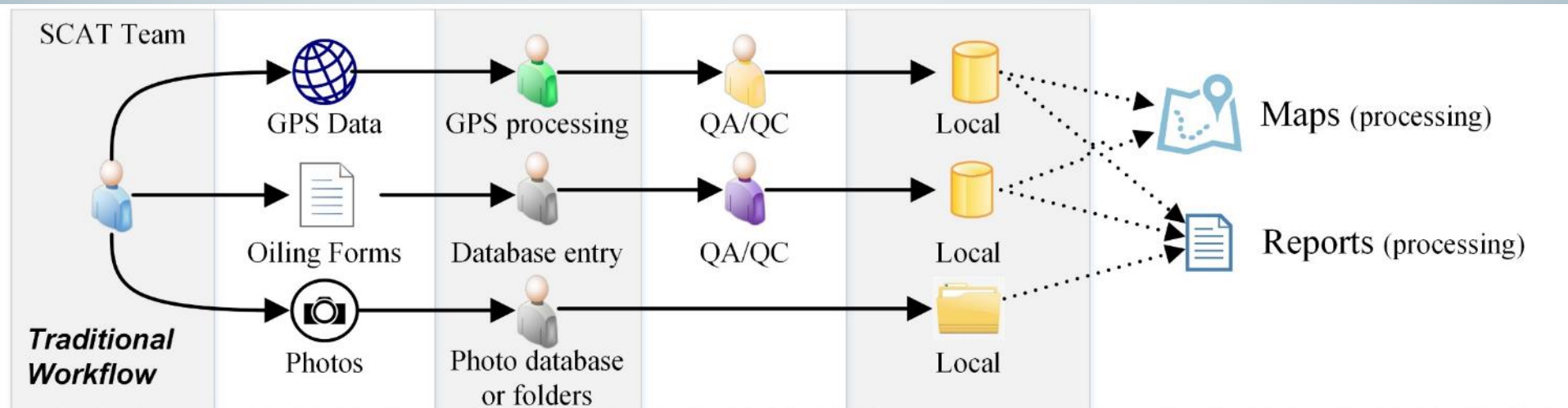


BACKGROUND – TRADITIONAL LIMITATIONS

Traditional SCAT workflow is proven and effective but is outdated and can be prone to errors

- Disconnected field data
- Data handling increases potential errors
- Single access database structure
- Inability to query or develop reports
- Data residing in multiple locations

BACKGROUND – TRADITIONAL WORKFLOW



BACKGROUND – IMPROVED WORKFLOW

Desired improvements in the workflow:

Decrease errors, increase efficiency, data connectedness and access

- **Mobile data collection**
 - Controlled vocabulary selections, integrated photos, data and GPS, increased spatial and situational awareness
 - Elimination of transcription errors (notebook to forms, form interpretation, forms to database)
- **Database**
 - Web-enabled, multi-access
 - Tiered permissions for various user groups
 - More Team Lead control
 - Simple queries, reports and summaries generated by end user
 - Export field data to GIS and data team for analyses
 - Consistent Team Lead and Data Manager QA/QC

BACKGROUND – IMPROVED WORKFLOW

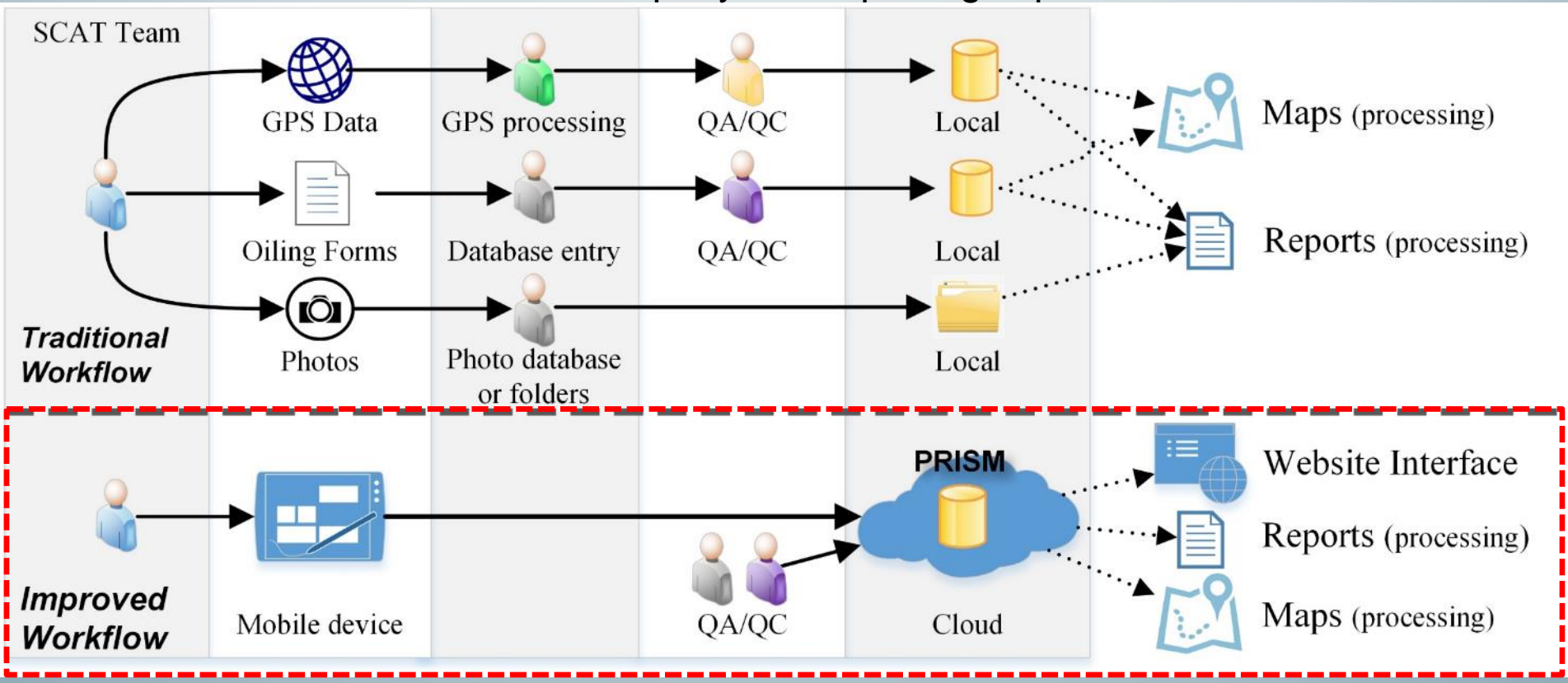
Development of improved workflow:

- Reviewed many mobile data collection options
 - 3rd party apps available for download
 - SCAT specific/designed apps
 - Most lacking robust database components
- Development of a SCAT specific database (PRISM)

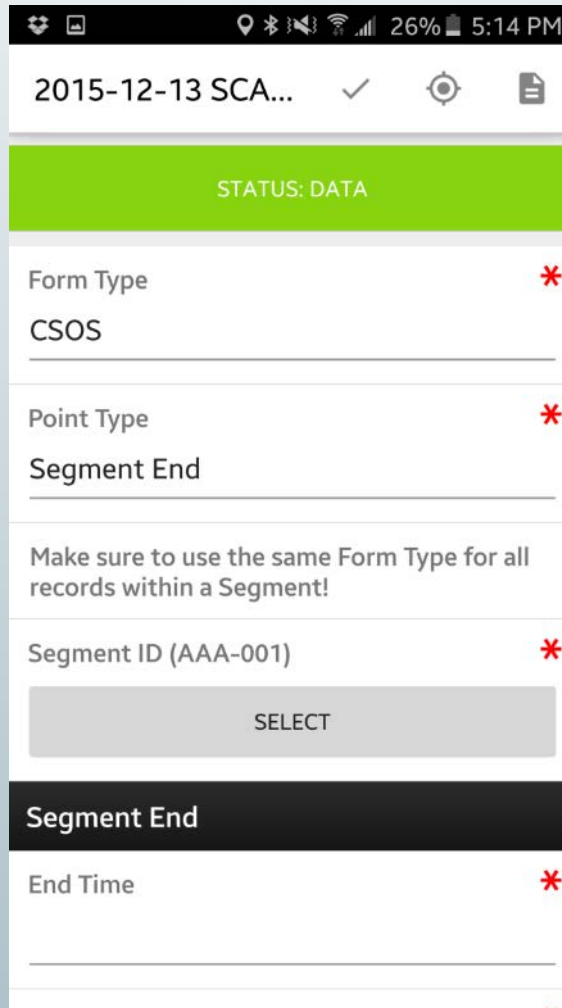
BACKGROUND – IMPROVED WORKFLOW

Key components of improved workflow:

- Hand held phone or tablet with customized data collection app
- Web enabled database (PRISM) with tiered permission user access
- SCAT Team owned and managed data through the process
- End user access with basic query and reporting capabilities



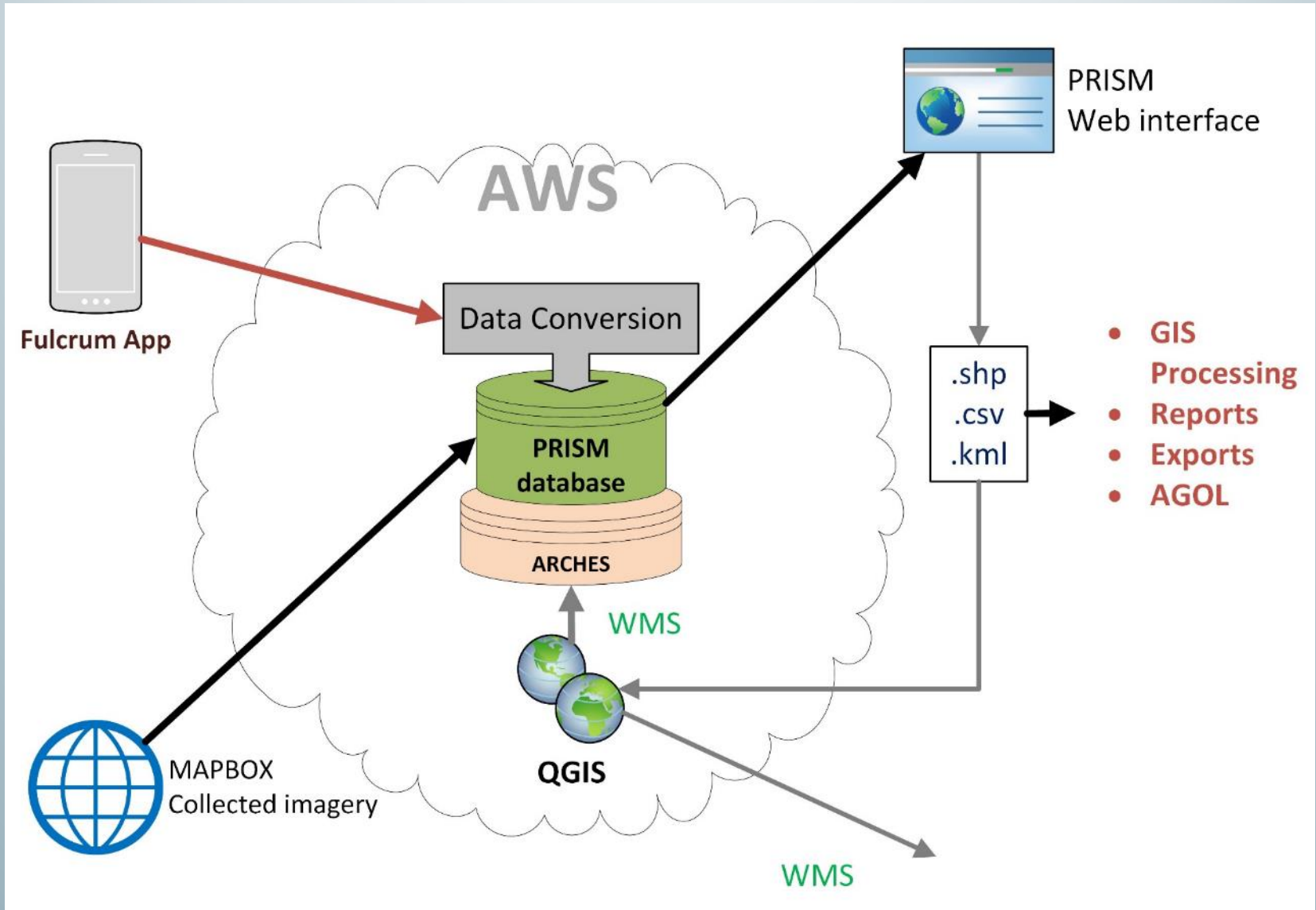
MOBILE DATA COLLECTION - FULCRUM



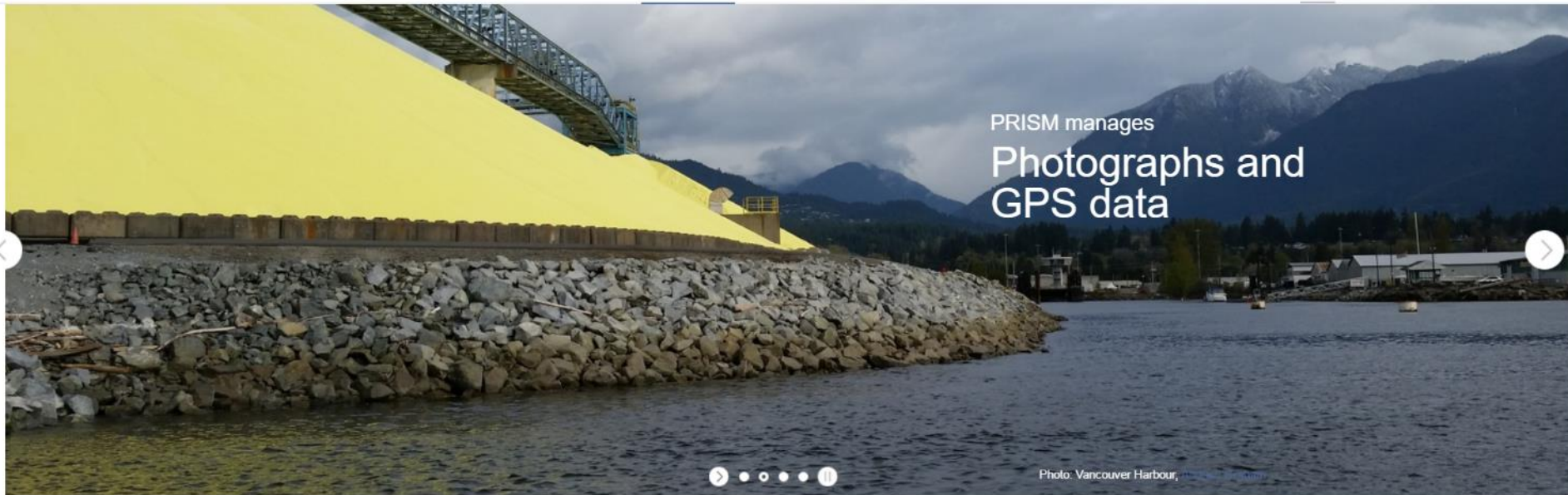
- Easily customizable forms (CSOS, Lake, River, Pre-Spill, etc.)
- Add layers and other imagery
- Photos collected, details added and associated with a segment/zone/pit

PRISM doesn't require Fulcrum, can use other data collectors.

PRISM - DATABASE COMPONENTS



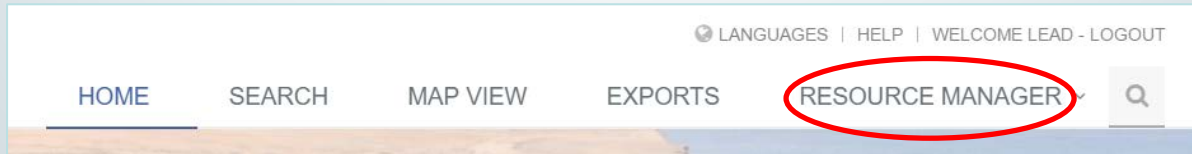
PRISM – WEB-INTERFACE FEATURES



POLARIS Integrated SCAT Management (PRISM) Application

The Polaris Integrated SCAT Management Application provides a database and viewing platform for shoreline assessment data collected during response or pre-SCAT activities. SCAT and Pre-SCAT data can be edited, stored, queried and viewed over the internet from any computer. Permission based logins allow selective read or read/write capabilities. When integrated with the Fulcrum data collection app, SCAT data can be quickly collected in the field, uploaded, checked for accuracy and approved for distribution.

PRISM - DATA ENTRY



- Finalize and **approve** field data
- Team and manager QA/QC
- New data creation
- Create STRs, SIRs, PISTs

Resource Data Manager

Observation
Arches ID: n/a

Resource Description

- General Information
- Physical Character
- Operational Features/Issues
- Response Goals/Methods
- Resource Issues
- Samples
- Access
- Images and Files
- Other
- SIR
- Related Resources

General Information

Discard edits Save edits

Observation Summary

QA STATUS

Observation Duration

Start Time End Time

Survey Information

Survey Form Survey Type

Survey Method

Entire Seg. Surveyed? Percent Seg. Surveyed Areas without Zones are NOO?

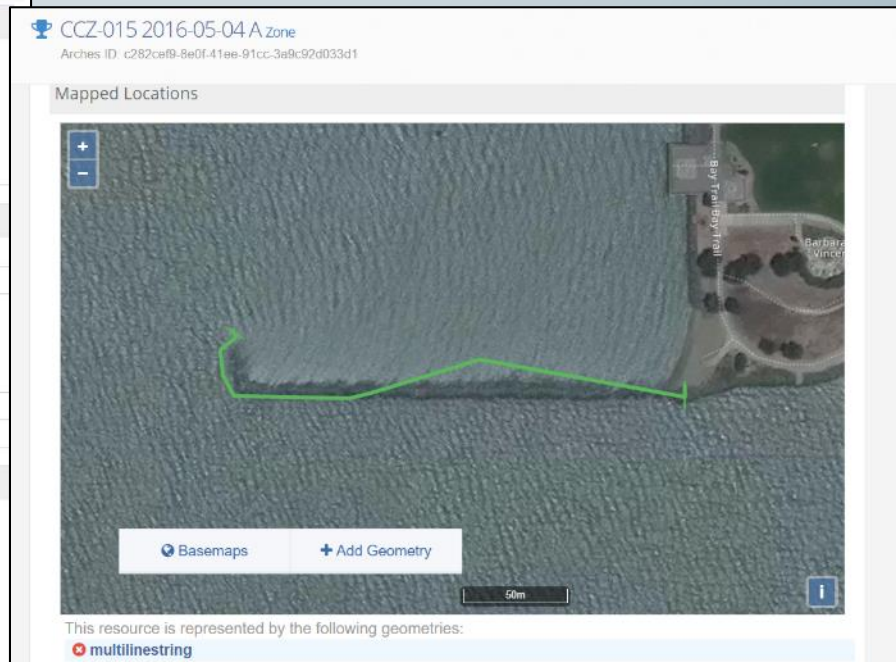
Survey Conditions

Weather

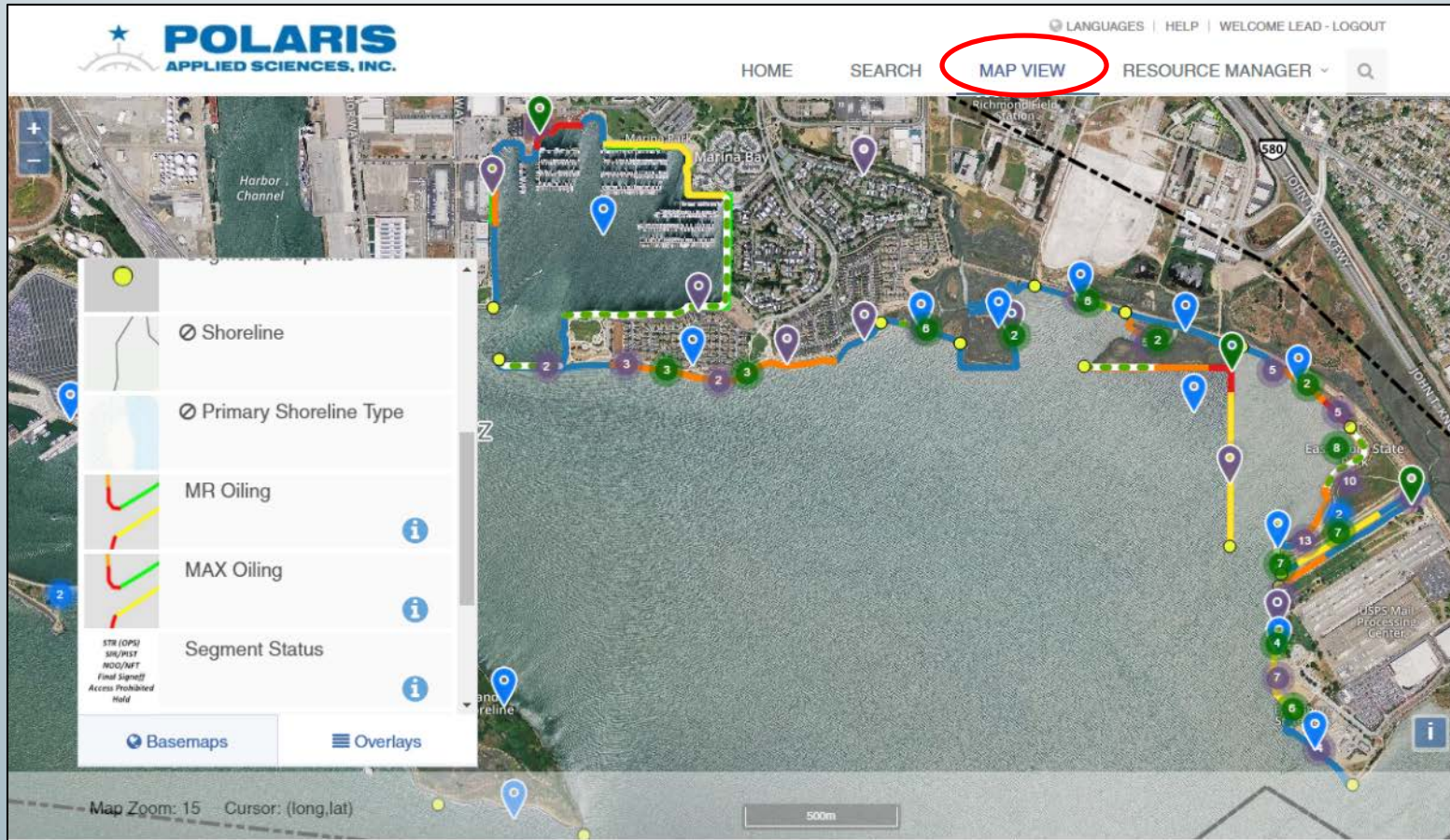
Add

This resource has the following weather conditions:
No Weather defined.

Tide Height (ft) Tide Direction

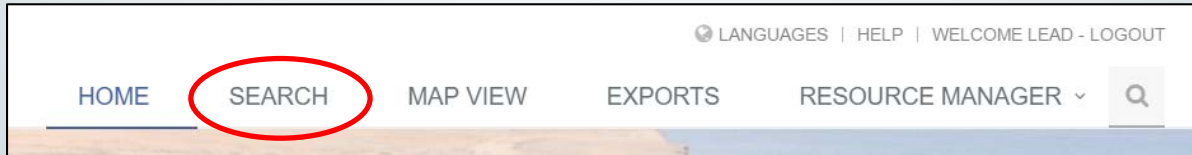


PRISM – MAP INTERFACE

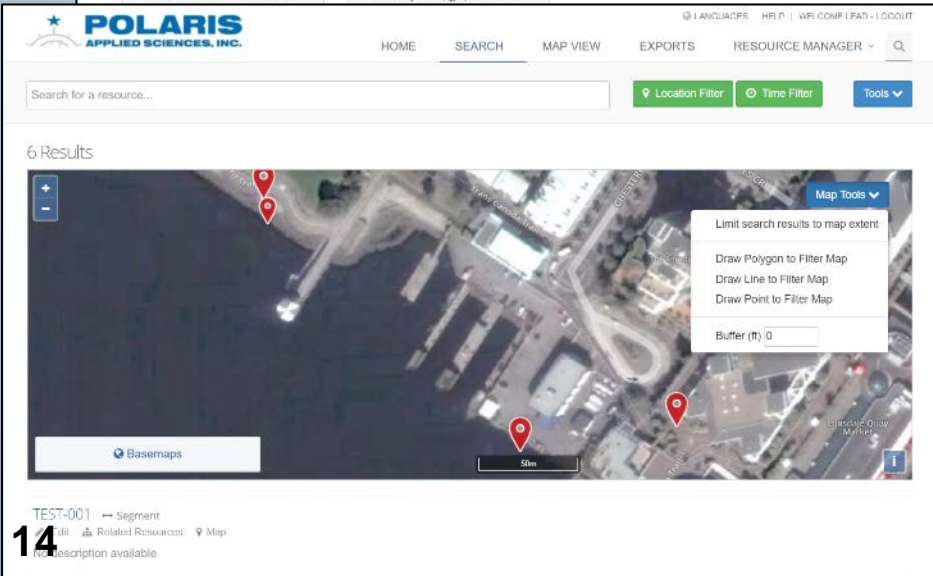
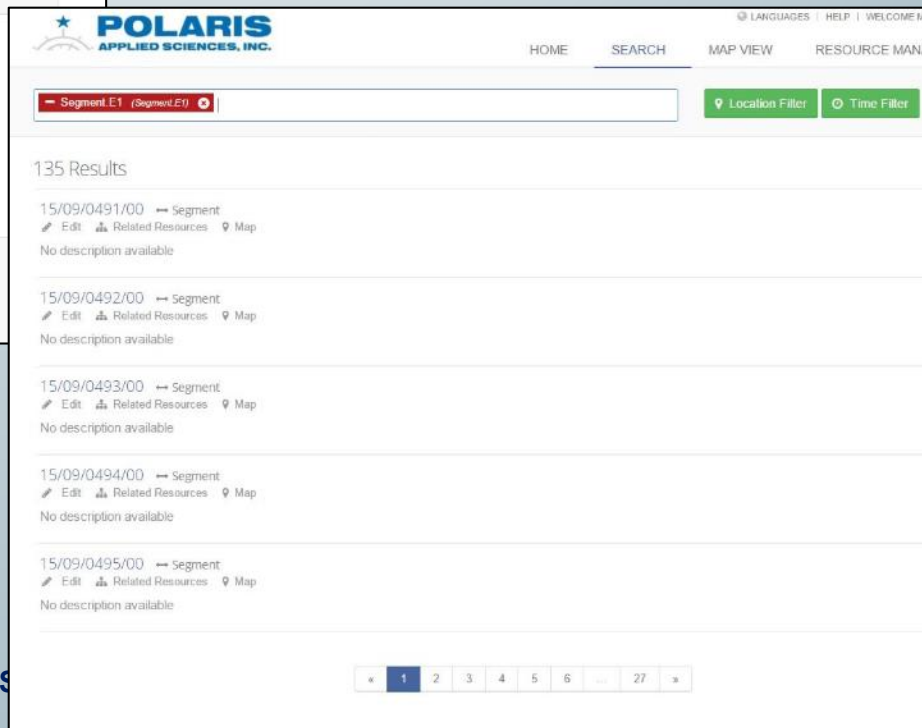
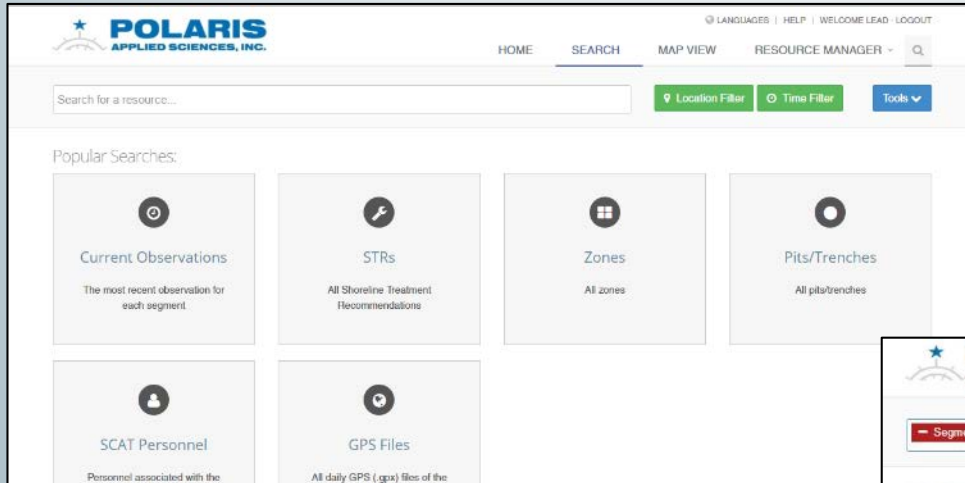


- Spatial access to data stored within PRISM
- Variety of basemaps and additional layers as desired (WMS)
- Interface to access data, not intended as a final product

PRISM - SEARCH CAPABILITIES

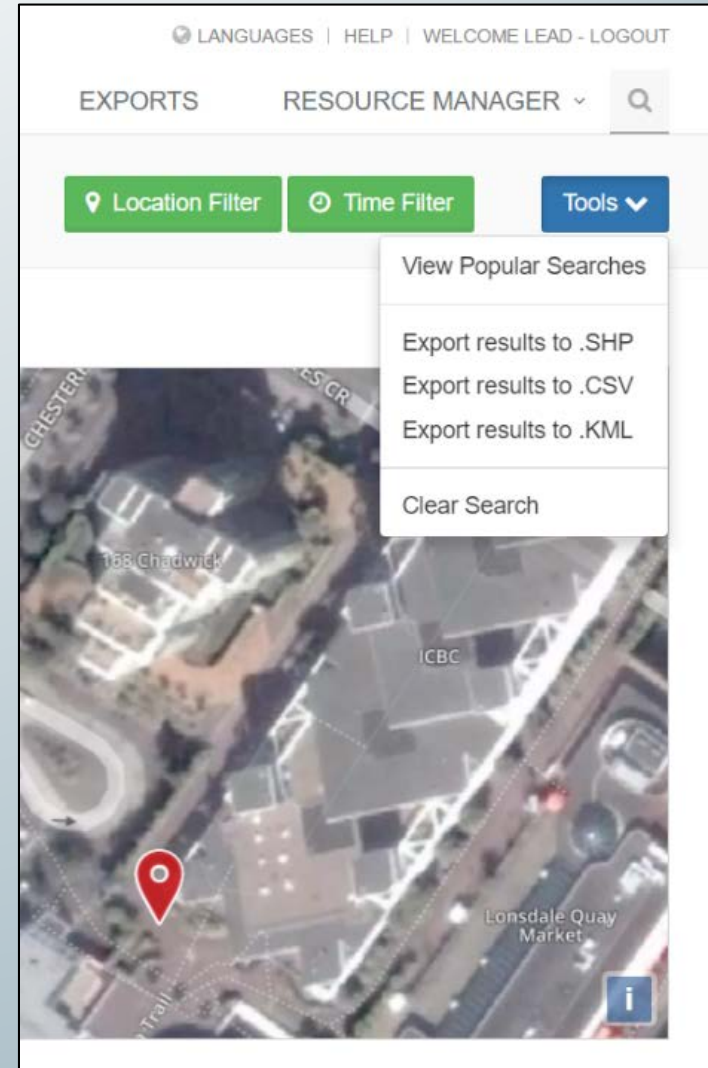


- By location
- By date
- By data type
- By attributes/keywords
- Common predefined search



PRISM - EXPORTING

- Basic export of all data or queried data
 - CSV, SHP, KML
 - Exported outputs used by GIS/data teams for processed data



PRISM – DATA PRESENTATION

BAL-004 2015-07-02

Example - Oiling Summary Form (BAL-004 2015-07-02)

General Information

Segment ID BAL-004	Start Time 2015-07-02 11:16	Tide Height (ft) 10
OPS Division Survey Type: SCAT	End Time 2015-07-02 10:55	Tide Direction: Falling
Form Type: CSOS	Water Level: Predicted Tide Level	
Survey Method: Foot	Season: Dry	Weather: Sun Calm

Team 1

Name	Organization	Phone Number
Bob Smith	National Coastal and Atmospheric Administration	
Andy Orsman	Polaris Applied Sciences, Inc.	(205) 419-1742

Segment

Segment Length (m)	Entire Segment
Seg. Coordinates:	Percent Seg
Avg. ITZ Width (m): 5.0	75%
Max. ITZ Width (m): 10.0	
Backshore Width (m): 30.0	Areas without
Fetch Distance: 5-10 km	YES
Fetch Window (deg): 121 - 180	





Shoreline/Bank

LITZ Shoreline Type
Bedrock: Platform (PRIMARY)
Beach: Boulder (SECONDARY)
Dominant Vegetation Type:

Backshore/River Character

Backshore Form
Flats/Lowland (PRIMARY)
Primary Backshore Substrate
Rubble (Rtearp)

Cliff Height (m): 5.0
Cliff Slope: 90 degrees
Backshore Vegetation Cover: Vegetated

Field Team Daily Summary

- High level summary by Survey
- Comments, Map & Photos

SOS (Shoreline Oiling Summary)

- Segment level summary by Observation
- Comments, Map & Photos

STR (Segment Treatment Report)

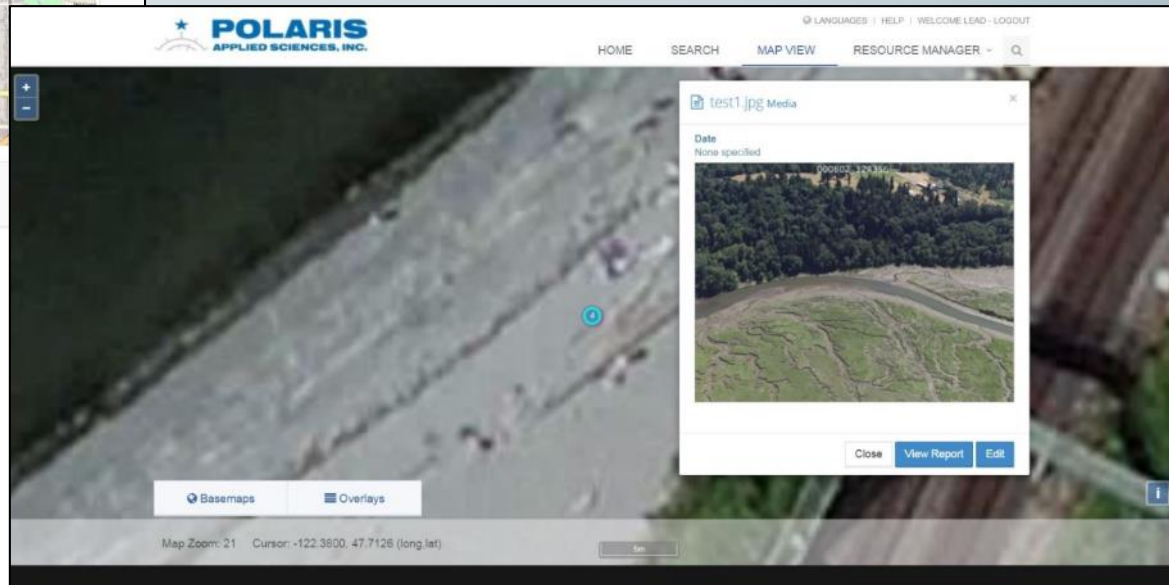
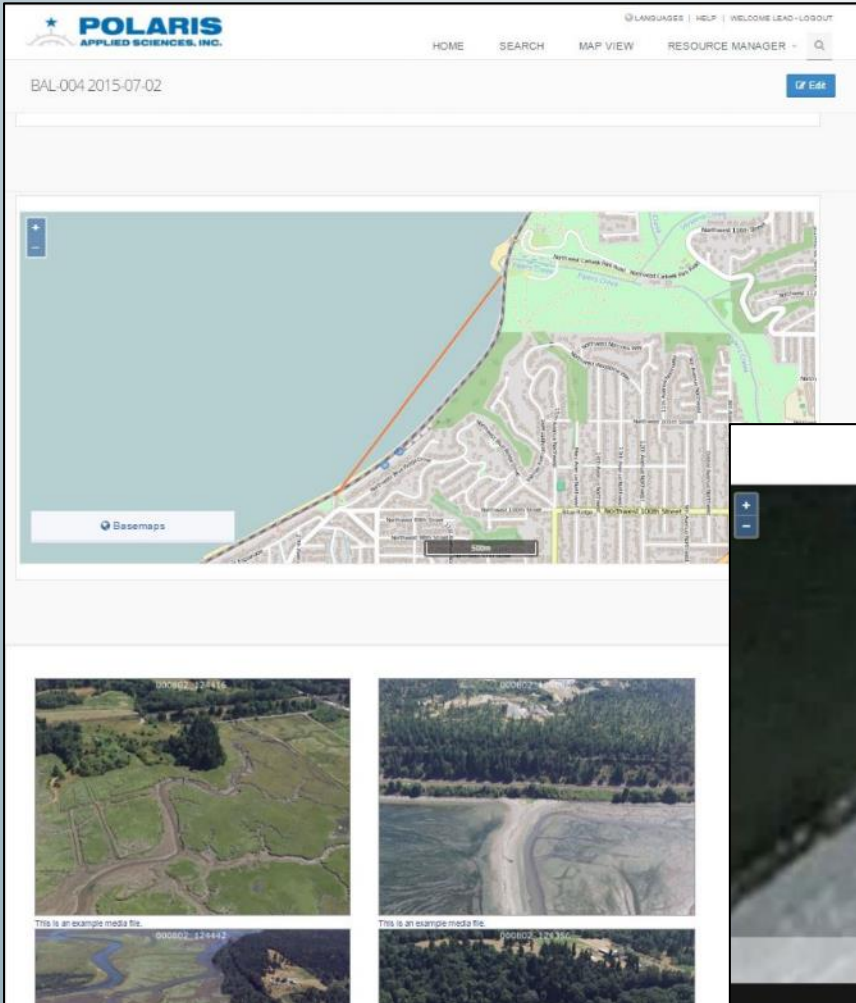
- Segments & zones affected
- History & specifics

SIR/PISTS

- Add-ons to SOS

PRISM – INTEGRATED DATA

- Photo: annotate and keywords
- GPS Tracklines
- Scanned docs, signed SIRs & STRs



PRISM – TESTING/DEMOS

SCAT Training

- Western Canadian Marine Response Corporation (WCMRC) & British Columbia Ministry of Environment (BC MoE)
- Teach traditional workflow alongside the improved workflow using PRISM
- From experienced team leaders to those who are just learning about SCAT



Future Trainings/Testing

- WCMRC
- NOAA



PRISM - SUMMARY

- **Not a COP, interactive data/mapping website or a black box**
- **Web-enable SCAT database and workflow, allowing for improved data collection, storage and access to SCAT data**

Advantages

- Increase spatial/situational awareness
- Higher quality QA/QC
- Decrease in paperwork/time
- Integrated and accessible data
- Cost efficient, flexible, scalable

Considerations

- More moving parts to setup/maintain
- Increased reliance on technology
- Calibration and technology learning curve



POLARIS **PRISM** CONTACT INFORMATION

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