



Presentation Overview

ERMA

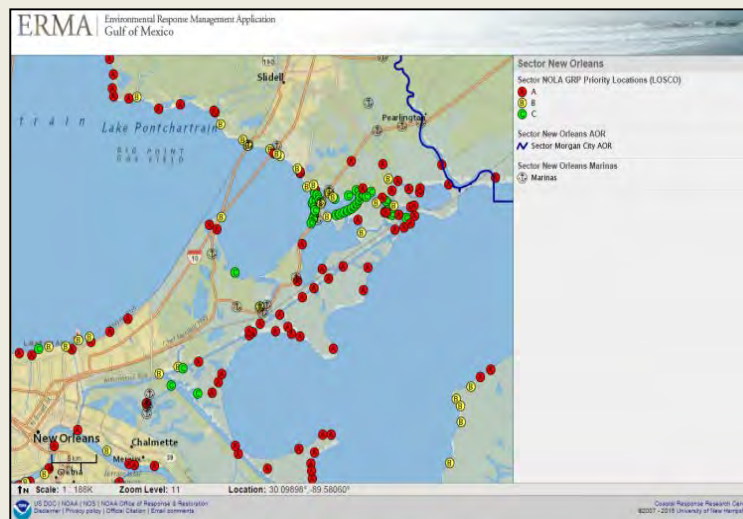
- Overview
- Recently Released Developments
- Recent GRP Data Efforts
- Where we are headed

National DIVER Portal

- Overview
- File Collections
- Explorer
- Public DIVER

What is ERMA?

- Common Operating Picture (COP)
- Web-based mapping tool
- Centralized access to information
- Increases communication, coordination, and efficiency
- Prepare for, respond to, assess impacts from incidents or conditions
- Analyze and visualize environmental information relevant to all hazards





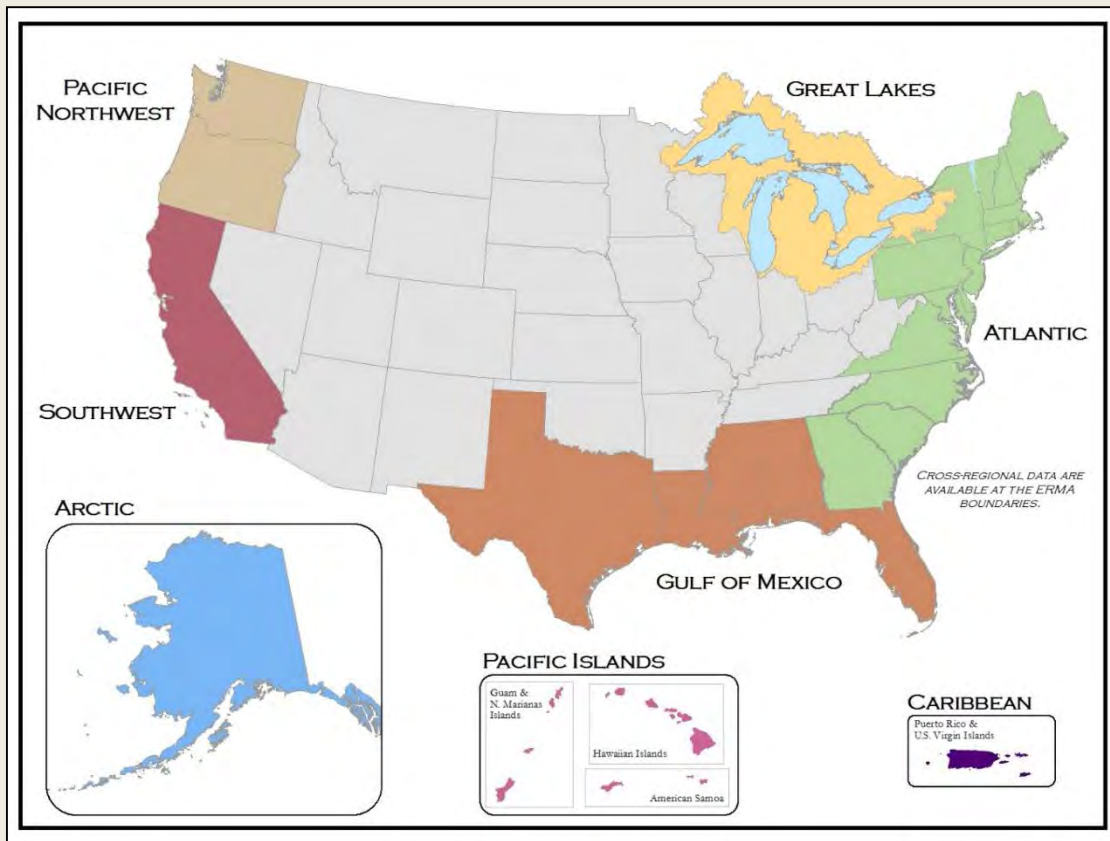
Key ERMA Functionality

- Tiered system security
- Build customized maps and share with others.
- Open source technology
- Interoperability with external systems





Where is ERMA?





NOAA ERMA Support

Requested through the NOAA SSC

- Small spill: Remote Support
 - OSPR GIS
- Large Event: On-Scene Support → PRFA
 - Immediate availability of existing planning and real time data
 - Provides incident specific data for Unified Command
 - Situational Awareness to Off-Site Leadership & Partners
 - Ensures Federal Retention of Response Data



How ERMA is Used in Response

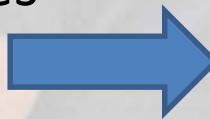
- **Operations Section**

- Incident Location
- Vessel Locations
- Dispersant Zones
- In-Situ Burns
- Divisions & Segments
- Booming Strategies



- **Environmental Unit**

- Threatened & Endangered Species
- SCAT Data
- Sensitive Sites
- Wildlife Observations
- Overflight Observations



- **Situation Unit**

- Mirror SitStat Board
- Trajectories
- Weather
- Current Operations

- **Unified Command**

- Up-To-Date Picture of All Operations

- **JIC**

- Up-To-Date Picture of All Operations
- Potential to show publically released data

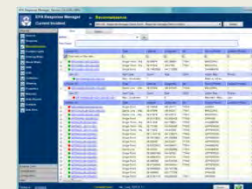
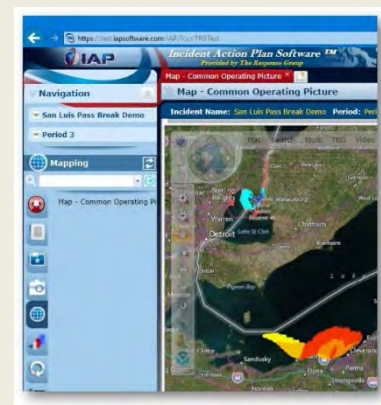
New ERMA Developments - Interoperability



NEW Feature:
Secure Electronic Data Sharing

- Tokenized
- IP Specific
- Event Specific

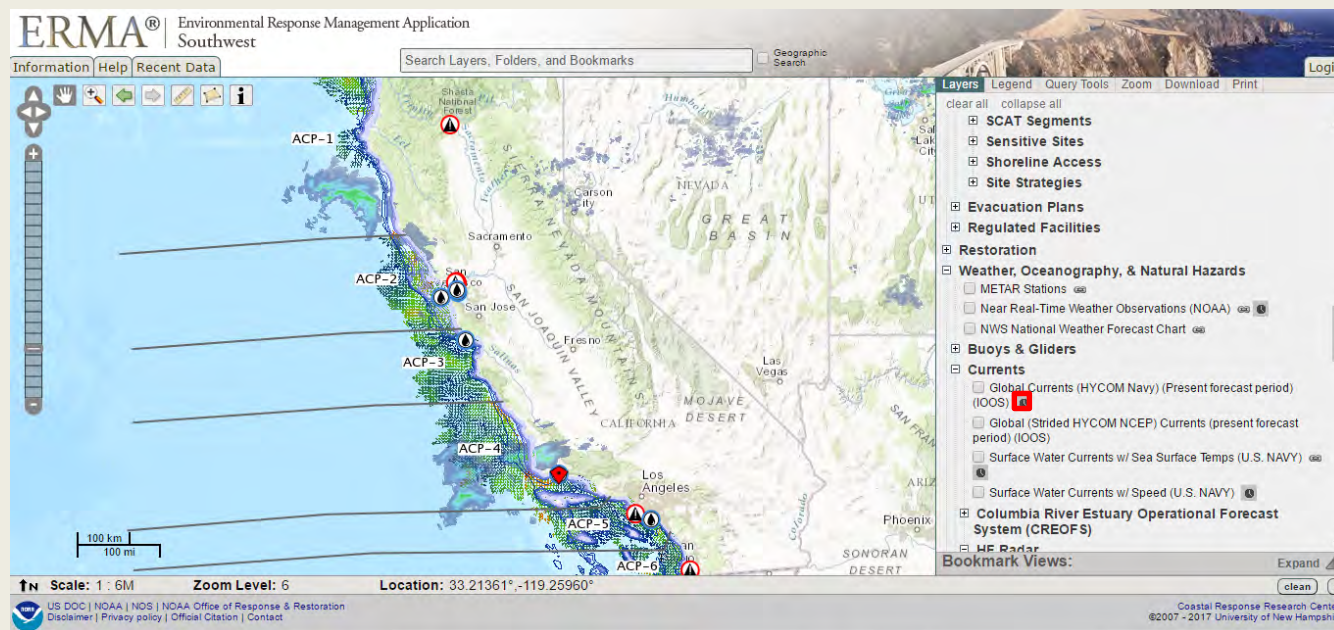
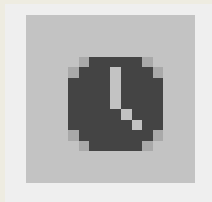
TRG IAP/IMSS



**Response Manager,
Flex Viewer, NDOW,
Shell, ArcGIS Online**

New ERMA Developments – Time Slider

- Time Slider
 - Allows User to step data through time
 - Multiple Datasets at one time
 - Can be used with shapefile based layers and WMS – T





New ERMA Developments – Select Records

- Allows interactive selection
 - Data View
 - Identify Window – map to dataview selection
 - Polygons can be used for overlay queries of other layers

New ERMA Developments – Select Records

The screenshot shows the ERMA Southwest web application interface. The main map displays the San Francisco Bay Area with numerous red circular markers indicating sensitive sites. A pop-up window titled "View Internal Data - Google Chrome" is open, showing a table of site information. The table has columns for Gid, Latdd, Londd, Acp Num, Site Num N, Site Name, and Pri Code. Three rows of data are visible, corresponding to sites in the Bolinas Lagoon area.

Gid	Latdd	Londd	Acp Num	Site Num N	Site Name	Pri Code
45	37.91828	-122.68108	2.00000	2-222	Bolinas Lagoon	A
46	37.85967	-122.57775	2.00000	2-225	Redwood Creek/Big...	A
47	37.83076	-122.53109	2.00000	2-228	Rodeo Lagoon	A

Scale: 1 : 343,000
 US DOC | NOAA | NOS | NOAA Office of Response & Restoration
 Disclaimer | Privacy policy | Official Citation | Contact
 Coastal Response Research Center
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New ERMA Developments – Web Cam

- Feature based web cams
 - Uses Iframe to take advantage of the native viewer provided by the feed.
 - Can authenticate to password protected feeds.
- [Example: Okeanos Explorer](#)
 - Ocean exploration cruise – Deepwater near American Samoa and Samoa



GRP Work - BSEE/EPA Contingency Plan Support Contracts

- 2015 BSEE and EPA contract funding to inventory, ingest, and deliver current GRP data via ERMA
- Develop *recommendations* on GRP creation and visualization for ERMA and other GIS systems
- Create tools to support creation of new GRP data (ERMA Draw) and enhanced ESI queries and reporting (ICS 232/RAR)

New GRP Tools in ERMA - Symbol Library

- Standardized sets of symbols for uploader to choose from.

The screenshot shows the ERMA interface with a map of the Southwest region. The map displays various layers including ACP Boundary Lines, Hazardous Waste Sites, and USGS GEOMAC Current Fires. A 'Class Information' window is open, showing details for 'Shoreline Access - ACP 1 Staging Access'. The window includes fields for Name, Expression, and Expression Type, along with options to edit, delete, or add symbols.

The screenshot shows the 'List Symbol Library' web page in Google Chrome. The page displays a table of standardized symbols for upload, categorized by 'Symbol Library: BASIC GRP'. The table includes columns for Symbol, Name, Description, and Library. A red box highlights the 'Staging Areas' symbol, which is a yellow circle with a black 'S' inside.

Symbol	Name	Description	Library
◆	quarry	quarry	BASIC GRP
●	rail crossing	rail crossing	BASIC GRP
o	rail mile marker	rail mile marker	BASIC GRP
△	school	school	BASIC GRP
♿	Senior Living	Senior Living	BASIC GRP
⚓	Skimmer	Skimmer	BASIC GRP
Ⓢ	Staging Areas	Staging Areas	BASIC GRP
ⓘ	Water Intake	Water Intakes	BASIC GRP
Ⓜ	water supply	water supply	BASIC GRP

New GRP Tools in ERMA – Draw Tool

- Allows draft GRP plans and edits to be shared with many for review and then added to ERMA table of contents when finalized.

The screenshot displays the ERMA Atlantic web application interface. The main map shows the Cleveland area with several red 'S' markers indicating staging areas. The interface includes a top navigation bar with menus like 'Information', 'Help', 'Recent Data', 'Admin', 'Upload', and 'Incident'. A search bar is located in the top right. On the right side, there is a 'View Existing Drawings' panel with a 'New Drawing' button. Below this is a table of drawings:

Share...	Name	Region
<input checked="" type="checkbox"/>	TS Colin Tuesday June 7 AOI	atlantic
<input checked="" type="checkbox"/>	GRP01-Cleveland Lakefront (Bound...	greatlak...
<input checked="" type="checkbox"/>	GRP01-PS-001	greatlak...
<input checked="" type="checkbox"/>	GRP01-BR-001	greatlak...
<input checked="" type="checkbox"/>	GRP01-Staging Areas	greatlak...

Below the table, there are buttons for 'Zoom to extent', 'edit', 'copy', 'delete', 'cleanup', and 'add to layers list'. A detailed view of the 'GRP01-Staging Areas' drawing is shown below, including fields for Name, Creator (Michael Greer), Description, Profile Name, Create Date (Aug 17, 2016 5:55:32 PM), and Layers (17824).

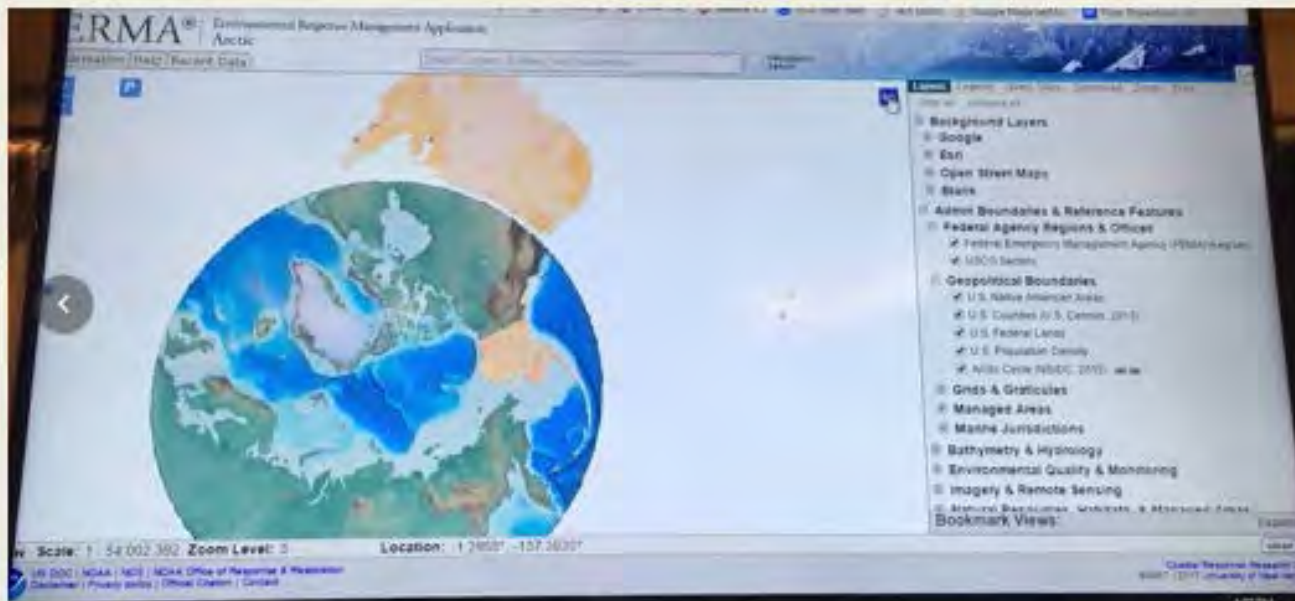
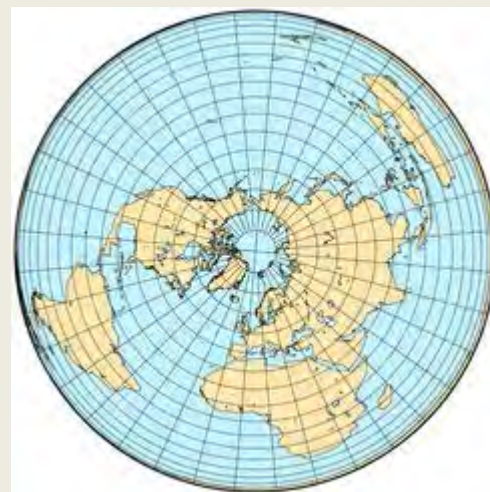
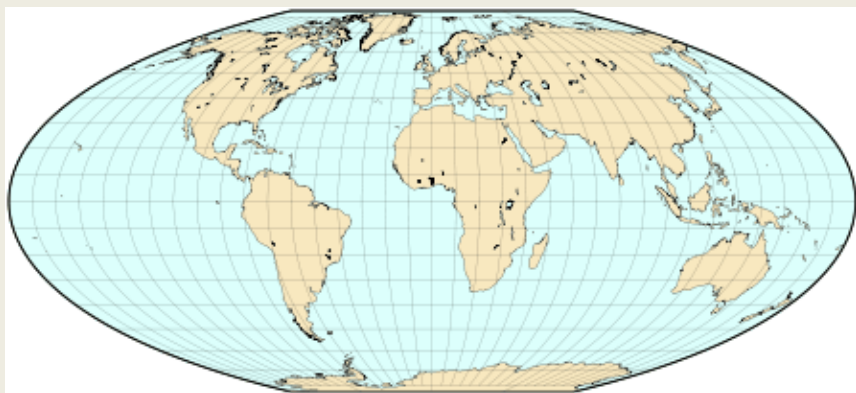
The bottom of the interface shows map metadata: Scale: 1 : 81K, Zoom Level: 12, Location: 41.50795°N, -81.74731°W. Footer text includes 'ERMA Atlantic | NOAA | National Ocean Service | Office of Response and Restoration' and 'Coastal Response Research Center | ©2007 - 2017 University of New Hampshire'.



ERMA Near Future

- Migration to Openlayers 3
 - Client-side vector rendering (quicker reaction/drawing)
 - Better support for:
 - Web Feature Services
 - Image Services
 - Opens the door to optimizing ERMA for use on mobile devices
- Polar Projections
 - Arctic Priority Region
- Continued Security Assessment and testing

Polar Projections





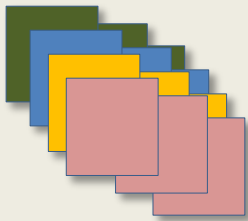
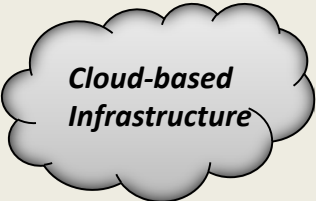
Overview

DIVER

(Data Integration, Visualization, Exploration, and Reporting)

DIVER is a **data warehouse** and **query** application. The DIVER approach **integrates** and **standardizes** datasets so users can query across data holdings and download information and results.

DIVER: Key Capabilities

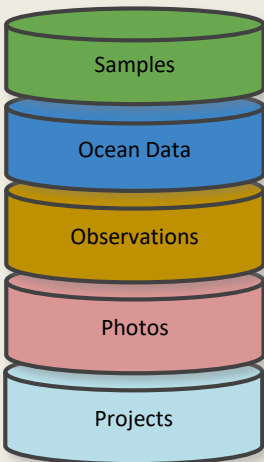


File Collections (Field Data)

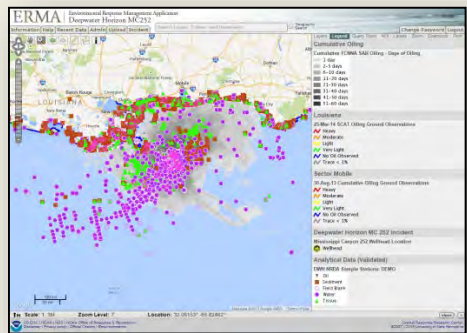
Ingest and manage data from many sources; structured and unstructured

Data Warehouse (ETL)

Integrate and standardize data from multiple sources (e.g. field-collected data, laboratory data, analysis)



Query and Export Tools (Structured/Formatted Data)



DIVER File Collections: Southwest

DIVER Portal

SELECT A WORKSPACE

Home About the Data Help

Southwest & Pacific Islands > Refugio

FILE COLLECT

ID #	Category
1008	Subtidal
1064	Recreation Use
1001	Subtidal
943	Recreation Use
942	Recreation Use
941	Recreation Use
937	Recreation Use
938	Recreation Use
946	Shoreline
934	Recreation Use
933	Recreation Use
828	Sandy Beach
926	Sandy Beach
920	Dead Box
905	Dead Box

FILE COLLECTION DETAILS

Start Date: 06/14/2016
 Data Classification: Assessment
 Category: Sandy Beach
 Description: S&B Tailtrid Sampling

Location: Santa Barbara, CA
 Representative Collection Location
 Latitude: 0.0
 Longitude: 0.0

ASSOCIATED FILES

Type	File Name	File Size
Chain of Custody	2016_0614_COC_S&B1.pdf	1.1 MB
Chain of Custody	2016_0614_COC_S&B1_PropSurv.pdf	2.1 MB
Daily Summary	2016_0614_DailySummary_S&B1.pdf	1.0 MB
Field Sample Form	2016_0614_FieldSamplePhoto_Carpinteria_SantaClausLane_S&B1.pdf	1.8 MB
Field Sample Form	2016_0614_FieldSamplePhoto_ElCapt_S&B1.pdf	1.8 MB

ARD DRAFT

NRDA Sample Collection Form (Short Form) - DRAFT

Division: ARD
 Incident Name: N/A
 Agency: NOAA
 Segment: Elson Lagoon Transect I

Matrix	QA/QC	Storage	Primary	Secondary	Sample ID	Latitude	Longitude	Sample Date	Sample Time	Sample Notes
Sediment (S), Oil (O), Tissue (T), Water (W)	Blank, Dup, Split	Grab or Core, Species, grain size	Depth, Size, Tissue type, or Individual Composite	Sample id (and Station id if necessary)	Latitude in DD.XXXXX	Longitude in DD.YYY.YYYY	Sampling date (YYYYMMDD)	(24hr clock local time)		description of individual sampling locations
T	N/A	Frozen	Cisco	Bile	EL 01	71.35693	136.54581	20130722	1155	Elson Lagoon Beach Seize Cisco
T	↓	↓	Sculpin	Bile	EL 02	↓	↓	↓	↓	4-horn sculpin
T	↓	↓	Cisco	↓	EL 03	↓	↓	↓	↓	Arctic Cisco
T	↓	↓	Cisco	↓	EL 04	↓	↓	↓	↓	Arctic Cisco
T	Blank	↓	NA	N/A	EL 0A1	↓	↓	↓	↓	QA - Field Blank

Survey Notes (Weather, conditions, etc): No length or sex data on fish
 Very windy
 Pebble beach

Date	Time	Relinquished By: (Field Sampler signature)	Print Name	Date	Time	Received By: (Sample Runner/Command Post signature)	Print Name

ARD DRAFT

All QA/QC, location and handling information must be removed prior to submission to any Lab

Version 4.0 2009.09.09

DIVER Explorer: Southwest

Expand All | Collapse All

Projects & Planning Details

--- No Data Available ---

Environmental Data

- Field Collected Data Records
- Lab Results and Field Measurements
 - Station Locations
 - Sample Result Data
 - Single Contaminant Results
 - Multiple Contaminant Results
 - Calculate Total PAHs
 - Sediment
 - Tissue
 - Water
 - Compare Chemistry to Guidelines
 - Build A New Environmental Data Query
- My Queries
- Saved and Shared Queries

Guided Query: Lab Results and Field Measurements » Calculate Total PAHs » Sediment

Region | Analysis Category | Analysis Type | QM Matrix | Result Type | Depth Category | Analysis | New Filter

Fields: **Expand All**

Analysis

- Analysis Status
- Oil Presence
- Review Status
- Sharing Status
- Results: Sample
 - Client ID
 - DV Qualifier Res
 - DV Qualifier Res
 - Depth Category
 - Fingerprint Class
 - Fingerprint Class
 - Lab ID
 - Lab Name
 - Lab/Result Matr

DIVER EXPLORER | SOUTHWEST & PACIFIC ISLANDS

Legend | Symbology

Change Legend: Concentration

Concentration : CDFW-OSPR (µg/Kg)

- Below Detection Limit (DL < 59.5)
- Concentration < 59.5
- 59.5 ≤ Concentration < 1126.02
- Concentration ≥ 1126.02

Summary | Table | Charts | Metadata | Study Notes | Export

6,368 of 6,368 rows displayed						
#	Sharing status	Workgroup	Collection Study Name	Station/site	Date	Sample ID
1	All Workspace Members	Fish	GR-4 Grunion Egg Sampling - Refugio & El Capitán	SBJS001	06/06/2016	CSBSGR400123
2	All Workspace Members	Fish	GR-4 Grunion Egg Sampling - Refugio & El Capitán	SBJS001	06/08/2016	CSBSGR400123
3	All Workspace Members	Fish	GR-4 Grunion Egg Sampling - Refugio & El Capitán	SBJS001	06/08/2016	CSBSGR400489

Public DIVER



NATURAL RESOURCE DAMAGE ASSESSMENT & RESTORATION

DATA & VISUALIZATION



HOME



ABOUT



DATA OVERVIEW



HELP

NOAA manages data associated with the evaluation and restoration of environmental injuries from hazardous waste releases, oil spills, marine debris, and vessel groundings in its role as a steward for the nation's coastal and marine resources. [Use NOAA's tools to search, visualize, and download data.](#)

Choose An Application

DIVER
Explorer

ERMA

Go Directly To These Popular Datasets



Deepwater Horizon
Restoration
Projects



Deepwater Horizon
Natural Resource
Assessment Data



Hudson River
Watershed



Lower Willamette
River



St. Louis River Area
of Concern

<https://www.diver.orr.noaa.gov>

Questions?

- **Southwest ERMA URL**

<https://erma.noaa.gov/southwest>

- **National DIVER Portal URL**

<https://www.diver.orr.noaa.gov>