

Historic U.S. Coastal Navigation Sediment Placement



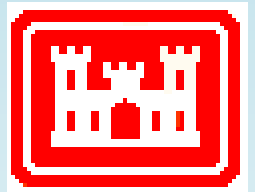
NICOLE ELKO, ELKO COASTAL CONSULTING, INC.

LINDA LILLYCROP, USACE RSM PROGRAM MANAGER

QUIN ROBERTSON, CB&I

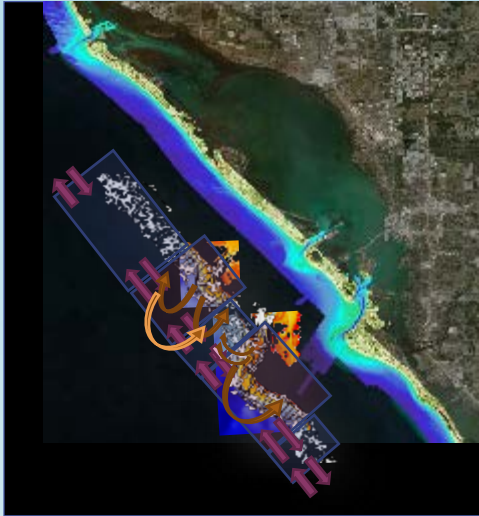
ZHIFEI DONG, CB&I

HEATHER VOLMER, CB&I



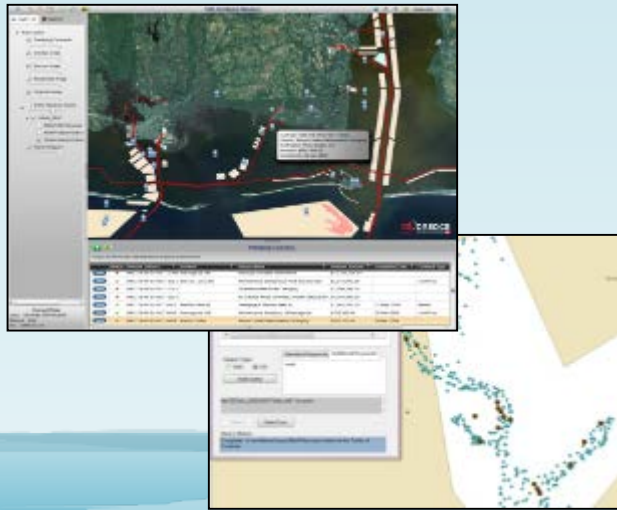
ASBPA'S 90TH ANNIVERSARY | LONG BRANCH, NJ
OCTOBER 26, 2016

Regional Sediment Management



Regional Sediment Budgets
Local Actions=Regional Benefits

A screenshot of the US Army Corps of Engineers' Regional Sediment Management (RSM) website. The header features the Corps logo and the text "REGIONAL SEDIMENT management". Below the header, there is a navigation bar with links to Home, Initiatives, Publications, Tools & Databases, Workshops & Meetings, Testimony, Links, and In the News. The main content area is titled "Regional Sediment Management (RSM)" and includes a brief description of the program. A "What's New?" section lists recent updates, including the 2016 RSM 1PR and Successes / Challenges Meeting and the FY17 Request for Proposals. An "Interactive Map" section shows a map of the United States with various regional offices marked. The bottom of the page features a "Mobile District and Interagency Working Group RSM Teams" section.



Data Management and Access



Guidance, Lessons Learned

Project Goal and Objective

- Goal: To determine the extent to which Regional Sediment Management (RSM) goals have been implemented across the USACE Coastal Districts
 - How much navigation sediment is placed beneficially?
- Objectives: Create geodatabase of gov'n't datasets
- Refine government datasets with more detailed information from the Districts (2 databases)
 - Disposal/placement intent
 - Reduce unknown placement types

Available Data and Statistics

- 200-300 Mcy/yr Navigation Dredging by USACE¹
- 20-30% placed beneficially¹
- Update with existing USACE Datasets:



156

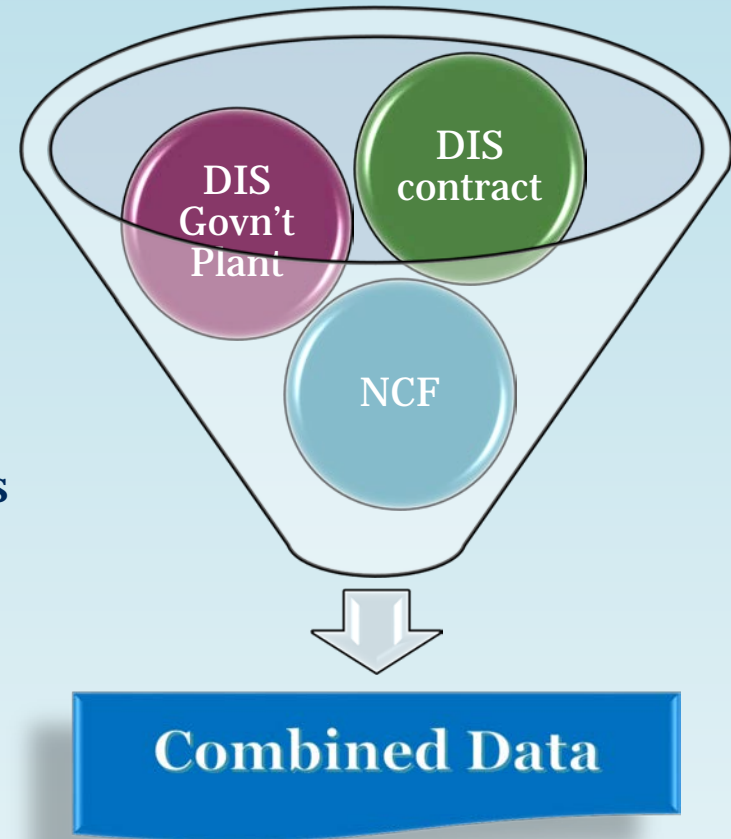
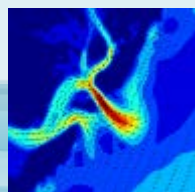
220

376

Coastal Navigation Projects

¹EPA & USACE, 2007

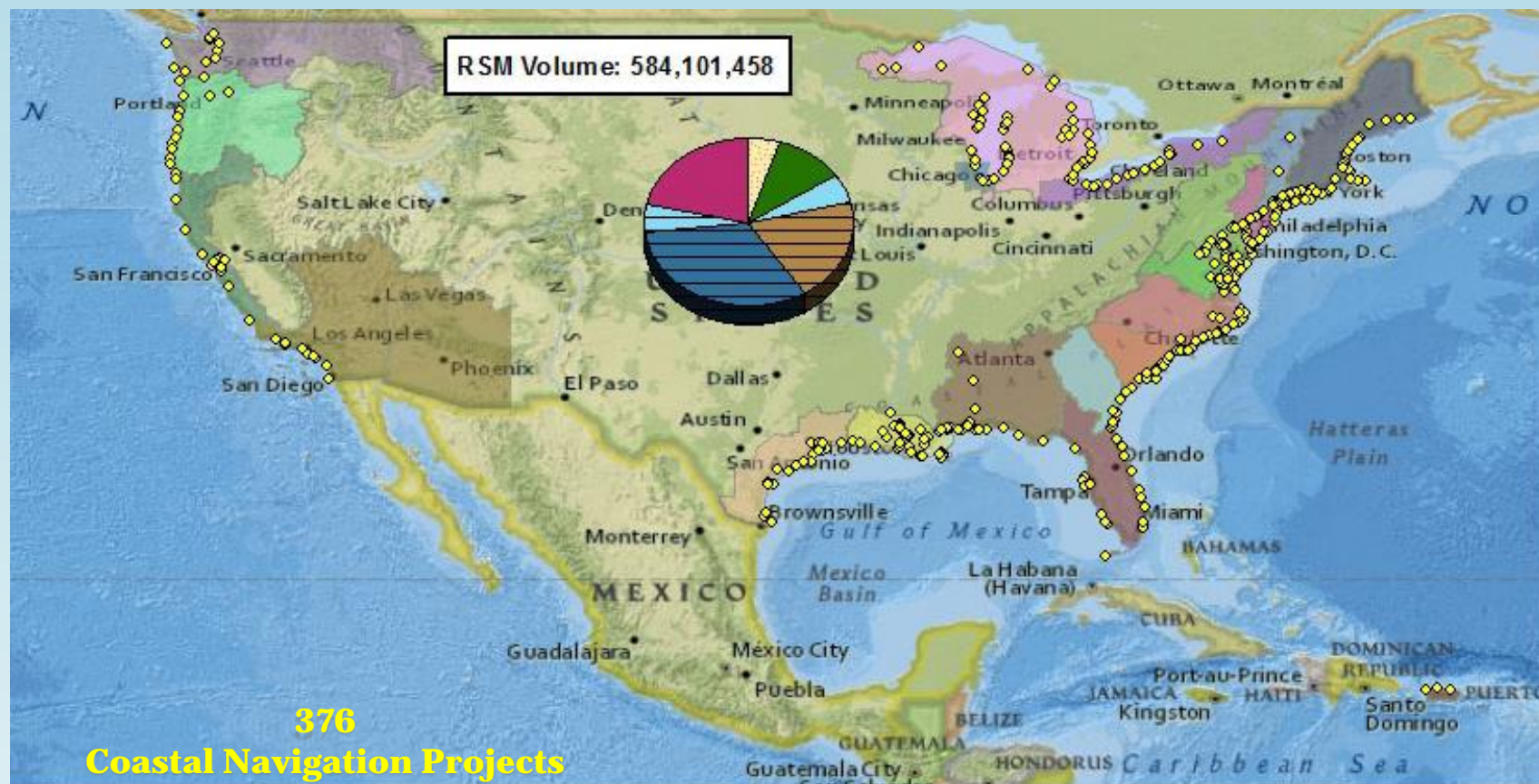
RSM Phase 2: GIS Database



- Utilize existing data from 3 datasets
- Automate data integration
 - Specific rules
 - Standardize project names w/in Districts
 - Repeatable
- Geodatabase
- Online data review
 - Dynamic link
 - Minimize review times

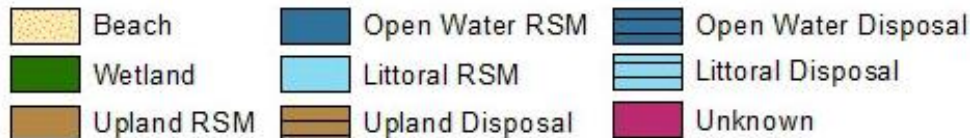
USACE Civil Works Information System
(CWIS) Numbers

Database #1: USACE Datasets (1998-2014)



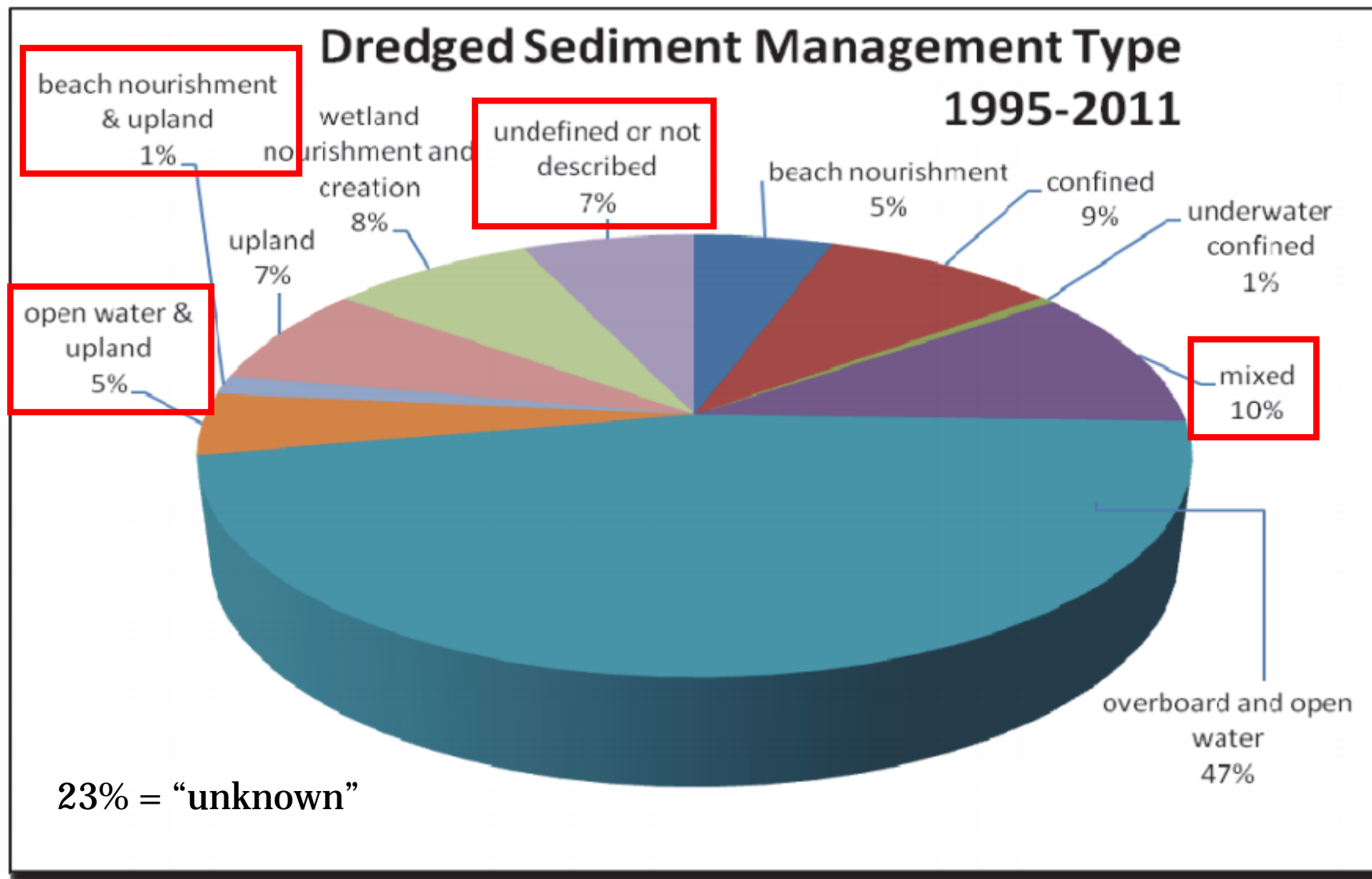
Coastal Navigation Sediment Placement and Disposal:
National Datasets Database (1998-2014)

Total Volume 2,678,937,544 cy
3,284 Dredging Events
913 RSM Events



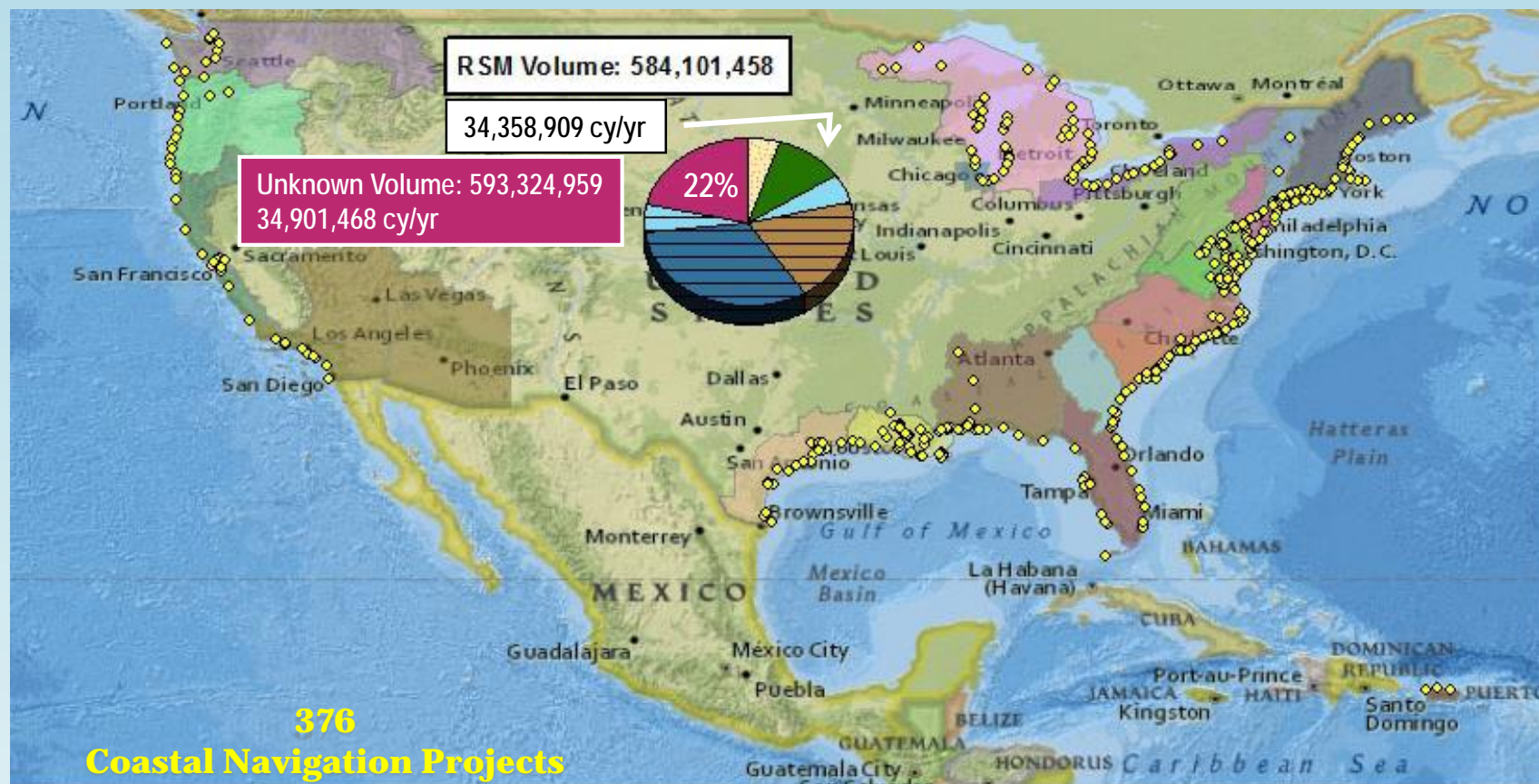
INTENT

Dredged Sediment Management Type 1995-2011



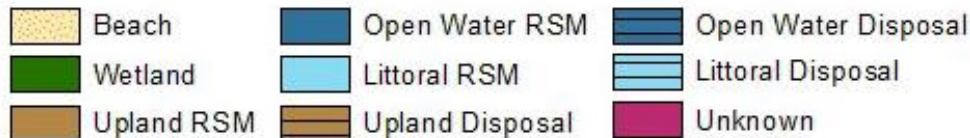
Modified from Childs 2015

Database #1: USACE Datasets (1998-2014)



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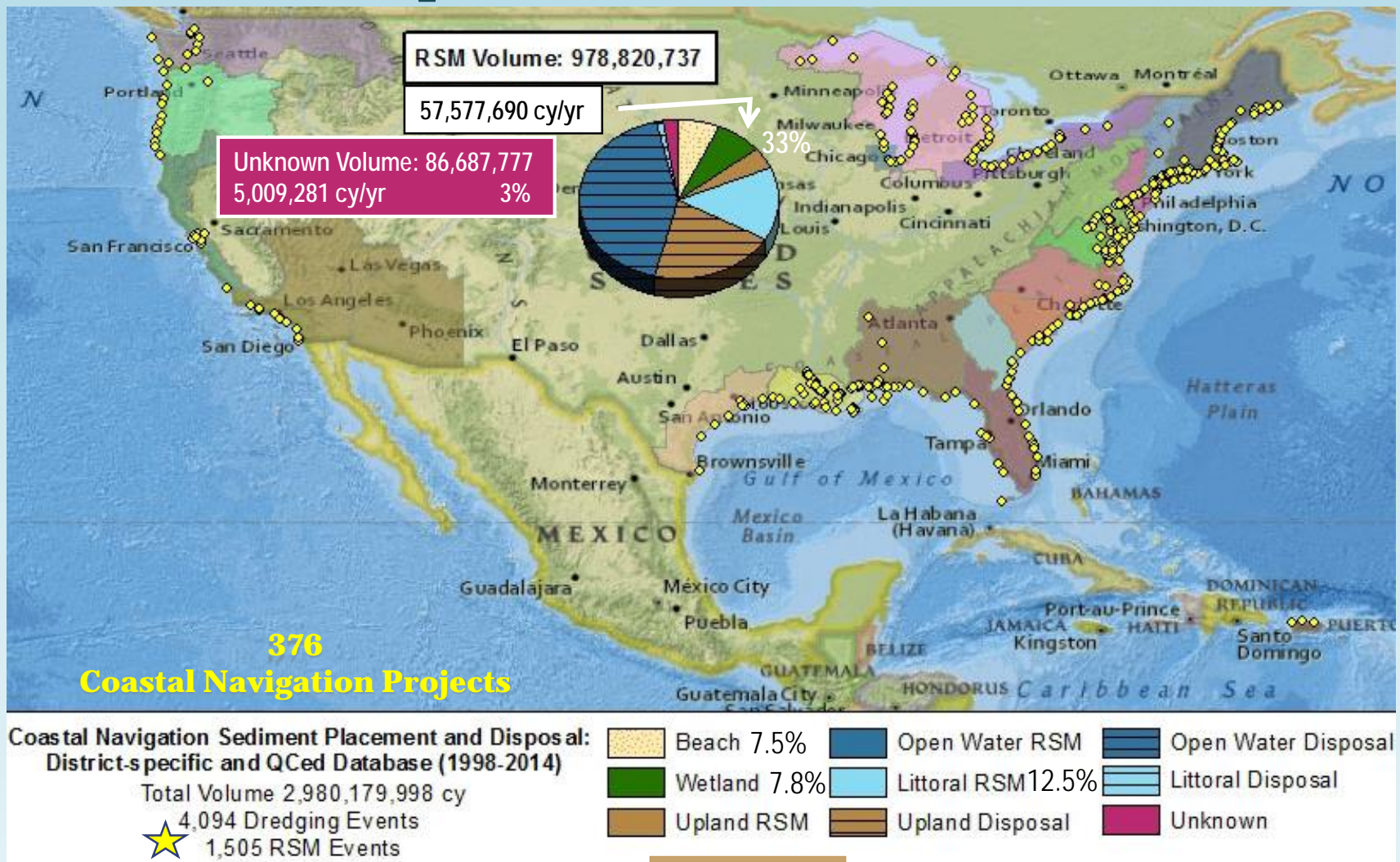
INTENT

Data Refinement

Reduce Unknown Volumes & Clarify Intent

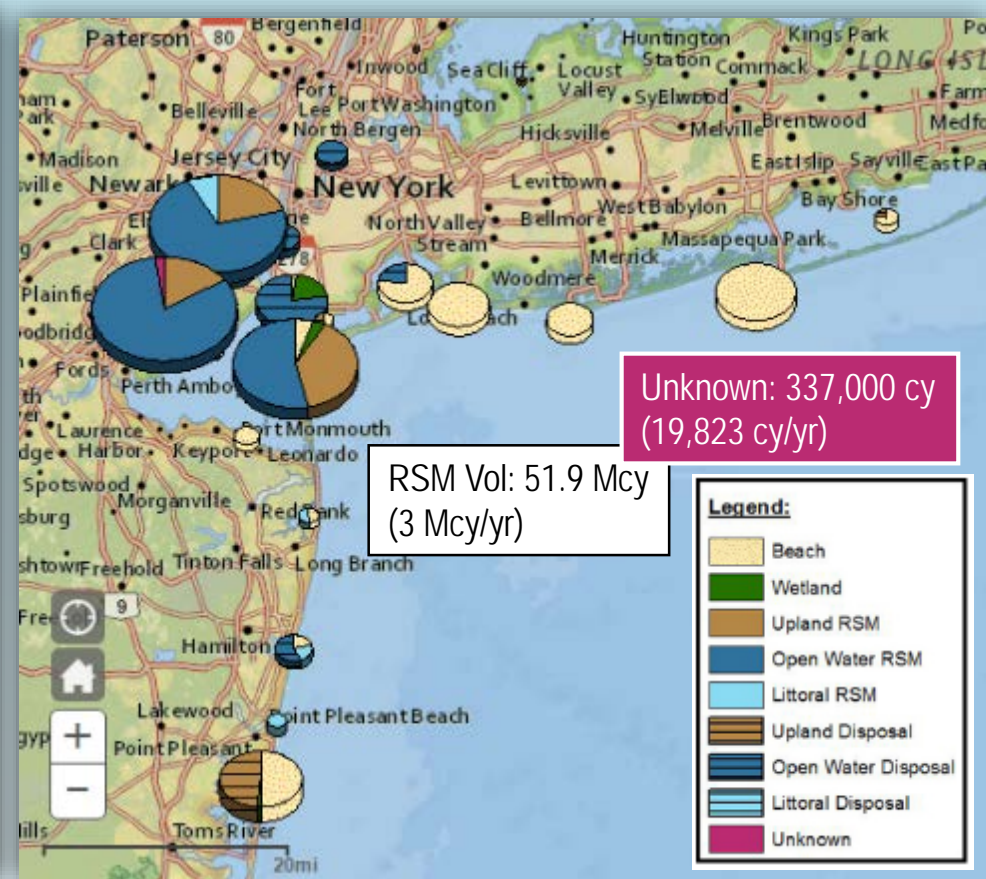
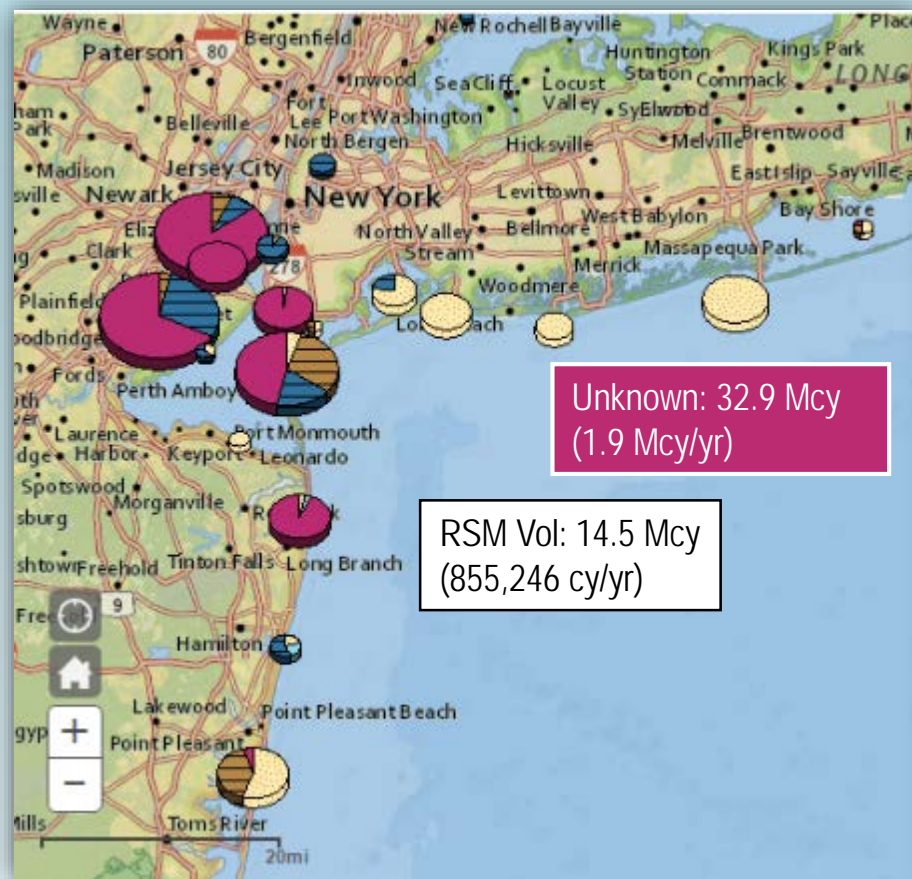
- QA/QC 3,284 individual projects since 1998
- Excellent DIS data = no unknowns
 - SAC, LRB
- District databases
 - MVN, SPL, SPN, NWP, NAE
- Interviews – discuss specifics, e.g., intent

Database #2: District-specific & QCed (1998-2014)



INTENT

Example of Data Refinement: New York District



NAN	National Datasets (cy) 1998-2014	National Datasets (cy/yr)	District- specific & Quality Checked (cy) 1998-2014	District- specific & Quality Checked (cy/yr)
Total Volume Dredged	63,396,025	3,729,177	60,296,025	3,546,825
Volume Placed Beneficially	14,539,198	855,246	51,895,505	3,052,676
% Placed Beneficially	23%	23%	86%	86%
# Dredging Events	120	7.5	119	7.4
# Dredging Events Placed Beneficially ("RSM" Events)	42	2.625	94	5.875
% Dredging Events Placed Beneficially	35%	2%	79%	5%
Unknown volume	32,923,022	1,936,648	337,000	19,823
Volume Placed on Beaches	14,187,915	834,583	15,446,287	908,605
Volume Placed in Wetlands	0	0	975,000	57,352
Volume Placed Beneficially in Littoral Zone	351,283	20,663	1,351,283	79,487
Volume Placed Beneficially in Open Water	0	0	25,590,030	1,505,295
Volume Placed Beneficially Upland	0	0	8,532,905	501,935
Volume Disposed (not placed beneficially)	48,856,827	2,873,931	8,400,520	494,149

Search by District

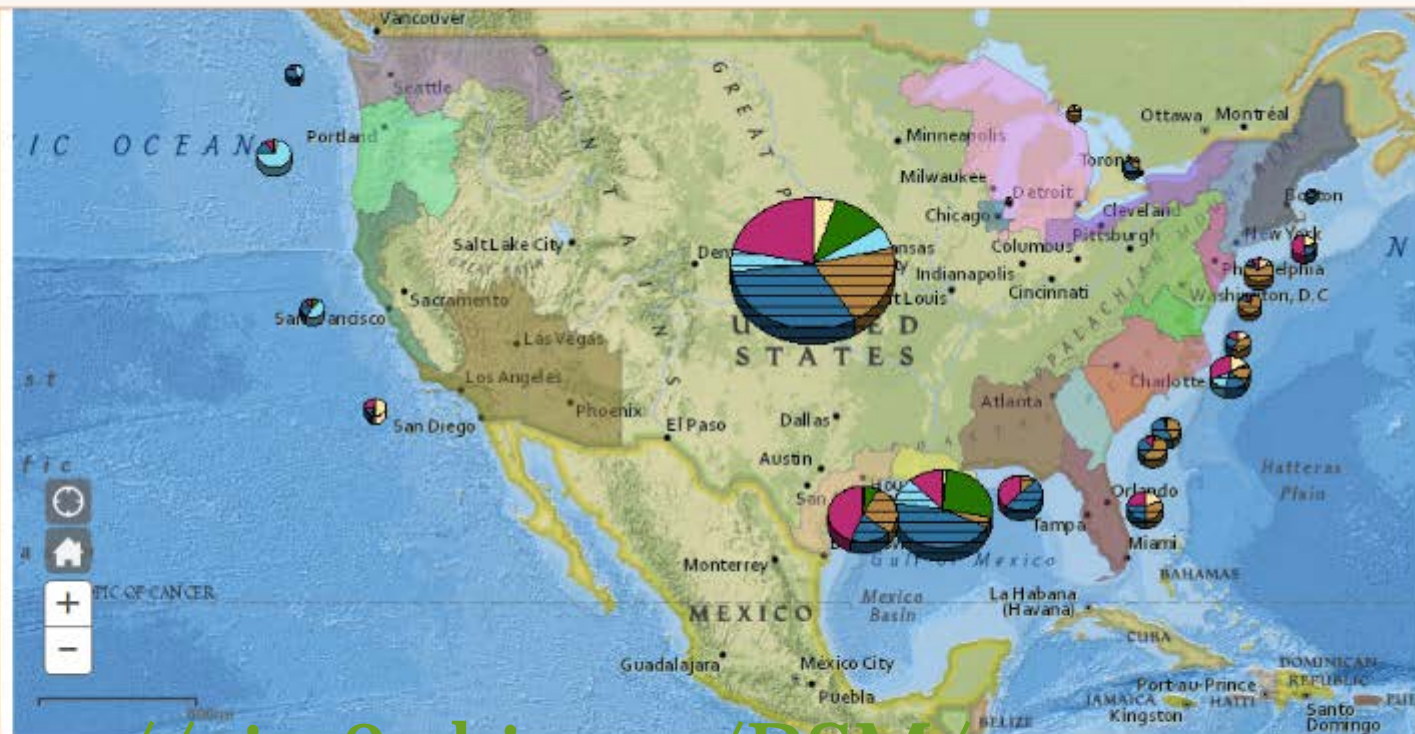
Baltimore

Zoom

Legend:

- Beach
- Wetland
- Upland RSM
- Open Water RSM
- Littoral RSM
- Upland Disposal
- Open Water Disposal
- Littoral Disposal
- Unknown

Turn On/Off Map Layers


<https://gim2.cbi.com/RSM/>

Totals vs Yearly Volumes

☒ Nationwide (Totals)
 ☐ District (Totals)
 ☐ LRB (Totals)
 ☐ LRC (Totals)
 ☐ LRE (Totals)
 ☐ MVN (Totals)
 ☐ NAB (Totals)
 ☐ NAE (Totals)
 ☐ NAN (Totals)
 ☐ NAO (Totals)
 ☐ NAI (Totals)

District	# DIS Projects	# NDC Projects	# RSM Projects	RSM Proj Vol (cy)	Total Vol (cy)	RSM					Disposal			Unknown (cy)
						Beach (cy)	Upland (cy)	Wetland (cy)	Open Water (cy)	Littoral (cy)	Upland (cy)	Open Water (cy)	Littoral (cy)	
LRB	121	0	1	102857	27347062	102857	0	0	0	0	8710230	15304570	0	3229405
LRC	35	0	13	1035284	3438759	1035284	0	0	0	0	1668933	317196	0	417346
LRE	206	0	79	4049249	18832127	4049249	0	0	0	0	13710232	265865	0	806781
MVN	370	217	87	257934738	665700138	11004998	0	255820850	0	0	25226215	144100702	95912694	125725708

1 - 15 of 20 results

1 2 >

Summary

- 1st time navigation dredging databases visualized on a National scale
- 2007 Statistics:
 - 200-300 Mcy/yr Navigation Dredging by USACE¹
 - 20-30% placed beneficially¹
- This Study:
 - 175 Mcy/yr Coastal Navigation Dredging by USACE
 - 33% placed beneficially (57.6 Mcy/yr)
 - Unknown Disposal reduced from 35 Mcy/yr to 5 Mcy/yr

¹EPA & USACE, 2007

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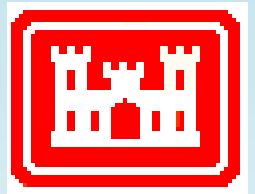
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Questions?