

Welcome!

CIRP Technology Transfer Workshop



New Orleans District

May 20-21, 2010

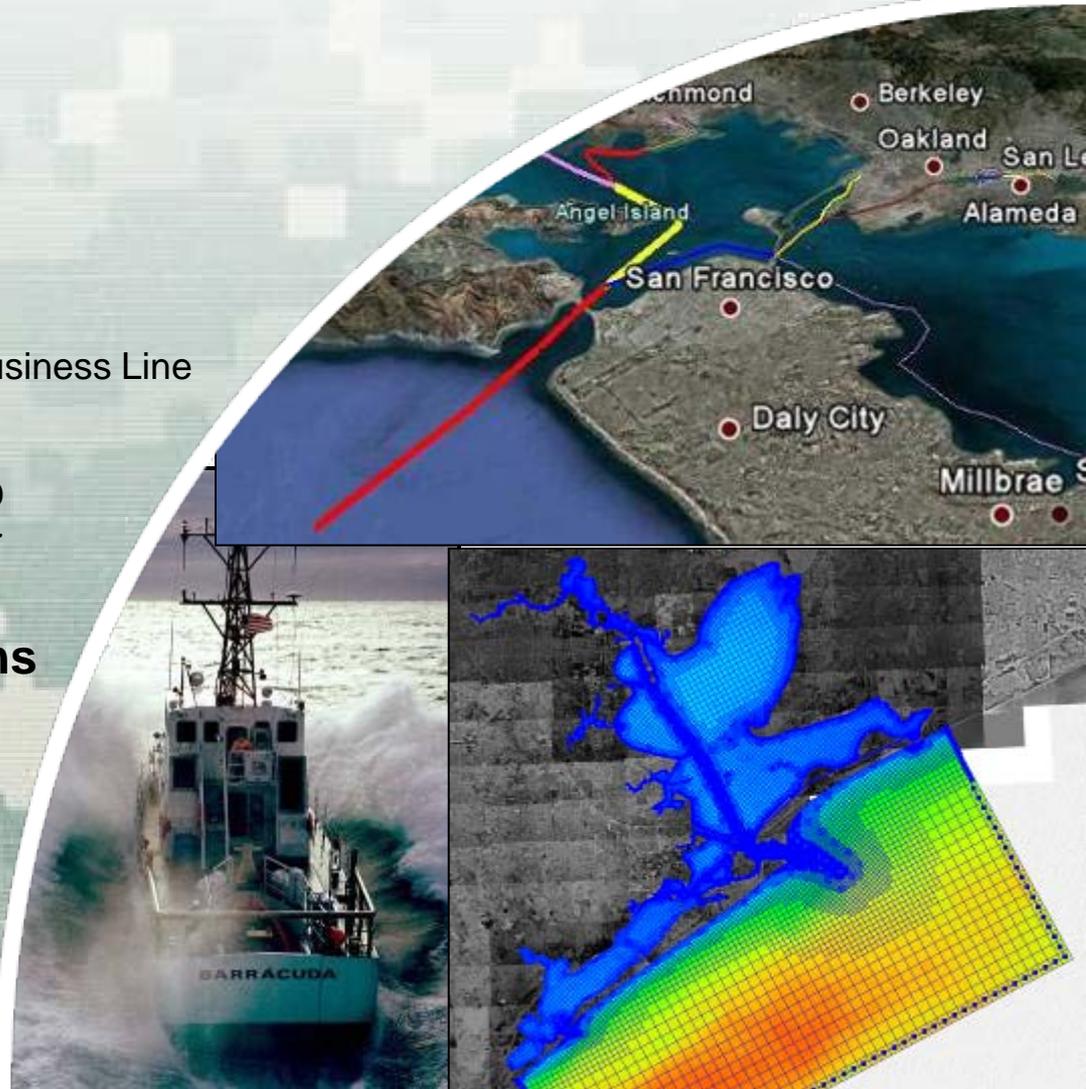
Julie Dean Rosati
Program Manager, CIRP

Jim Walker
HQ Navigation Business Line
Manager

Nick Kraus
Assistant PM

Jeff Lillycrop
Technical Director

Eddie Wiggins
Associate TD



US Army Corps of Engineers
BUILDING STRONG



Advances in Decision-Support for Coastal Inlets and Navigation Channels

The Coastal Modeling System (CMS) and Channel Portfolio Tool (CPT)

Thank you to New Orleans District for Hosting!

Especially ...Cherie Price & Melanie Goodman



Focus on Two CIRP Products

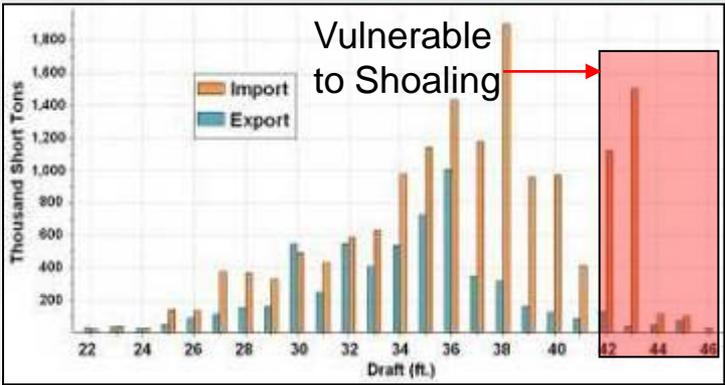
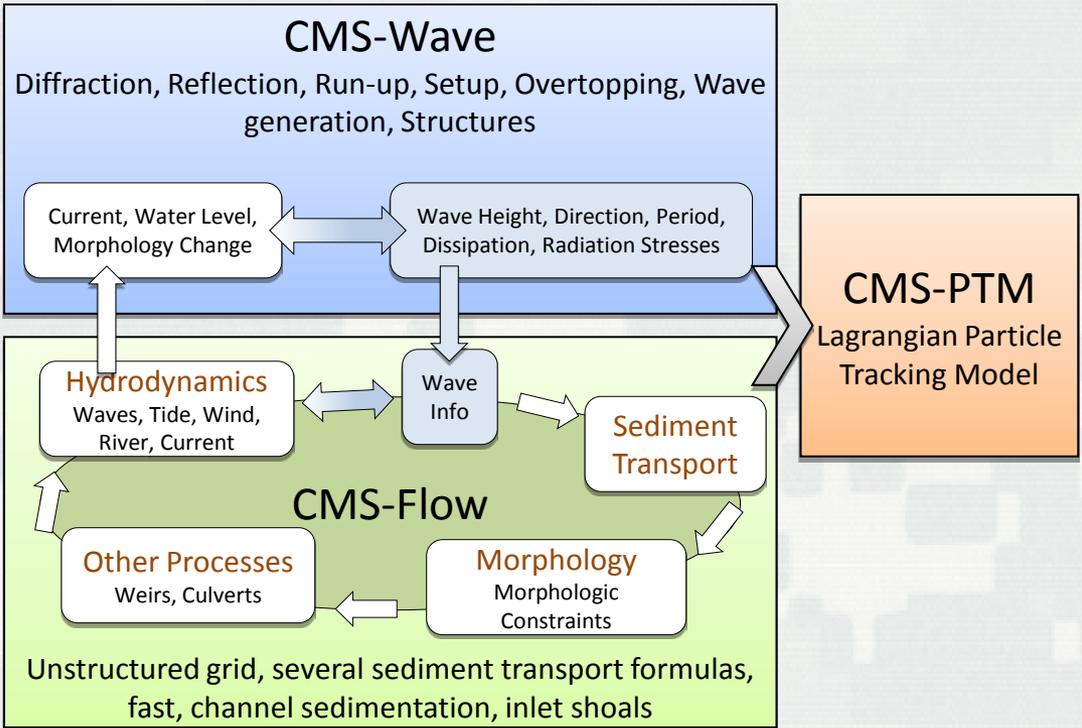


CMS – Coastal Modeling System

Integrated wave, current, and morphology change model.

CPT – Channel Portfolio Tool

Web portal that relates navigable depths to commodities transiting each depth.

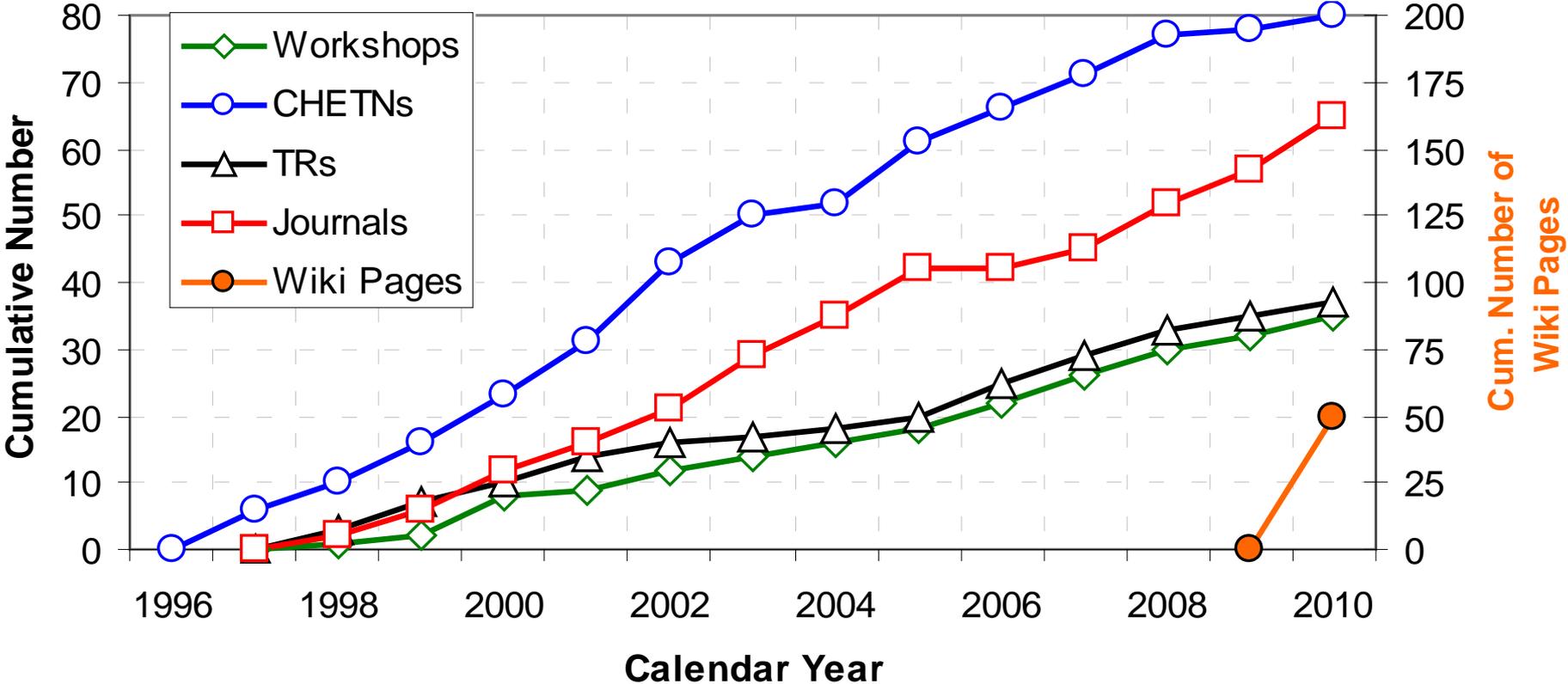




CIRP Publications and Workshops



CIRP Publications and Workshops





CIRP Web Site & Wiki Pages



<http://cirp.usace.army.mil/>



US Army Corps of Engineers
CIRP - Coastal Inlets Research Program



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CMS-Flow

CMS-Flow is a component of the Coastal Modeling System (CMS). It is a finite-volume numerical engine which presently includes various two dimensional capabilities. Present features are:

- **Hydrodynamics** - water levels and current flow values under any condition of tide, wind, surge, waves and river flow
- **Sediment Transport** - as bedload, suspended load, and total load dependent on various transport algorithms
- **Morphology Change**
- **Salinity Transport**

For more information on the model itself, refer to the [users manual](#) published by USACE-ERDC.

Pre- and post-processing of CMS-Flow grids is accomplished with the Surface-water Modeling System (SMS), version 10.0 and later. The user can set up and edit computational grids, specify model parameters, define interaction of this model with the wave counterpart ([CMS-Wave](#)), launch the model and visualize the results.

The model is intended to be run on a project-scale, meaning the domain should only be on the order of 1-100 kilometers in length and width; however, future features will allow for more regional applications. The following sections describe the interface and make recommendations for the applications of the model.

- [CMS-Wave Model](#)

navigation

- [Main Page](#)
- [Coastal Modeling System](#)
- [CIRP publications](#)
- [CIRP products](#)
- [CIRP Event Horizon](#)
- [Help](#)

links

- [CIRP Website](#)
- [CHL Website](#)
- [USACE Navigation Gateway](#)

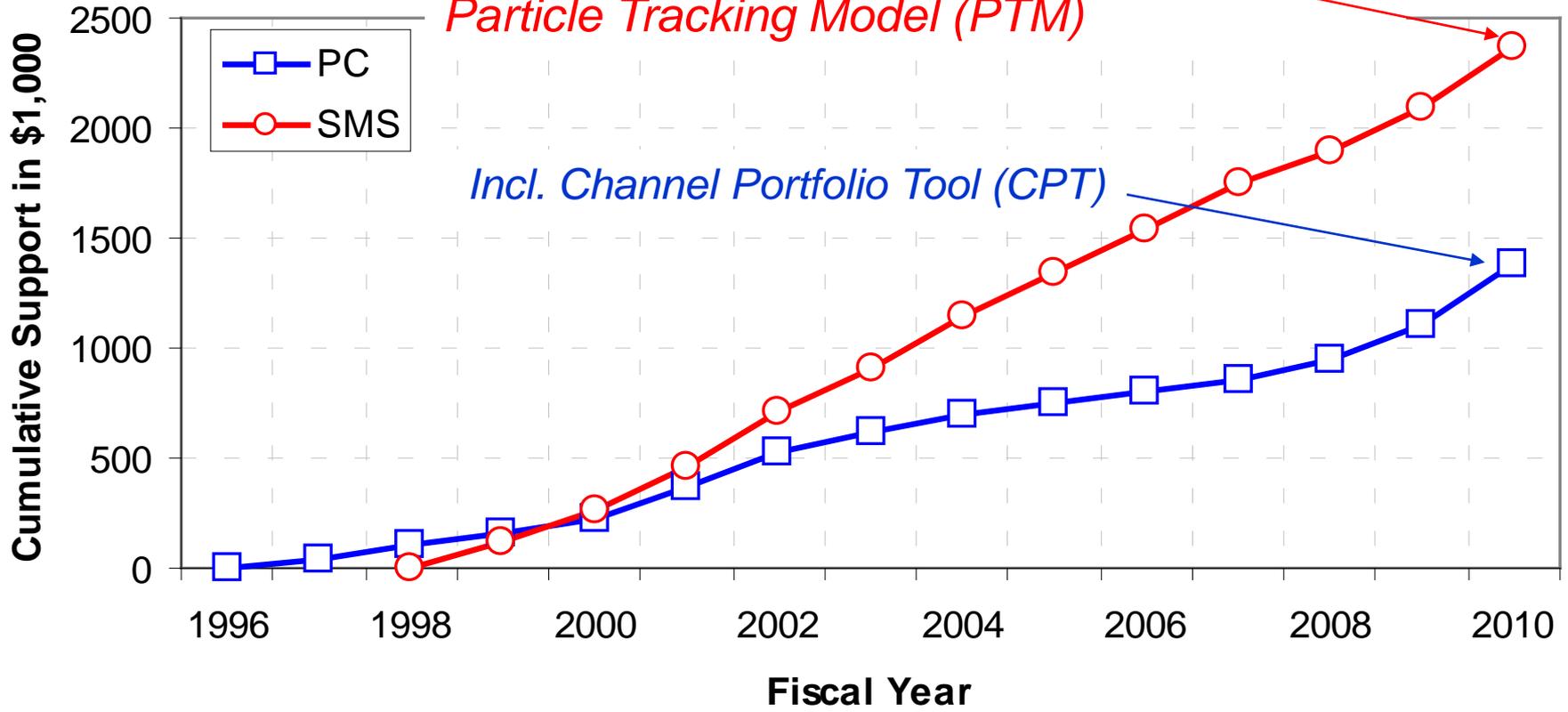
wiki resources



CIRP: Interface Support



*Incl. Surface Water Modeling System (SMS),
Coastal Modeling System (CMS),
Particle Tracking Model (PTM)*





®

The World of CMS



West Coast/Pacific

- Mouth of Columbia River, WA/OR
- Seattle, WA (CMS-Wave)
- Grays Harbor, WA
- Willapa Bay Toke Point, WA (NWS)
- Willapa Bay Center, WA
- Noyo, CA
- Humboldt, CA
- Ocean Beach, CA
- Dana Point, CA
- Pelekane, HI
- Cold Bay, AK
- Ketchikan, AK (CMS-Wave)

Great Lakes

- Cleveland Harbor, OH
- New Buffalo, MI
- Lake Erie
- Ontario Beach, Rochester, NY

Gulf

- Bahia Grande, TX
- Mouth of Colorado River, TX
- Matagorda Ship Channel, TX
- Baffin Bay, TX
- Corpus Christi Bay, TX
- Houston-Galveston, TX
- Sabine Pass, TX

Gulf (cont)

- Port of S. LA, Bonne Carie, LA
- White Ditch, Plaquemines Parish, LA
- Pensacola Pass, FL
- Eglin-Ft. Walton Beach, FL
- New Pass, FL (SAJ)
- Big Sarasota Pass, FL (SAJ)
- Sarasota Bay (SAJ)
- Blind Pass, FL
- Johns Pass, FL
- Tampa Bay, FL
- Venice Inlet, FL
- Gordon Pass, FL
- Longboat Pass, FL
- Wiggins Pass, FL
- Gasparilla Island, FL
- Anna Maria Island, FL
- Cape Sable Canal, FL
- Key West Federal Navigation Channel (SAJ)

Atlantic

- Singer Island, FL
- Palm Beach Harbor/Lake Worth Inlet, FL (SAJ)
- Sebastian Inlet, FL
- St. Augustine, FL
- Jacksonville Harbor, FL (SAJ)
- Rudee Inlet, VA
- Poplar Island, MD
- St. Jerome Bay, MD

Atlantic (cont)

- Rooster Island, MD
- Havre De Grace, MD
- Ocean City Inlet, MD
- Cape Fear, NC
- St. Augustine, Del. Bay, DE
- Point Lookout, NY
- Shark River Inlet, NJ
- Hereford Inlet, NJ
- Great Egg Harbor, NJ (NAP)
- Pleasant Bay, MA
- Lake Montauk, NY
- Askaroken, NY
- Shinnecock Inlet, NY
- Moriches Inlet, NY
- East Harbor, MA (NAE)
- Rhode Island (RSM) (NAE)

International

- NW Australia
- Veracruz, Mexico
- Grand Cayman Is., Bahamas
- Bardawil Lagoon, Egypt
- Nanaimo, British Columbia, Canada (CMS-Wave)
- Papua New Guinea (CMS-Wave)
- Equatorial Guinea, Africa (CMS-Wave)

CMS Licenses

CANADA	4
CHINA	5
COLOMBIA	1
GERMANY	1
GUATAMALA	1
INDIA	1
INDONESIA	1
ITALY	1
JAPAN	1
JORDAN	4
ROMANIA	2
S. KOREA	6
SPAIN	5
TAIWAN ROC	1
U.K.	4
USA	30
VENEZUELA	1
VIETNAM	2
TOTAL	71



Agenda – Thursday



8:15 – 8:45 am	Security check and Registration
8:45 – 9:00	Welcome from New Orleans District Mr. Tom Holden - Deputy District Engineer for Project Management, New Orleans District
9:00 – 9:15	Welcome, Overview and Goals – Julie Rosati, Nick Kraus, CHL
9:15 – 9:45	Navigation Channels and Coastal Inlets: HQ Perspective – Jim Walker, HQUSACE and Jeff Lillycrop, CHL, Tech Dir for Nav
9:45 – 10:15	Channel Prioritization Tool (CPT) – Ned Mitchell and Ashley Frey, CHL
10:15 – 10:30	Break
10:30 – 11:15	CMS Overview, background and capabilities - Alex Sanchez, CHL
11:15 – 11:45	Introduction to CMS-PTM - Honghai Li, CHL
11:45 – 12:00	Wave and current forecasting at Humboldt Bay Bar Entrance Channel with National Weather Service – Mitch Brown, CHL
12:00 – 1:00 pm	Lunch



Agenda – Thursday (concluded)



1:00 – 1:30	CMS Applications in FL - Kelly Legault and Steve Bratos, SAJ
1:30 – 2:00	CMS Projects in New England District - Irene Watts, NAE
2:00 – 2:30	CMS Application to Mississippi Sound Barrier Islands - Jay Rosati, CHL
2:30 – 2:45	Break
2:45-3:45	Hands-on Practice #1: Channel Prioritization Tool (CPT)
3:45-4:15	Overview of the SMS interface and New CIRP Additions: CIRP Wiki and CMS Discussion List – Mitch Brown
4:15-4:30	Questions and discussion
4:30	Adjourn for Day



Agenda – Friday



<p>8:30 – 12:00 Informal break</p>	<p>Hands-on Practice #2: CMS-Flow (Shark River Inlet, NJ) – Tanya Beck and CIRP</p> <ol style="list-style-type: none">1. CMS-Flow setup<ol style="list-style-type: none">a. Grid generationb. Hydrodynamicsc. Sediment transport/morphology change
<p>12:00 – 1:00</p>	<p>Lunch</p>
<p>1:00 – 2:30 Informal break</p>	<p>Hands-on Practice #3: CMS-Wave (Shark River Inlet, NJ) – Lihwa Lin and CIRP</p> <ol style="list-style-type: none">2. CMS-Wave setup<ol style="list-style-type: none">a. Grid generation and transformationb. Structures, runup and overtoppingc. Input spectrad. Model parameters



Agenda – Friday (concluded)



2:30 – 4:00	Hands-on Practice #4: CMS Application (Shark River Inlet, NJ) – Alex Sanchez and CIRP 3. Steering 4. Viewing results and making animations 5. Analyzing sediment transport results a. Channel infilling b. Sediment transport rates
4:00 – 4:45	Upcoming Features – Alex Sanchez
4:45 – 5:00	Feedback / Venue for Next Workshop
5:00	Adjourn Workshop



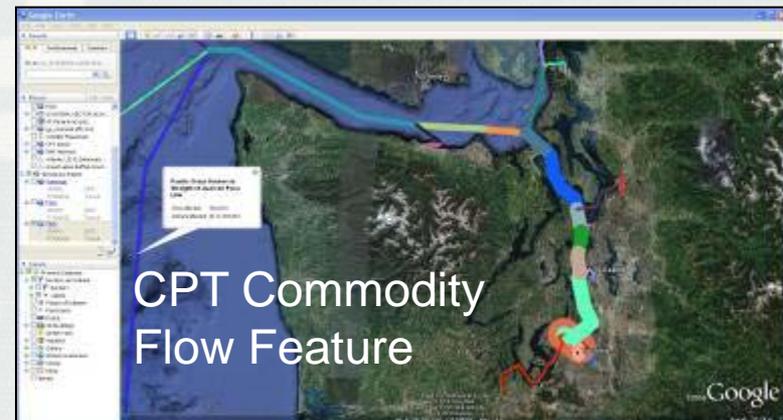
Goals for Workshop



- Participants:
 - ▶ Learn about CIRP products: CMS, CPT
 - ▶ Interact with CIRP PIs and attendees
 - ▶ Apply CMS in hands-on sessions
 - ▶ Bring CMS technology back to your office
 - ▶ Know who to call or email with questions
- CIRP:
 - ▶ Learn about participants' site-specific applications
 - ▶ Identify future CMS and CPT needs
- Everyone:
 - ▶ Make contacts and network
 - ▶ **Thanks to New Orleans District!**



CMS Shark River Inlet, NJ



CPT Commodity Flow Feature