

Welcome!

CIRP Technology Transfer Workshop



New Orleans District

May 17, 2010

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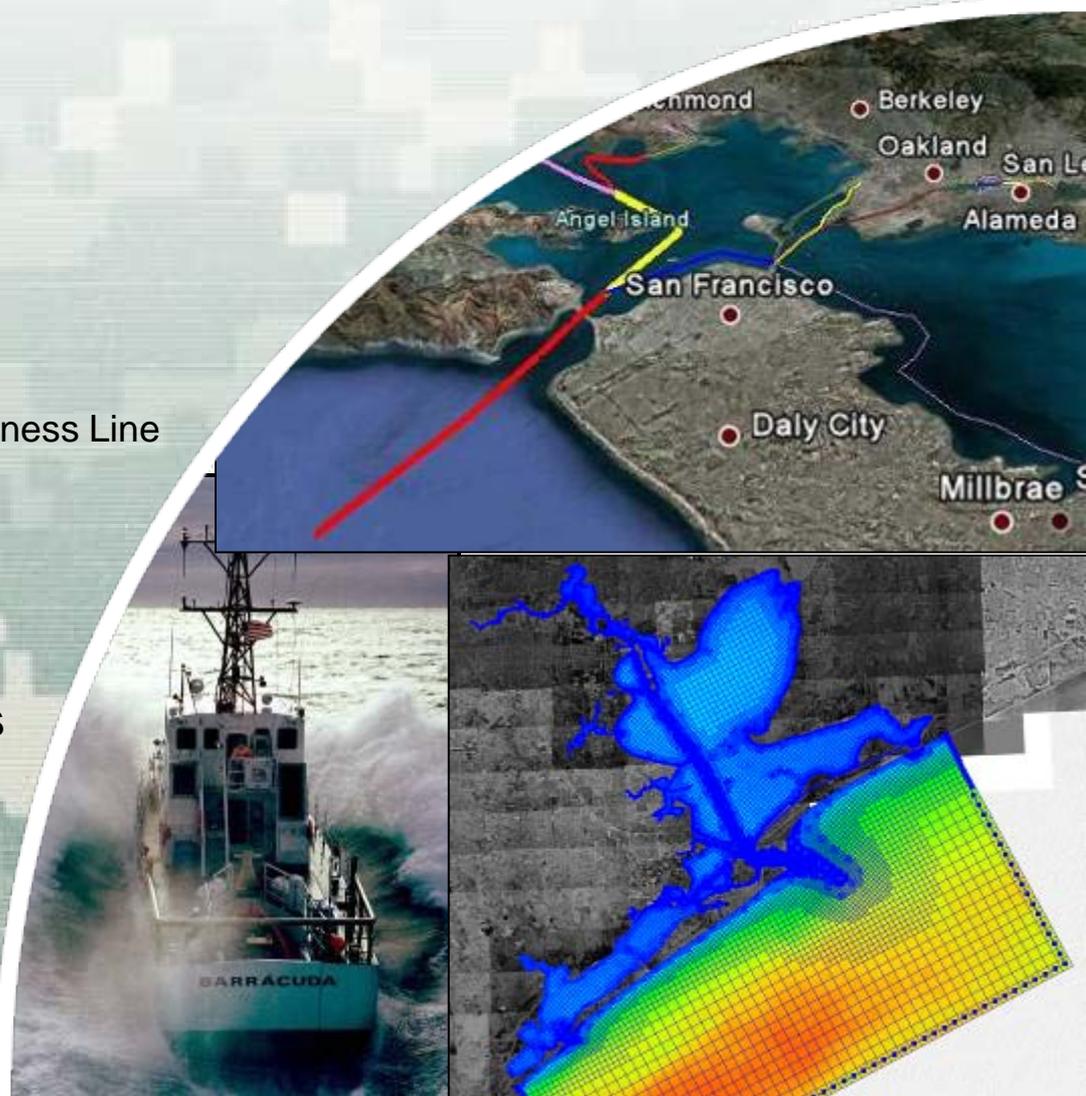
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US Army Corps of Engineers
BUILDING STRONG





Introduction to the Surface-water Modeling System (SMS) and the Coastal Modeling System (CMS)

Thank you to New Orleans District for Hosting!

Especially ...Cherie Price & Melanie Goodman



Focus on Two Products

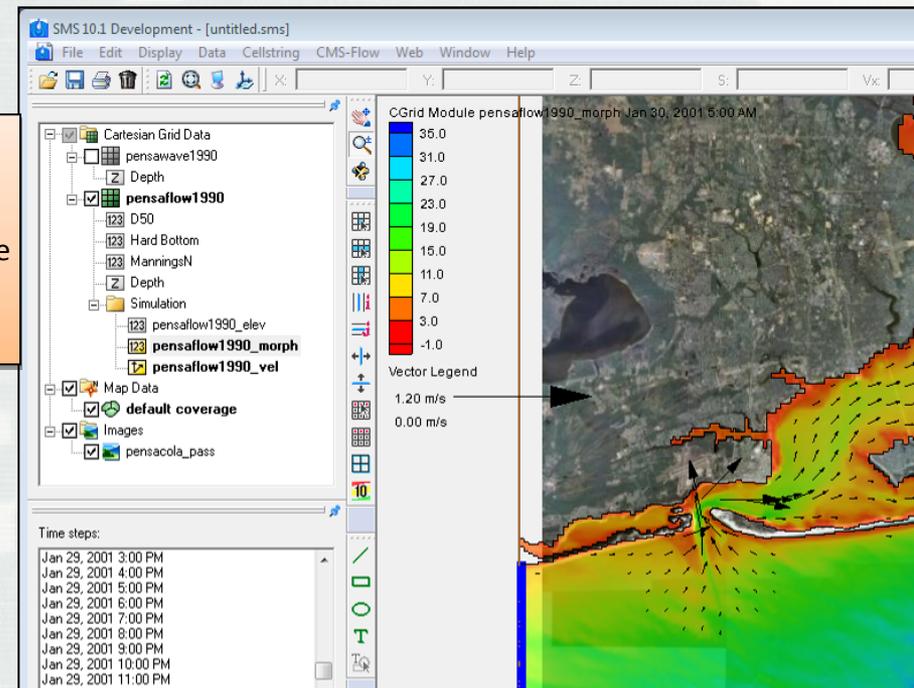
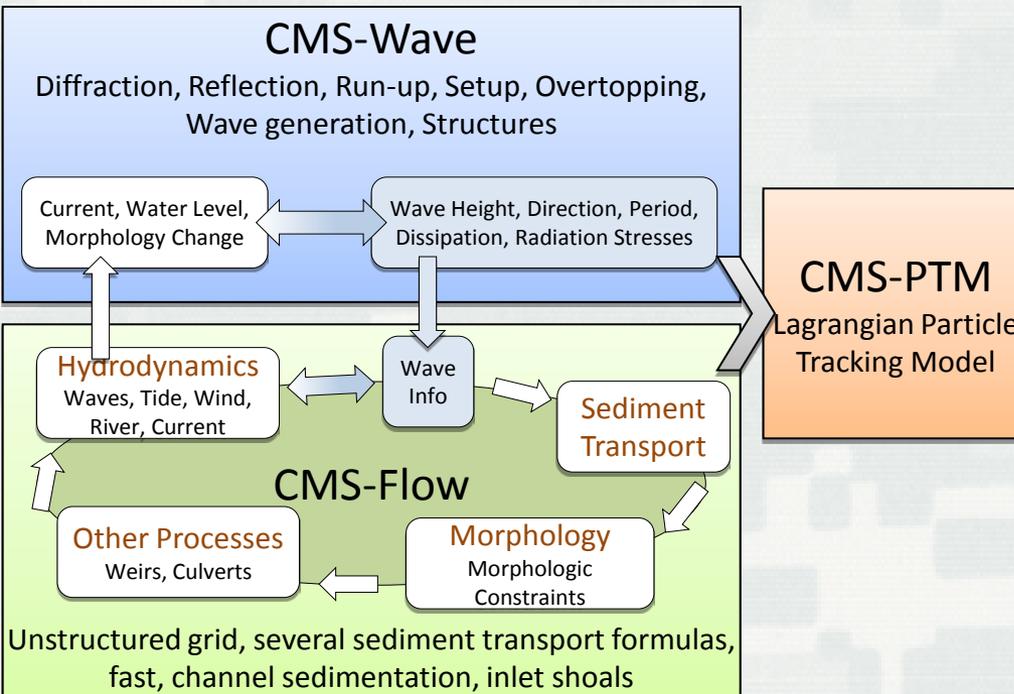


CMS – Coastal Modeling System

Integrated wave, current, and morphology change model.

SMS – Surface-water Modeling system

Pre- and post-processing interface for the CMS and other numerical models.

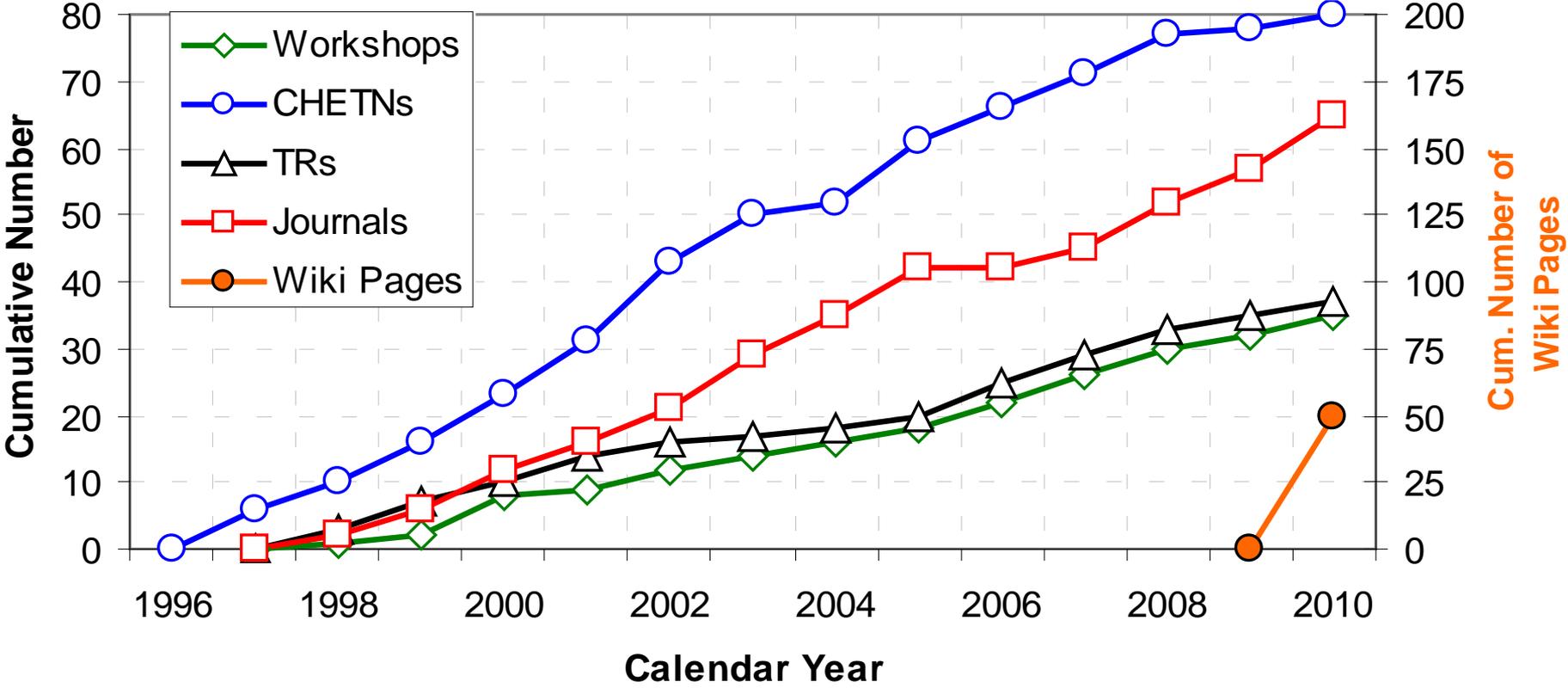




CIRP Publications and Workshops



CIRP Publications and Workshops

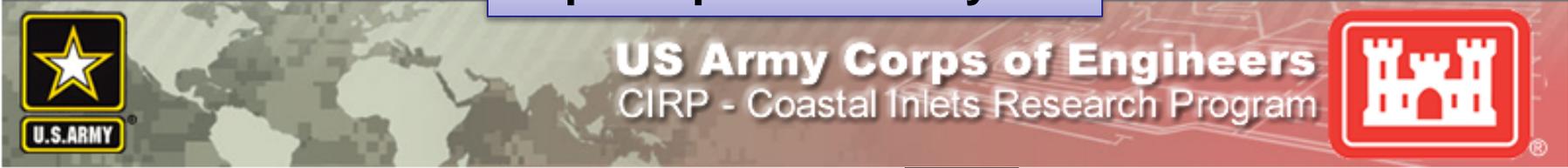




CIRP Web Site & Wiki Pages



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



[page](#) [discussion](#) [view source](#) [history](#)

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](#)

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 - [CIRP publications](#)
 - [CIRP products](#)
 - [CIRP Event Horizon](#)
 - [Help](#)

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

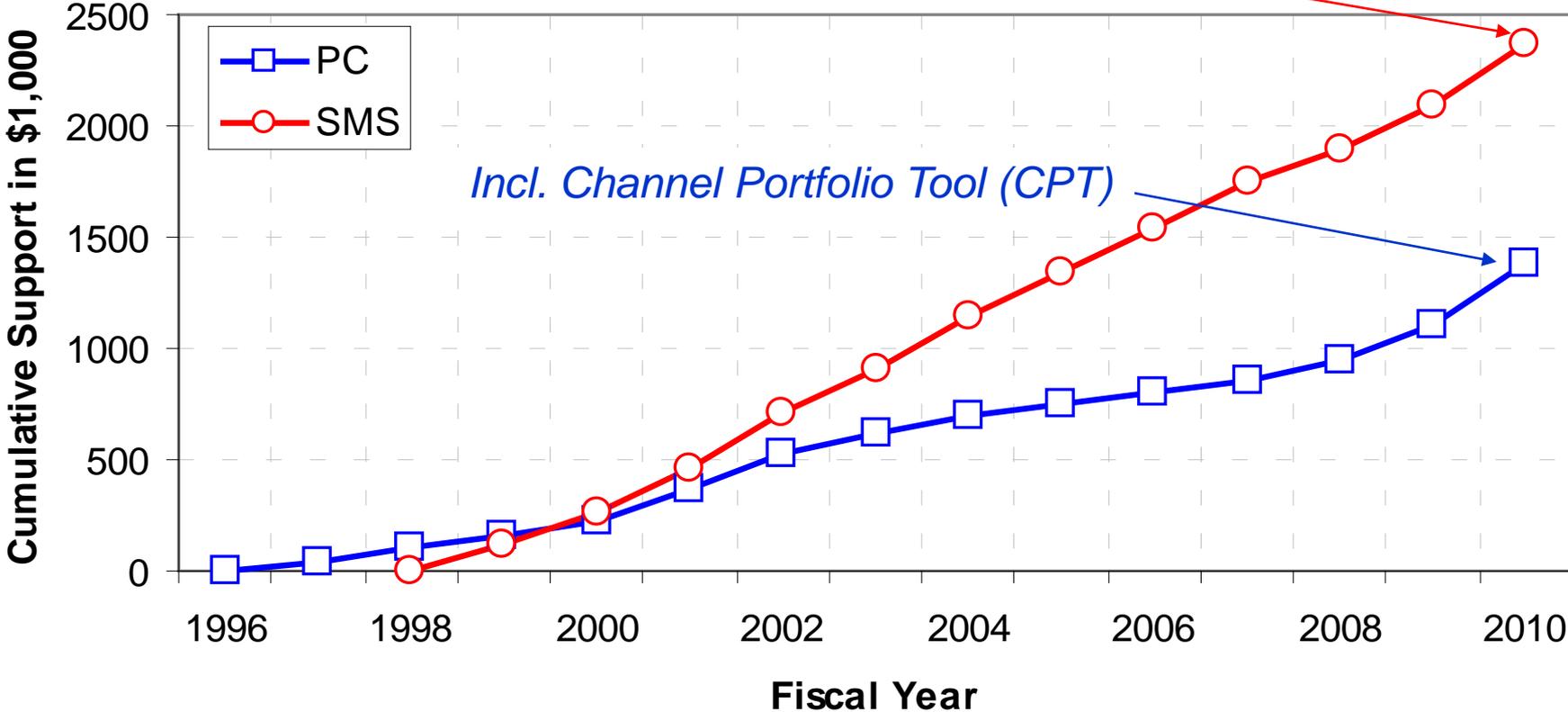
wiki resources



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
- 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 – Monday



8:30 – 9:00 am	Arrive at New Orleans District – Security check-in
9:00 – 9:15	Welcome to Workshop – Mitch Brown, CHL
9:15 – 10:30	Overview of Interface and Models – Mitch Brown <ul style="list-style-type: none">•SMS v10.1•CMS-Flow and CMS-Wave
10:30 – 10:45	Break
10:45 – 12:00	Introduction to Numerical Modeling – Mitch Brown <i>Steps, grid generation, model parameters, boundary conditions and datasets, data analysis and interpretation.</i>
12:00 – 1:00 pm	Lunch – New Orleans District cafeteria (2nd Floor)
1:00 – 2:30	Instruction with Hands-on Practice: – Mitch Brown <ul style="list-style-type: none">•Data needed for modeling and sources of data•Importing data into SMS <i>Bathymetry, topography, wind, waves, water levels, currents, sediment properties, etc.</i>
2:30 – 4:00 Informal Break	Instruction with Hands-on Practice: – Tanya Beck, CHL <ul style="list-style-type: none">•Creating a bathymetric database•Datum Conversion <i>Quality control, merging datasets, smoothing, etc.</i>
4:00 – 5:00	Questions and Discussion
5:00	Adjourn for Day



Goals for Workshop



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



CMS Shark River Inlet, NJ

