

# Flood Risk Management Newsletter

March 2011 vol 4 no 3

## Focusing on – Asset Management

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## New Flood Risk Management Program Leaders Judy Soutiere, SPK

The FRM Community is pleased to welcome Karen Durham-Aguilera as the new Director of Contingency Operations and Office of Homeland Security, Headquarters, U.S. Army Corps of Engineers. She replaces Ed Hecker who retired in January 2011. The National Flood Risk Management program falls under the office of Homeland Security. Ms. Durham-Aguilera brings a wealth of experience to the position. Alex Dornstauder is the new Deputy for Homeland Security and the new Director of the National Flood Risk Management Program (NFRMP) as of October 2010. He replaces Pete Rabbon as the Director of the National Flood Risk Management program. Mr. Dornstauder brings experience as a USACE District commander and experience at Corps Headquarters. Pete Rabbon is still with the NFRMP, now serving as a special assistant helping with implementation. The National Flood Risk Management program will continue to focus on reducing flood risk, coordinating internal flood risk issues, and working with external partners to “Drive down flood risk.”



**Karen Durham-Aguilera, P.E.** Karen Durham-Aguilera, P.E., as Director of Contingency Operations and Office of Homeland Security, Headquarters, U. S. Army Corps of Engineers, is responsible for leadership of the USACE Homeland Security missions in support of the Department of Homeland Security, the Department of the Army, and the Department of Defense. She serves as the Program Manager for all USACE efforts to assist Federal, state and local emergency management and response organizations with mitigation, planning, training, and exercises necessary to provide capabilities to respond to any emergency or disaster, including a terrorist incident involving weapons of mass destruction as well as other natural or manmade hazards. Ms. Durham-Aguilera's portfolio includes leading USACE efforts in flood risk management and critical water resources infrastructure resilience. She was most recently Director of Task Force Hope in New Orleans, LA, an element of the U.S. Army Corps of Engineers' Mississippi Valley Division. She was responsible for development and execution of the Corps' \$14.6 billion hurricane protection system work in New Orleans and Southeast Louisiana, in the wake of Hurricane Katrina, and the long-term planning of coastal restoration and hurricane damage reduction. In 2006, Durham-Aguilera served as the Director of Programs for the Corps' Northwestern Division, and in 2005 she served as the Director of Reconstruction Programs, Project and Contracting office (PCO) in Baghdad, Iraq.



**Alex C. Dornstauder.** Alex C. Dornstauder assumed duties as the Deputy Director for Homeland Security, Headquarters, U.S. Army Corps of Engineers (USACE) on 24 October 2010. In this role, he serves as the Program Director, Business Line Manager, and Community of Practice Leader for USACE's Flood Risk Management, Critical Infrastructure and Resiliency, and Emergency Management programs. Mr. Dornstauder's previous assignment was as the Executive Director for Civil and Emergency

Operations at Headquarters, USACE from August 2007 until his retirement from Army Active Duty in June 2010. He has served with USACE as the Commander and District Engineer of the Los Angeles District, Deputy Commander and Chief of Staff of the Gulf Region Division in Baghdad, Iraq, and Deputy Commander of the South Pacific Division in San Francisco.

## **CTS Methodology**

**Yazmin Seda-Sanabria, HQ**

The Consequence-Based Top Screen (CTS) methodology provides a clear and consistent strategy needed to conduct a systematic sector-wide prioritization which would identify high-consequence facilities whose failure or disruption has the potential to lead to the most severe impacts. The CTS methodology was jointly developed by the Dams Sector Coordinating Council (SCC) and Dams Sector Government Coordinating Council (GCC), under the auspices of the Critical Infrastructure Partnership Advisory Council (CIPAC). The CTS is supported by a user friendly web-based tool which allows users to consider different consequence categories. The CTS approach focuses on potential consequences and decouples this analysis from the threat and vulnerability components of the risk process. Thus the CTS approach can effectively identify those assets that could potentially attract higher adversarial interest.

Utilizing the consistent process offered by CTS enables comparison of high-consequence facilities across the portfolio. Effective implementation of the CTS methodology will allow USACE and the Dams Sector to establish a common baseline to consistently quantify and compare different types of consequence elements (human health, economic, and mission disruption), leading to a portfolio-wide prioritization framework. The CTS will also assist in identifying the appropriate contact information for critical facilities to support effective and direct communication in case of natural hazards, threat stream data, or other urgent notifications.

Prioritization information obtained from the CTS process can support decisions regarding the need for additional analyses and detailed studies. Results from the CTS process could also effectively inform decision-makers about facilities within a specific area that should receive particular attention from the emergency management community because of their potential for significant impacts at the local and regional levels.

The CTS is implemented within USACE by the Critical Infrastructure Protection & Resilience (CIPR) Program to screen and identify critical facilities. The goal CIPR Program is to achieve a more secure and more resilient civil works critical infrastructure by enhancing its protection in order to prevent, deter, or mitigate the effects of manmade incidents and improve preparedness, response, and rapid recovery in the event of an attack, natural disaster, and other emergencies. The CIPR program supports the National Infrastructure Protection Plan and the National Response Framework. It is directly aligned with the Dams Sector-Specific Plan. The objectives of the CIPR program include assessing and prioritizing Corps civil works critical infrastructure by implementing a portfolio-wide risk assessment framework.

POC: Yazmin Seda-Sanabria, Senior Program Manager, Critical Infrastructure Protection & Resilience Program, U.S. Army Corps of Engineers, Headquarters, [Yazmin.Seda-Sanabria@usace.army.mil](mailto:Yazmin.Seda-Sanabria@usace.army.mil).

**CIPR Program R&D Efforts  
for Dams, Navigation Locks, and Levees  
Yazmin Seda-Sanabria, HQ, and Enrique E. Matheu, DHS**

One objective of the Critical Infrastructure Protection & Resilience (CIPR) Program is to assess and prioritize Corps' civil works critical infrastructure by implementing a portfolio-wide risk assessment framework. This requires the development of blast damage estimation tools to support the assessment of critical components on dams, locks and levees as part of the overall risk evaluation process.

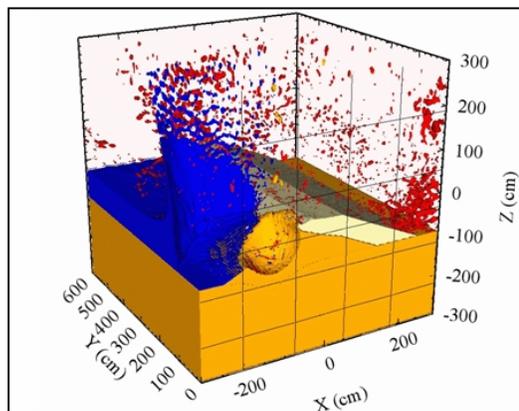


The complex problem of the vulnerability of dams, levees and navigation locks to blast-induced damage is complicated by the wide variety of sizes, designs, and characteristics of these structures across the Nation. A partnership between the U.S.

Army Corps of Engineers (USACE) and the U.S. Department of Homeland Security (DHS) has been effective in leveraging resources towards developing an improved understanding of risk and blast mitigation of dams, and in ensuring the effective application of the best technologies available to address critical infrastructure protection requirements.

One area of current research seeks an improved understanding of the assessment and mitigation of blast-induced cratering of embankment dams. Progress has been made in understanding and predicting damage to embankment dams from vehicle-borne improvised explosive devices (VBIED) attacks. Efforts are underway to improve the understanding of the effect of compaction, the damage zone below the visible crater, the effect of the phreatic surface, and to develop effective mitigation measures. Furthermore, there is currently little understanding of damage resulting from threats associated with waterborne improvised explosive devices (WBIED). The risk associated with both scenarios depends on the amount of explosive and the ability of an attacker to place that in a critical location.

Potential threats were modeled in several series of scaled physical model experiments conducted by U.S. Army Engineer Research and Development Center (ERDC). Tests on an homogeneous embankment dam included multiple VBIED and WBIED scenarios and configurations. Large-scale tests are also being conducted to investigate in more detail certain effects, to compare those effects with results obtained from conventional explosions on flat ground, and to evaluate scaling parameters affecting small-scale experiment results. Additional testing will identify methods of mitigating damage to embankment dams from VBIED and WBIED attacks.



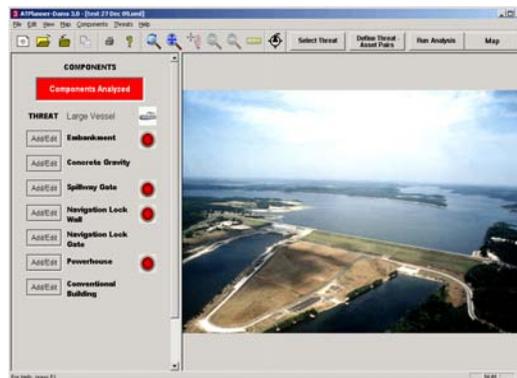
Another series of experiments was conducted on the ERDC geotechnical centrifuge using laboratory-scale models of earthen and rockfill embankment dams. Use of the centrifuge allows model simulation of lithostatic loads that exist at depth in full-scale dams, and to then evaluate their influence on crater formation. Ongoing experimental work includes centrifuge experiments of WBIED against embankments. A series of small-scale centrifuge experiments of WBIED detonations against concrete gravity dams is under development.

Computer simulations provide useful insights into the mechanics of damage formation but simulation techniques must be validated against actual events. ERDC is developing improved engineering models for predicting blast-induced cratering effects on embankment dams based on the information obtained from the experiments supported by the USACE-DHS collaborative efforts and additional experimental data. Modeling techniques will be expanded to include blast damage estimation on levees.

A number of blast damage mitigation concepts have also been developed under the joint USACE-DHS R&D program to enhance the protection of embankment dams and levees and mitigate damage to the structures. The most promising concepts are being subjected to performance tests in small-scale experiments to determine their actual effectiveness. A number

of innovative materials are also being investigated for potential mitigation applications on concrete dams.

A software tool developed jointly by USACE and DHS, the Anti-Terrorist Planner for Dams (ATPlanner-Dams), facilitates blast damage estimation. Collaborative efforts currently focus on developing an updated version of ATPlanner-Dams which will incorporate enhanced prediction models in conjunction with an improved interface including mapping capabilities.



POC: Yazmin Seda-Sanabria, Senior Program Manager, CIPR, U.S. Army Corps of Engineers, Headquarters, [Yazmin.Seda-Sanabria@usace.army.mil](mailto:Yazmin.Seda-Sanabria@usace.army.mil), and Enrique E. Matheu, Chief Dams Sector Branch, Sector-Specific Agency Executive Management Office, Office of Infrastructure Protection, US Department of Homeland Security, [Enrique.Matheu@dhs.gov](mailto:Enrique.Matheu@dhs.gov).

## **CSTORM-MS** **Chris Massey, CHL**

The US Army Corps of Engineers' Engineer Research and Development Center's Coastal Storm Modeling System (CSTORM-MS), formerly known as MORPHOS, is a physics-based modeling capability for simulating tropical and extra-tropical storm, wind, wave, water level and coastal response (erosion, breaching, and accretion). The goal is to more rigorously represent the underlying physical processes and reduce dependence on empirical tuning factors, while also providing a powerful and user-friendly interface to the models. Focused research and a spiral development strategy are producing an integrated suite of tools to support a wide range of coastal engineering needs. CSTORM-MS provides for a robust, standardized approach to establishing the risk of coastal communities to future occurrences of storm events.

Realistic coastal storm modeling requires the integration of several complex and sophisticated numerical models. The following models are currently a part of CSTORM-MS: a tropical planetary boundary layer model, MORPHOS-PBL, to generate the cyclone wind and pressure fields; an ocean hydrodynamic model, ADCIRC, to generate the surge and currents fields; and both regional and nearshore ocean wave models, WAM and STWAVE, to generate the wave fields. Also needed is a bed morphology model, C2SHORE, to simulate landscape changes due to the surge and wave effects. This morphology model is presently being integrated into the CSTORM-MS along with AdH, the Adaptive Hydraulics model.

With the aid of graphical user interfaces (GUI) in the Surface-water Modeling System (SMS), CSTORM-MS provides a new work flow which has tightly coupled models, where appropriate, capable of using the Earth System Modeling Framework (ESMF). Tight coupling, enabled by ESMF, allows for timely feedback responses into each model for improved physical responses. The tightly coupled feedback responses between models negates the need to re-run a model, thus reducing the overall cost of execution. For these purposes, the cost of the work flow is measured

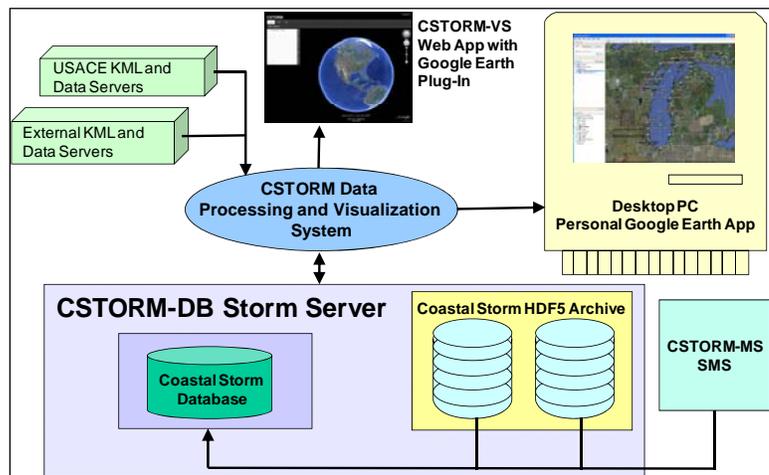
by both the computational effort and the required time-to-solution. In addition to improved physical responses, using ESMF allows for an almost “plug-n-play” capability for models. This allows different models to be applied within the present system, and the system can be expanded to include new capabilities, such as environmental models, for future applications. The new workflow system with GUI’s and tightly coupled models represents an enabling technology for more comprehensive studies on flood and shore protection and on sediment management. CSTORM-MS technologies have been successfully applied to many Corp projects over the last few years.

A user’s community and training material for CSTORM-MS is available via The Knowledge Hub, <https://knowledge.usace.army.mil>. An initial training workshop was held in November of 2010 for CSTORM-MS and a second workshop is currently being planned. For additional information contact Dr. Chris Massey, [chris.massey@usace.army.mil](mailto:chris.massey@usace.army.mil).

**CSTORM-DB/VS**  
**Environmental Data System**  
**Jeff Melby, CHL**

CSTORM-DB/VS is a tool which consists of a formal archive, database and web application containing storm data and modeled results. CSTORM-DB/VS addresses the strong federal need for long-term archiving and mining capabilities of storm data. In 2009 work on CSTORM began through a partnership between the Coastal and Hydraulics Laboratory (CHL), Applied Research Associates and the Information Technology Laboratory That system has recently been renamed CSTORM-DB/VS because the CSTORM brand was adopted for a broader suite of storm modeling tools, CSTORM-MS, now available within the Surface Water Modeling System (SMS). The new DB/VS extension stands for ‘database and visualization.’ CSTORM-DB/VS is a web-based application with several components: a long-term formal archive for all storm-related information, data, and modeling results; a database of web-accessible products; a processing system; and a web application with Google Earth map interface.

The CSTORM-DB/VS system is currently in the proof-of-concept stage but should be operational by October 2011. The initial system houses modeled hurricanes from several recent Louisiana and Mississippi coastal studies. In addition, FEMA funded expansion of the system to house storms that form the basis of the Region V (Great Lakes) coastal remapping study. The present working system consists of all elements as shown.



A goal for CSTORM-DB/VS is to be a central clearinghouse for storm data and modeling results. Storm environmental data are available from many sources, only some of which provide

data that have been through a quality control process. Modeling results are most often not formally archived, are typically available only to the funding study, and/or are not readily accessible. Additionally, there are presently no uniform standards or systems for archiving measured storm data and modeling results produced by the USACE and other federal agencies.

A key component of the system is the archive. The archive management system consists of the archive itself and tools for viewing the archive and moving data into and out of the archive. The archive utilizes the HDF5 data management system. Data structures exist for typical SMS programs including ADCIRC, STWAVE, and WAM, as well as several wind models. Data structures also exist for common measured coastal data including typical NOAA and USACE meteorological, wave, water level, and current gages as well as for NOAA Great Lakes Environmental Research Laboratory ice measurements. The archive data structures include extensive metadata fields that fully describe data in the archive.

Synoptic storm time series measured data are stored in the CSTORM-DB/VS database. The database contains concurrent measured data and model results subdivided and organized by region and storm. Each storm consists of a track and synoptic time series of waves, water level, meteorological data, ice cover, stream currents and other parameters at specific points. Detailed model field files (results from all nodes and all time steps) are stored in the archive while the database contains summary field information, such as wave, wind and water level maxima. These model results include flood inundation extent so that the extent of flooding can be shown in Google Earth without lag. In addition, summary model results are stored in several graphical formats for rapid visualization. The database also stores statistics and other computed results. In addition to historical and modeled data, the database stores the last 2 weeks of measured data for a large number of gages in a circular buffer that is updated on a routine or as-needed basis.

The database is accessible through web application software which contains a graphical user interface with menus and a Google Earth plug-in. The database can be queried for storms with particular landfall, wind speed, or pressure characteristics. There are tools for sorting data, plotting times series, plotting two-dimensional planview contour maps of various parameters, mining data, comparing measurements with model results, computing extremal statistics, and many other features. Data and plots can be exported in various formats for further analysis on the user's computer.

CSTORM-DB/VS provides both mining capabilities and long-term archiving of storm data. Storm data and modeling are routinely used for federal decision making. Within the USACE, both project and R&D studies utilize historical storm data and extensive high-fidelity modeling. A typical coastal engineering study collects vast amounts of storm data that include time- and spatially-varying measured waves, water level, wind, atmospheric pressure, and currents, among other things. Collecting these data from disparate sources, finding the storms in the data, verifying and correcting the data, formatting and making the data synoptic, all take significant efforts. Coastal project studies employ various hydrodynamic models to determine winds, pressures, storm surge, waves, and currents. These models routinely produce many terabytes of data and information. These data and results could be useful for other efforts if easily discovered and mined. Emergency management requires real time data as well as historical data, both of which need to be easy to comprehend and in context. FEMA requires storm data and modeling

results for flood information studies. In addition, storm data and modeling results can be utilized for stakeholder and sponsor outreach efforts.

The current, functional proof-of-concept CSTORM-DB/VS contains data from Mississippi and Louisiana hurricanes and initial data from the FEMA Great Lakes remapping study. Plans are in place to incorporate other data – from the South Pacific and other FEMA and USACE regional studies. The planned deployment of the system is October 2011. POC: Jeffrey A. Melby ([Jeffrey.A.Melby@usace.army.mil](mailto:Jeffrey.A.Melby@usace.army.mil)), Debra Green ([Debra.R.Green@usace.army.mil](mailto:Debra.R.Green@usace.army.mil)), or Bruce Ebersole ([Bruce.A.Ebersole@usace.army.mil](mailto:Bruce.A.Ebersole@usace.army.mil)).

## **Talbot Chosen for Developmental Assignment – Flood & Coastal ATD**

On 28 February 2011 Dr. William D. Martin, Director, Coastal and Hydraulics Laboratory (CHL), announced the selection of Dr. Cary Talbot to serve in a minimum 120-day developmental position as Associate Technical Director (ATD) for the Flood and Coastal Storm Damage Reduction Research Area. As ATD and member of the CHL Technical Programs Office, Dr. Talbot will manage the Flood and Coastal Systems R&D Program and Urban Flood Technology Demonstration Program. His duties also include program and project development activities that relate to the USACE Flood Risk Management business line, the ERDC and CHL.



Over his 16-year career at ERDC, Dr. Talbot has served as a researcher and subject matter expert in groundwater and surface water processes, and as an R&D program manager and Branch Chief. He is a member of CHL's Emerging Leader Alumni Group and is ERDC's representative to the USACE Hydrology Committee. POC: Cary Talbot, [Cary.A.Talbot@usace.army.mil](mailto:Cary.A.Talbot@usace.army.mil).

## **MMC Production Center Dave Margo, RMC**

The Modeling, Mapping and Consequences Production Center (MMC) was formed in 2009. It is a District organization, based in the Vicksburg District and staffed by dedicated and partial-dedicated District personnel from across USACE. As of March 2011, 104 USACE employees from seven USACE Divisions and twenty USACE Districts support the activities of the MMC.

The three key activities are the at the core of the MMC mission:

- Developing consistent and scalable hydraulic models and consequences estimates for USACE dams and federally-constructed levees;
- Developing comprehensive and reliable mapping products to meet a wide range of Critical Infrastructure Protection and Resilience (CIPR), Dam Safety, and Levee Safety Program objectives; and

- Advancing the technical competency of modeling, mapping and consequences capabilities across USACE.

All MMC studies follow standard methods and procedures documented in an extensive standard operating procedures (SOP) technical report. The SOP guides the quality and consistency of MMC products. It also is the key to the MMC technical competency mission, in combination with training funded by the MMC and provided to MMC team members. The SOP and its detailed technical appendices are available to all USACE employees online at the MMC Sharepoint site,.



MMC products for USACE dams are built to meet the needs of nationwide Critical Infrastructure Protection and Resilience (CIPR) and Dam Safety Programs. Currently over 180 dam studies either have been completed or are in progress. MMC products for USACE dams include hydraulics models from either HEC-RAS or FLO2D, consequences models from HEC Flood Impact Analysis (FIA), modeling and consequences reports, and map atlases for emergency action plans (EAPs). A key resource for a detailed introduction to the MMC Production Center is the SOP Executive Overview (EO). For a copy of the EO, the SOP, the fact sheet, and MMC points of contact visit the MMC Sharepoint site, <https://kme.usace.army.mil/NTCT/HHC/Cops/DS/MMC/default.aspx> . POC: Dave Margo, [David.A.Margo@usace.army.mil](mailto:David.A.Margo@usace.army.mil).

**Flood Management, Modeling and Prediction Assistance for Countries in EUROM**  
**Mark Jourdan, CHL**

Through the North Atlantic Division (NAD) the USACE is working to assist in development of flood management capabilities in countries within the European Command (EUROM) Area of Responsibility (AOR). USACE representatives recently attended a Flood Management, Water Treatment, and Public Health Workshop held in Baku, Azerbaijan. Azerbaijan has had devastating floods in recent years, and the US Embassy in Baku requested assistance in presenting a workshop on the capabilities of the USACE.

The request from the US Embassy in Azerbaijan came after a workshop presented to member countries of the International Sava River Basin Commission (ISRBC). The USACE, in partnership with the ISRC member nations and the U.S. State Department, developed hydraulic and hydrologic models of the Sava River, using HEC-RAS and HEC-HMS, respectively. The Sava River is a major tributary to the Danube River and drains portions of five nations. The intent of that project was to establish a single hydraulic model of the Sava River as a tool to help meet the goals of fostering multilateral cooperation and of flood-hazard protection in the member Balkan nations through the development of a regional floodplain delineation and flood-risk mapping effort. POC: Mark Jourdan, [Mark.R.Jourdan@usace.army.mil](mailto:Mark.R.Jourdan@usace.army.mil).



**Passing of Dr. Nicholas C. Kraus –  
Dedication of CHL Library  
Irene Watts, NAE**

The coastal research community experienced a great loss on 3 February 2011 with the passing of Dr. Nicholas C. Kraus. Dr. Kraus had a tremendous and lasting impact on the field of coastal engineering. His primary research activities were in the area of nearshore and coastal inlet processes. His achievements and research were widely recognized by numerous awards, and professional appointments and positions. He published over 400 papers and reports with 170 different co-authors. He received a BS in physics from SUNY at Stony Brook and a PhD in physics from the University of Minnesota. Kraus's professional career was spent with the Nearshore Environmental Research Center, Tokyo, Japan; Conrad Blucher Institute for Surveying and Science; the Coastal Engineering Research Center and Coastal and Hydraulics Laboratory, both with the US Army Corps of Engineers. He retired 31 December 2010 after serving as a senior scientist with the Coastal and Hydraulics Laboratory for the past 14 years.

Additionally, Kraus was a tireless advocate of the need to archive previous studies and investigations, personally compiling coastal reports and documents that covered an 80-year span during his time with CHL. He served as the editor of *Shore and Beach* from 1999 until 2003, and was able to collect the entirety of the S&B journal archives for inclusion in the CHL Library. He also initiated a library technical oversight group that made recommendations for improving that library and for purchasing new books.

The CHL Library was recently dedicated in his honor in recognition of Dr. Kraus' many outstanding contributions to that library, the Coastal Inlets Research Program (CIRP), coastal science and engineering, and the Corps of Engineers.

Kraus was an excellent mentor to those who knew him. His hard work and enthusiasm will be missed by the coastal engineering community. POC: Irene Watts, [Irene.Watts@usace.army.mil](mailto:Irene.Watts@usace.army.mil), and entire CIRP team.

**Report Available:**  
**Flood Risk Management Public Involvement Framework  
and Implementation Plan**  
**Maria Placht, IWR**

In September 2010, the “Flood Risk Management Public Involvement Framework and Implementation Plan” was issued. This report summarizes conclusions of a 1 ½ year study by a team of consultants, selected by the Institute for Water Resources, to make recommendations to “improve [the] framework and methods to encourage public involvement, with special emphasis on those who will bear the risk, in selecting the proper combination of structural, nonstructural, zoning, and emergency response components in the flood risk reduction system.”

The report identifies changes needed to improve public involvement in the Corps Flood Risk Management-related programs and activities; identifies where public involvement is most needed; and proposes an implementation plan for the recommendations. POC: Hal Cardwell, [Hal.E.Cardwell@usace.army.mil](mailto:Hal.E.Cardwell@usace.army.mil) .

**USACE Reservoir Sedimentation Database**  
**Meg Jonas, CHL**

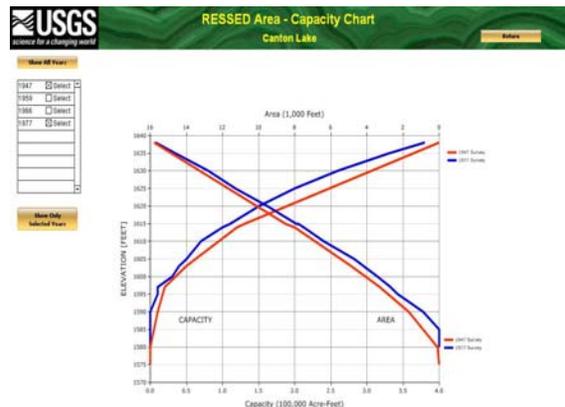
The Corps of Engineers is working in collaboration with the U.S. Geological Survey (USGS) on an updated, comprehensive database for storage and retrieval of reservoir sedimentation information. The completed database will allow web-based data entry, user-friendly reporting, searches, export capabilities, and charting options. The database will serve as the Corps’ repository for information on remaining reservoir capacity, amount of sediment deposited, water inflow, and sediment impacts. It will enable Corps managers to readily evaluate the status of Corps reservoirs with regards to sedimentation.

The updated database is based on the existing national database (RESSED), which can be accessed at <http://ida.water.usgs.gov/ressed/> . RESSED has fields and data from the Interagency Subcommittee on Sedimentation’s Form SCS-34 (or ENG FORM 1787, “Reservoir Sedimentation Data Summary”), but it does not allow web-based data entry or reporting. RESSED is populated with data for 1834 reservoirs, of which approximately 100 are Corps reservoirs. In 2008 an internal Corps data call requested information on sedimentation impacts to authorized purposes, sediment management practices, obstacles to sediment management, survey dates and methods, and basin hydrology and land use. The database schema has been revised and new fields such as these will be easier to add in the future. The information from the Corps data call, covering all 383 flood control reservoirs, is being imported into the new database structure, along with the information from the existing RESSED database on the 1834 reservoirs nationwide. Although the results of hydrographic and rangeline surveys (current capacity and

computed sediment volumes) are included in the database, actual survey data are not included in the database.

The updated database will allow easy export of data to Excel spreadsheet format. Data logging will allow the tracking of users and modifications. The database will be self documenting: that is, field definitions, units and input information are included in the database and will be visible when a user “hovers” over a value or field selection. In many instances, choices will be available via drop-down menus. Comment fields for user input will be included for most input data fields. The database will export to XML output. Reporting capabilities are being developed. Plots of area-elevation-capacity data have been developed, and are useful for checking for data entry errors.

The next steps are further work on refining the database input and output to best meet Corps reservoir management needs, and to improve the effectiveness and ease of use. Alpha testing of the database will be performed in conjunction with Omaha District. When completed, summer 2011, the database will be available to Corps districts. The final product will provide an up-to-date framework for reservoir sedimentation information and will allow Corps managers to track reservoir capacity. POC: Meg Jonas, [Margaret.M.Jonas@usace.army.mil](mailto:Margaret.M.Jonas@usace.army.mil).



**2010 Dams Sector Exercise Series – GREEN RIVER VALLEY**  
**Yazmin Seda-Sanabria, HQ**



The U.S. Department of Homeland Security, U.S. Army Corps of Engineers, and public and private stakeholders from the Green River Valley in the State of Washington continue to collaborate in the 2010 Dams Sector Exercise Series – Green River Valley (DSES-10), which focuses on the analysis of short- and long-term regional impacts resulting from a flooding scenario affecting the King County communities of Auburn, Kent, Renton, and Tukwila.

The primary goals of this collaborative effort are to achieve a greater understanding of the potential impacts associated with significant flooding events; to identify critical infrastructure interdependencies that influence local and regional disruptions; and to assist public and private stakeholders in improving recovery strategies and business continuity plans, thus enhancing regional resilience and promoting robust partnerships at the local and regional levels. Each year, the DSES program collaborates with public and private stakeholders within a region to help identify, analyze, assess, and enhance regional preparedness and disaster resilience using a series of multi-jurisdictional discussion-based activities (workshops, seminars, tabletops, etc). For any given region, the DSES collaborative process is based on a particular scenario that serves as the triggering event to analyze impacts, disruptions, critical interdependencies, and

stakeholder roles and responsibilities. The DSES efforts currently focus on the Green River Valley, taking advantage of the multiple activities, capabilities, and proactive engagement demonstrated by Green River Valley stakeholders regarding flood risk planning and management as a result of the operational conditions at Howard Hanson Dam.



The DSES-10 Initial Planning Workshop was conducted on April 28, 2010 in Seattle, WA.

Over 150 representatives from Green River Valley local government, private entities, non-profit organizations, State of Washington and Federal government agencies participated in this event. The DSES-10 Regional Baseline Assessment Workshop was conducted on June 30, 2010 in Seattle, WA. This was a working session to review and evaluate the ongoing regional baseline assessment activities focused on identifying and characterizing infrastructure interdependencies, supply chain dependencies, and public and private sector business continuity capabilities that may serve as effective drivers to enhance regional resilience. Most recently, the DSES-10 Regional Consequence Assessment Workshop was conducted on October 21, 2010 in Seattle, WA. This workshop served as a working session to discuss consequence assessment activities focused on the evaluation of direct and indirect economic impacts caused by a significant flood event, including cascading effects resulting from infrastructure disruptions. Results from the consequence assessment will ultimately support the development of a regional resilience strategy. This strategy is intended to assist public and private stakeholders in identifying and prioritizing challenges and potential solutions to enhance regional resilience.

The final DSES-10 event will be the Regional Resilience Conference, currently scheduled to be conducted on May 10, 2011 in Seattle, WA. This conference will provide an effective forum to share the outcomes resulting from the multiple aspects of the DSES-10 effort with all stakeholders, including the delivery of the Regional Resilience Strategy. For additional information regarding the interagency DSES-10 effort, please visit [www.DSES10.org](http://www.DSES10.org) or contact [Yazmin.Seda-Sanabria@usace.army.mil](mailto:Yazmin.Seda-Sanabria@usace.army.mil).

**SAVE THE DATES: FY11 Coastal Working Group Workshop  
and Regional Sediment Management Workshop  
Lynn Bocamazo, NAN**

The annual USACE Coastal Working Group (CWG) Workshop and the Regional Sediment Management (RSM) Workshop will be held jointly during the week of 8 August 2011, at the Coastal and Hydraulics Laboratory in Vicksburg, MS. The CWG meeting will be 8-10 August with the RSM Workshop following, 10-12 August.

The CWG meeting will include such topics as the District/Division "Blitz" of current success/issues/challenges and lessons learned; the integration of coastal storm damage reduction projects into the Flood Risk Management business line; and coastal research and development

advances. The agenda for the CWG meeting is in development so additional topics of interest to the CWG can be added. To suggest topics of interests, contact Bill Curtis, [William.R.Curtis@usace.army.mil](mailto:William.R.Curtis@usace.army.mil) or Lynn Bocamazo, [Lynn.M.Bocamazo@usace.army.mil](mailto:Lynn.M.Bocamazo@usace.army.mil) .

The RSM workshop will include the annual In Progress Review of FY11 District efforts as well as discussions on the overall program progress, goals, and efforts for success into 2020. Please contact Linda Lillycrop for details on the RSM workshop, [Linda.S.Lillycrop@usace.army.mil](mailto:Linda.S.Lillycrop@usace.army.mil) .

## **FPMS – Celebrating 50 Years** **Stuart Davis, IWR**



Over 100 people joined a Headquarters audience at a live webinar on 3 December 2010 to celebrate the 50<sup>th</sup> anniversary of the Floodplain Management Services program (FPMS). Sue Hughes, Deputy Chief of the Planning Community of Practice, served as the Master of Ceremonies for the event which highlighted the Program’s many accomplishments over the past five decades. Ms. Hughes characterized the FPMS as “first door to the Corps” for communities needing to make better risk-informed decisions.

The program featured a history of the FPMS program from retired Corps employee, Bob Plott, and presentations on current activities from Tracy Schwartz of the Walla District, Joe Trimboli of the Huntington District, and Randy Behm of the Omaha District. Flood Risk Management Program Director Pete Rabbon concluded the event with his thoughts on the future of the FPMS program. A recurrent theme was that Corps can provide improved risk information to communities in variety of ways so communities and floodplain residents can know the consequences of their land use and building construction decisions. Slides and audio recordings of each presentation can be found at:

<http://www.nfrmp.us/presentations.cfm>



A brochure was produced to coincide with the webinar, and can be found at:

[http://www.nfrmp.us/docs/FPMSWebinar/50\\_Year\\_Flood\\_Plain\\_Management\\_Booklet\\_12-1-2010b.pdf](http://www.nfrmp.us/docs/FPMSWebinar/50_Year_Flood_Plain_Management_Booklet_12-1-2010b.pdf)  
. POC: Stuart Davis, [Stuart.A.Davis@usace.army.mil](mailto:Stuart.A.Davis@usace.army.mil) .

## **USACE R&D Conference**

Dr. Jeffery P. Holland, Director, ERDC, is pleased to announce that the Engineer Research and Development Center (ERDC), in conjunction with the U.S. Army Corps of Engineers (USACE) Research and Development Community of Practice, will host the next USACE Research and Development Conference on 8 - 10 November 2011 at the Riverside Hilton Hotel in New Orleans, LA. This conference facilitates communication and coordination within the USACE R&D community and provides a venue to stimulate technical exchange between leadership, engineers, and scientists. The theme of this year’s conference is “Bridging Science and

Solutions.” Abstracts are due by 22 April. See <https://strse.erd.c.usace.army.mil/>. The goal of the conference is to enhance networking and collaboration among research and development staff. The three-day program will include plenary sessions, invited keynote speakers, technical presentations, poster sessions, notebook computer demonstrations, panel sessions, and break-out sessions.

## **USACE Flood Risk Management & Silver Jackets Workshop** **– Call for Abstracts** **Jennifer Dunn, IWR**



The second annual Flood Risk Management - Silver Jackets Workshop: ‘*Sharing Experience in Driving Down Flood Risk*’ will be held 15-19 August in Nashville, TN. Organizers encourage a broad community of participants to develop brief presentations describing interesting and innovative experiences in flood risk management, including those that



led to demonstrable prevention of increased risk or reduction of risk to a community and/or behavior change. Also welcome are presentations of successful endeavors as well as those of well-intended failures from which others can learn. Abstracts are due 30 April 2011. Contact Jennifer Dunn for information on submittals.

This workshop will:

- Emphasize interagency activities in managing flood risk, including those of FEMA, the USACE Flood Risk Management and Silver Jackets programs, additional Federal agencies and various state and local initiatives such as hazard mitigation plans
- Discuss program policy, strategies, successes and challenges
- Facilitate networking and enhance collaborative problem solving
- Facilitate information-sharing among Federal and state partners

Workshop highlights include:

- CFM training session and exam
- Understanding the 2010 Nashville Floods Experience
- Risk MAP Program—An Opportunity to Further Collaborate
- Experiences in Reducing Flood Risk through Interagency Collaboration
- Achieving Environmental Success in Flood Risk Management
- Life-Cycle Opportunities in Flood Risk Management: What are *you* doing to reduce risk?
- USACE Levee Safety Portfolio Management
- Training Sessions, including Economics 101 for Flood Risk Managers, Communicating Flood Risk to the Public
- Continuing Education Credits with the Association of State Floodplain Managers

The nation is confronted with numerous challenges in managing flood risks to public safety and economic enterprise. While the USACE has a key role in managing flood risks, no single Federal or non-Federal entity is solely responsible. The 2nd annual workshop will bring together more than 200 partners in flood risk management, both external and internal to the USACE.

Opportunities to share experiences start on the evening of August 15th with a special activity and run through Thursday August 19. The week will close with an optional tour on Friday morning. The CFM exam and Continuing Education Credits will be available through the Association of State Floodplain Managers. Early Bird registration deadline is 16 July 2011. For workshop registration and updates visit <http://www.nfrmp.us/frmpw/>. POC: Jennifer Dunn, [Jennifer.K.Dunn@usace.army.mil](mailto:Jennifer.K.Dunn@usace.army.mil).

**12<sup>th</sup> International Workshop on Wave Hindcasting & Forecasting and 3<sup>rd</sup> Coastal Hazards Symposium – Call for Abstracts**

These meetings will be 30 October through 4 November 2011 on the Kohala Coast, Hawai'i's Big Island. They continue the series of international workshops on wave prediction in coastal areas sponsored by Environment Canada, the U.S. Army Engineer Research and Development Center's Coastal and Hydraulics Laboratory, and the WMO/IOC Joint Technical Commission for Oceanography and Marine Meteorology (JCOMM). Abstract submissions are due by 31 May 2011. See <http://waves.uhhconferencecenter.com/> for more information.

**PROSPECT Courses FY 2011**

No.	Title	Dates	Location
11	Coastal Project Planning	13-17 Jun 2011	Duck, NC
28	Dam Safety	2-5 May 2011 20-23 Jun 2011 18-21 Jul 2011	Grenada, MS
263	Coastal Ecology	13-17 Jun 2011	Newport, OR
282	Slope Stability Analysis	6-10 Jun 2011	Huntsville, AL

**Additional Information:** <http://pdsc.usace.army.mil/downloads/PurpleBook2010.pdf>

**Of Interest**

Don't forget to check out the Coastal Inlets Research Program's Newsletter, <http://cirp.usace.army.mil/news/index.html>.

**Conferences**

*This listing is for information only and is not a complete list of FRM-related meetings. These meetings are not endorsed by the Corps of Engineers unless specifically stated. If we have failed to list a conference/meeting/symposium that would be of interest to the Flood Risk Management community, please forward us the conference details.*

27-29 April 2011 – Coastal Processes 2011, 2<sup>nd</sup> International Conference on Physical Coastal Processes, Management and Engineering – Naples, Italy –

<http://www.wessex.ac.uk/11-conferences/coastalprocesses-2011.html>

2-6 May 2011 – Coastal Sediments 2011 – Miami, FL – [coastalsediments.cas.usf.edu](http://coastalsediments.cas.usf.edu)

9-12 May 2011 – 2011 National Hydrologic Warning Council Conference – San Diego, CA –

<http://www.hydrologicwarning.org/>

9-14 May 2011 – 11th International Coastal Symposium – Szczecin, Poland –

<http://www.ics2011.pl/>

15-20 May 2011 – ASFPM Conference – Louisville, KY – <http://www.floods.org>

22-26 May 2011 – World Environmental and Water Resources Congress – Palm Springs, CA –

<http://content.asce.org/conferences/ewri2011/index.html>

23-25 May 2011 – Water Resources Management 2011 – 6<sup>th</sup> International Conference on Sustainable Water Resources Management, Riverside, CA –

<http://www.wessex.ac.uk/11-conferences/waterresourcesmanagement-2011.html>

25-27 May 2011 – River Basin Management 2011, 6<sup>th</sup> International Conference on River Basin Management – Riverside, CA –

<http://www.wessex.ac.uk/11-conferences/riverbasinmanagement-2011.html>

6 – 9 June 2011 – 5<sup>th</sup> International Short Conference on Applied Coastal Research – Aachen, Germany – <http://www.iww.rwth-aachen.de/scacr>

13-17 June 2011 – USACE Infrastructure Systems Conference (ISC), “Quality Design & Construction for a Stronger Future” – Atlanta, GA –

[https://www.team-psa.com/USACE\\_ISC/home.asp](https://www.team-psa.com/USACE_ISC/home.asp)

26-29 June 2011 – Solutions to Coastal Disasters Conference – Anchorage, AK –

<http://content.asce.org/conferences/cd2011/index.html>

12-14 July 2011 – 5<sup>th</sup> International Conference on Sustainable Development and Planning – New Forest, UK – <http://www.wessex.ac.uk/sdp2011rem4.html>

17-21 July 2011 – Coastal Zone 2011 – Winds of Change: Great Lakes, Great Oceans, Great Communities, Chicago, IL – <http://www.doi.gov/initiatives/CZ11/index.htm>

1-5 August 2011 – NCER – 4<sup>th</sup> National Conference on Ecosystem Restoration – Baltimore, MD – <http://conference.ifas.ufl.edu/NCER2011/>

15-19 August 2011 – 2<sup>nd</sup> USACE Flood Risk Management and Silver Jackets Workshop – Nashville, TN – stay tuned

21- 24 August 2011 – COPRI-ASCE Conference on Coastal Engineering Practice – San Diego, CA - <http://content.asce.org/conferences/copricoastal2011/index.html>

21- 25 August 2011 – StormCon 2011 – Anaheim, CA - <http://stormcon.com/register.shtm>

6-9 September 2011 – Floodplain Management Association Annual Conference – San Diego, CA – <http://www.floodplain.org/>

13-15 September 2011 – First International Conference on Lake Sustainability – New Forest, UK – <http://www.wessex.ac.uk/lakes2011rem3.html>

13-16 September 2011 – Smart Rivers 2010 - Discover the Keys to Inland Navigation's Sustainable Future Around the World – New Orleans, LA - <http://smart11.pianc.us/>

14-16 September 2011 – FSBPA Annual Conference – Miami Beach, FL - <http://fsbpa.com/conferences.html>

19-23 September 2011 – First International Conference on Sustainable Watershed Management – Istanbul, Turkey – <http://igemportal.org/?Dil=1&SID=689>

25-29 September 2011 – Association of State Dam Safety Officials – Annual National Conference – Washington, DC – <http://www.damsafety.org/>

27-29 September 2011 – 5<sup>th</sup> International Conference on Flood Management (ICFM<sub>5</sub>) – Tsukuba, JAPAN - <http://www.ifi-home.info/ICFM.html>

19-21 October 2011 – ASBPA National Coastal Conference – New Orleans, LA – <http://asbpa.org/>

30 October – 4 November 2011 – 12th International Workshop on Wave Hindcasting and 3rd Coastal Hazards Symposium – Kohala Coast, Hawaii's Big Island – <http://uhhconferencecenter.com/waveworkshop.html>

31 October – 3 November 2011 – NAFSMA Annual Meeting – Saint Petersburg, FL – <http://www.NAFSMA.org>

15-16 November 2011 – Coastal Management 2011: Innovative Coastal Zone Management: Sustainable Engineering for a Dynamic Coast – Belfast, United Kingdom – <http://www.ice-coastalmanagement.com/>

17-19 November 2011 – USACE R&D Conference – New Orleans, LA – no website yet

23-25 November 2011- ICCCGW 2011 – International Conference on Climate Change and Global Warming – Venice, Italy – [www.waset.org/events.php](http://www.waset.org/events.php)

28 November – 9 December 2011 - 2011 United Nations Climate Change Conference – South Africa - <http://www.ourglocal.com/?c=19%2C4060>

5 – 7 December 2011 – Water and Society 2011 – First International Conference on Water and Society – Las Vegas, NV – <http://www.wessex.ac.uk/watsoc11rem1.html>

14 – 16 December 2011 – 6th International Conference on Asian and Pacific Coasts – Hong Kong, China – <http://www.civil.hku.hk/apac2011/>

25-27 April 2012 – 1<sup>st</sup> International Conference on the Design, Construction, Maintenance, Monitoring and Control of Urban Water Systems – New Forest, UK – <http://www.wessex.ac.uk/uw2012cfp.html>

30 May – 1 June 2012 – FRIAR 2012 – 3<sup>rd</sup> International Conference on Flood Recovery, Innovation and Response – Dubrovnik, Croatia – <http://www.wessex.ac.uk/friar2012cfp.html>

22-25 October 2012 – Dredging 2012 PIANC-COPRI-ASCE Conference – San Diego, CA – <http://www.asce.org/copri/News/Headlines/2011/PIANC-USA-and-COPRI/ASCE-Announce-Dredging-2012/>

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To subscribe/unsubscribe: <http://operations.usace.army.mil/flood.cfm>.

We would love your input – recommended article length is ½ to 1 page. Articles should be submitted to Doyle L. Jones, Canvassing Editor, [Doyle.L.Jones@usace.army.mil](mailto:Doyle.L.Jones@usace.army.mil).

Also, we would appreciate your feedback. Contact Dinah McComas, Managing Editor, [Dinah.N.McComas@usace.army.mil](mailto:Dinah.N.McComas@usace.army.mil) or Doyle Jones.