Areas of Expertise

Coastal engineering

Joan Pope
CEERD
Tel: 703-428-6867
e-mail: Joan.Pope@hq02.usace.army.mil

- Beach nourishment and beachfill design
- Inlet and Regional Sediment Management
- Innovative shore protection
- Construction materials
- Earth forces & geotechnical issues
- Erosion control structures, functional design
- Mining sediment for nourishment
- Runup & overtopping analysis
- Armor stability & impact force analysis
- Structural design

Coastal/estuarine hydraulic analysis

Bruce Ebersole
CEERD-HF
Tel: 601-634-3209

- Modeling, coastal/estuary hydrodynamics
- Modeling, wave generation and transformation
- Inlet hydrodynamics and stability
- Tropical and extratropical storm waves
- Tropical and extratropical storm surge
- Surf zone waves and currents
- Tsunamis
- Wave/structure interactions
- Salinity intrusion
Coastal/estuarine sediment and geology analysis
Jack Davis  
CEERD-HV-T  
Tel: 601-634-3006  
E-mail: Jack.E.Davis@erdc.usace.army.mil

- Freshwater and saltwater diversions
- Barrier island overwash and breaching
- Beach & dune erosion
- Bluff erosion
- Nearshore dredged material mound stability & fate
- Sediment budgets
- Sediment transport, non-cohesive
- Sediment transport, cohesive and mixed
- Fluid mud
- Inlet morphology and stability
- Modeling, inlet, shoreline, beach change
- Modeling, mixed sediments, 2-D and 3-D
- Delta building and loss
- Wetland erosion
- Barrier island evolution and geology

Coastal navigation
Rose Kress  
CEERD-HN  
Tel: 601-634-3665  
E-mail: Rose.M.Kress@erdc.usace.army.mil

- Channel alignment and stability
- Channel sedimentation
- Inlet and entrance channels
- Jetty and breakwater design
Port and harbor design

**Cold regions engineering**

Kate White  
CEERD-RI  
Tel: 603-646-4187  
E-mail: Earl.V.Edris@erdc.usace.army.mil

Cold regions water quality  
Glaciology  
Ice control structures  
Ice impacts  
Ice jams  
Ice modeling  
Ice-affected hydraulics  
Ice-impacted channel restoration  
Ice-impacted shoreline protection  
Ice-Sediment Transport  
Snow drift engineering and modeling  
Snowmelt flood forecasting

**Dam safety**

Jeff Harris  
CEIWR-HEC-HH  
Tel: 530-756-1104  
E-mail: David.J.Harris@usace.army.mil

Dam safety studies  
Dam safety, breach analysis  
Dam safety, hydrology  
Dam Safety, risk analysis  
Inflow design floods  
Probable Maximum Flood
**Dredging**

Jim Clausner  
CEERD-HV-T  
Tel: 601-634-2009  
E-mail: James.E.Clausner@erdc.usace.army.mil

Beneficial uses of dredged material  
Bypassing design & equipment  
Dredged material management  
Dredging process  
Equipment  
Modeling, dredged sediment processes

**Ecosystem restoration**

John Hickey  
CEIWR-HEC-WR  
Tel: 530-756-1104  
E-mail: John.T.Hickey@usace.army.mil

Abandoned mine land remediation  
Restoration Modeling/Monitoring  
Dam Removal  
River, Stream, and Wetlands Restoration  
Hydrology for Restoration  
Ecologically Sustainable Water Management  
Reservoir Systems Analysis/Modeling/Management  
Reservoir Re-regulation  
Water Quality Analysis/Modeling  
Economic Analysis/Modeling for Restoration  
Interagency and NGO Coordination  
Watershed Analysis/Modeling/Planning
**Environmental**

Meg Jonas  
CEERD-HC-RR  
Tel: 601-634-2763  
E-mail: Margaret.M.Jonas@erdc.usace.army.mil

Aquatic resources  
Ecosystem Management Analysis  
Ecosystem Management Modeling  
Model Linkage-H&H/Erosion & Sediment/Ecosystem Assessment/Mngt  
Riparian vegetation  
Riparian zones  
Threatened and Endangered Species  
Watershed Assessment Tools  
Watershed management  
Wetlands

**Geospatial**

Tim Pangburn  
CEERD-RT  
Tel: 603-646-4296  
E-mail: Timothy.Pangburn@erdc.usace.army.mil

Bathymetry  
DFIRM mapping and FEMA requirements  
Digital terrain analysis  
GIS-Hydraulics  
GIS- Coastal  
GIS-Hydrology  
Inundation mapping  
Mapping  
Remote sensing technologies and analysis  
Watershed Delineation
Groundwater hydrology

Earl Edris
CEERD-HF-H
Tel: 601-634-3378
E-mail: Earl.V.Edris@erdc.usace.army.mil

Sub-area
Combined surface and subsurface water modeling
Ground water investigations
Groundwater recharge
Monitoring wells
Piping and seepage
Subsurface drainage

Hydraulic design

Chuck Tate
CEERD-HF-HE
Tel: 601-634-2120
E-mail: Charles.H.Tate@erdc.usace.army.mil

River engineering (channels and structures)
Hydraulic structures (gates, valves, control structures)
Conduit, culvert, and pipes
Dams
Irrigation and storm drainage design
Levees, floodwalls and retaining walls
Detention equipment
Physical modeling/micro modeling
Water distribution
Fish Passage
Pumping Stations

Hydropower

Bolyvong Tanovan
Hydropower Feasibility studies
Hydropower FERC relicensing
Hydropower system analysis and modeling
Hydropower system operational planning
Hydropower upgrade and rehabilitation -- economic justification
Hydropower value and benefit impact studies

Inland navigation
Sandra Knight
CEERD-HV-T
Tel: 601-634-2693
E-mail: Sandra.K.Knight@erdc.usace.army.mil

Hawser forces
Lock Approach Hydraulics
Lock filling and emptying
Lock gates
Navigation hydraulic design
Navigation locks & dam equipment
Ship simulators for navigation channel design
Training structures, wing dams and closing dams
Vessel impacts on biological communities
Vessel induced waves and currents on moored vessels, banks, and backwaters
Wave/Current/Structure Impacts on Navigation Channel Design

Planning analysis
Chris Dunn
CEIWR-HEC-WR
Tel: 530-756-1104
Plan formulation and evaluation  
Flood damage reduction measures  
Flood fighting  
Flood warning  
Levee certification  
Non-structural analysis  
Flood damage reduction models  
Interior flood control  
Integrated Water Resource Management  
Structure inventories

**Reservoir systems analysis**

Joan Klipsch  
CEIWR-HEC-WM  
Tel: 530-756-1104  
E-mail: Joan.D.Klipsch@usace.army.mil

Evaporation  
Induced surcharge ratings  
Operations research/optimization  
Reservoir regulation  
Water Control Plans  
Rule curves  
Sedimentation/surveys/models  
System modeling

**River hydraulics**

Gary Brunner  
CEIWR-HEC-HH  
Tel: 530-756-1104
1-D modeling
2, 3-D modeling
Bridges, culverts, and weirs
Gated structures
Computational numerical modeling
Floodplain management and mapping
Micromodeling
Physical modeling
Dam and levee breaching
Navigation dams

Riverine erosion and sediment transport

Jack Davis
CEERD-HV-T
Tel: 601-634-3006
E-mail: Jack.E.Davis@erdc.usace.army.mil

Sediment modeling, 1-D
Sediment modeling, 2-D and 3-D
Bed and bank erosion
Bridge Scour
Debris production/yield and flow
Debris/sedimentation basin design
Slope protection and erosion control
Erosion Control Structure (DEC Program)
Freeze-thaw induced bank failure
Land surface erosion
Mobile boundary hydraulics
Sedimentation retention studies
Statistics and risk

Beth Faber
CEIWR-HEC-WR
Tel: 530-756-1104
E-mail: Beth.A.Faber@usace.army.mil

Drought frequency analysis
Flooding frequency analysis
Flow duration
Frequency of extreme events
Risk analysis
Stochastic hydrology
Uncertainty in hydrologic forecasts
Uncertainty in hydrologic relationships and models

Surface water hydrology

Jeff Harris
CEIWR-HEC-HH
Tel: 530-756-1104
E-mail: David.J.Harris@usace.army.mil

Sub area
Climate change
Closed basin lakes
Non-Corps hydrologic models
Standard Project Flood
Hydrologic modeling
Infiltration and losses
Precipitation analysis
Real time rainfall/snowmelt runoff modeling
Regional Analysis
Snowmelt
Spatially distributed modeling
Urban Hydrology
**Water control management**

Joe Evelyn  
CESPL-ED-H  
Tel: 213-452-3525  
E-mail: Joseph.B.Evelyn@spl01.usace.army.mil

Data acquisition and management  
Drought management  
Real-time flow/stage forecasting  
Gaging stations, rainfall, river  
Lakes, water control management  
Operation expertise  
Ponds and reservoirs  
Sustainable Rivers Project (COE/TNC)  
Corps of Engineers Water Management System  
Water data  
Water Resource Allocation

**Water quality**

Steve Wilhelms  
CEERD-HF-HE  
Tel: 601-634-2475  
E-mail: Steven.C.Wilhelms@erdc.usace.army.mil

Agricultural, stormwater, wetland, urban runoff, water supply water quality  
Rivers, lakes, reservoir water quality  
Salinity management  
Thermal assessment/management  
Total dissolved gas analysis/management  
TMDLs  
Toxics management
Use attainability analysis
Water quality analysis/data mgmnt/standards/trading
Modeling, water quality