

# DACUM Research Chart for Floodplain Managers

## DACUM Panel

Jessica D. Baker, PE, CFM  
Project Manager, Halff Associates  
Richardson, TX

Michelle F. Burnett, CFM  
Rhode Island State Floodplain Coordinator  
Rhode Island Emergency Mgt. Agency  
Cranston, RI

Jerry Hancock, CFM  
Stormwater & Floodplain Programs  
Coordinator  
City of Ann Arbor, Systems Planning Unit  
Ann Arbor, MI

Laura Hendrix, CFM  
Executive Director  
Association of Montana Floodplain Mgrs.  
Helena, MT

Christy Miller, CFM  
Program Manager, Tetra Tech, Inc.  
Anchorage, AK

Stephen Mitchell, CBO, CFM  
Operations Manager, City of Pascagoula  
Pascagoula, MS

Rhonda Montgomery, CFM  
Program Specialist  
FEMA Headquarters/Mitigation Directorate  
Arlington, VA

Ricardo S. Pineda, PE, CFM  
Chief, Floodplain Management Branch  
State NFIP Coordinator  
Dept. of Water Resources, Div. of Flood Mgt.  
Sacramento, CA

Joe Remondini, PE, CFM  
Program Manager, Floodplain Management  
Services, U.S. Army Corp of Engineers  
Tulsa, OK

Robert Rogerson, CFM  
Floodplain Manager, Town of Mount Pleasant  
Mount Pleasant, SC

Terri L. Turner, AICP, CFM  
Assistant Zoning & Development Admin.  
Augusta-Richmond County Planning Comm.  
Augusta, GA

## Sponsored by



**Association of State Floodplain Managers  
Madison, WI**

## Observer

Kait Laufenberg, CFM  
Training & Chapter Coordinator  
Association of State Floodplain Managers  
Madison, WI

## Facilitator

John Moser  
Associate DACUM Program Manager  
The Ohio State University  
Columbus, OH

## Produced by



1900 Kenny Road  
Columbus, OH 43210

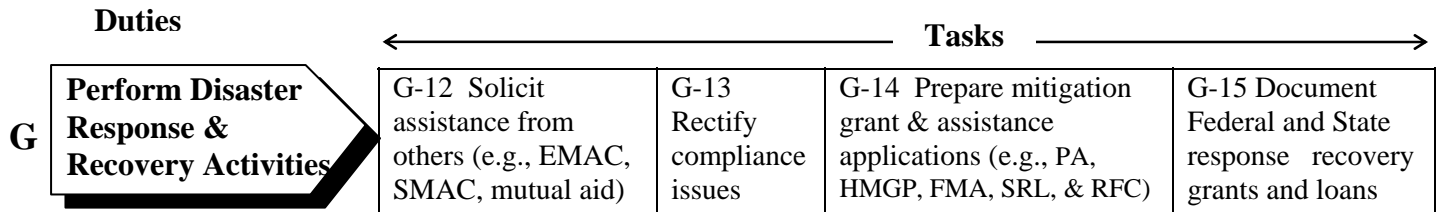
**July 20-21, 2009**

# DACUM Research Chart for Floodplain Managers

Duties		Tasks			
A	<b>Administer Floodplain Management Programs</b>	A-1 Review local, state, & federal development regulations	A-2 Conduct pre-development meetings (e.g. developers, design professionals, stakeholders)	A-3 Process floodplain development permits	A-4 Review Elevation Certificates (ECs)
		A-11 Maintain floodplain ordinances (e.g., model, local, state)	A-12 Interpret floodplain ordinances	A-13 Implement higher regulatory standards (e.g., NAI, CRS, LID)	A-14 Develop policy/position papers, business plans (e.g., 5-year, short & long term)
		A-20 Update floodplain management executive orders	A-21 Reconcile conflicting guidance	A-22 Advocate for floodplain-related legislation	A-23 Develop funding mechanisms (e.g., storm water utilities, grants, special funding)
B	<b>Perform Hazard Identification &amp; Risk Assessment</b>	B-1 Document flood events	B-2 Collect localized data (e.g., rainfall, streamgage data, historical flooding info.)	B-3 Evaluate levee certifications	B-4 Identify at-risk properties behind levees
		B-12 Communicate loss estimation models to decision makers	B-13 Assist with implementing hazard mitigation plans	B-14 Coordinate watershed development across jurisdictional lines	B-15 Identify RL & SRL areas
C	<b>Perform Outreach Activities</b>	C-1 Promote higher development standards (e.g., NAI, freeboard, CRS)	C-2 Participate in community events (e.g., Earth Day, Rotary, open house)	C-3 Promote flood awareness week/month	C-4 Prepare media press releases
		C-11 Organize state & regional conferences	C-12 Conduct training workshops	C-13 Publish floodplain management newsletters	C-14 Provide education & training to local policy makers
D	<b>Perform Customer Service Activities</b>	D-1 Provide flood map information (e.g., BFE, flood zone, map index)	D-2 Provide general technical assistance to customers (e.g., construction techniques, site-specific risk assessments, insurance information)		D-3 Assist in resolution of flood insurance problems
E	<b>Perform Mapping Activities</b>	E-1 Review LOMCs & newly generated BFE data	E-2 Maintain maps, FISs & other supporting data	E-3 Support H&H for riverine, coastal, & other areas	E-4 Develop future conditions floodplain maps
F	<b>Perform Mitigation &amp; Preparedness Activities</b>	F-1 Implement Community Rating System (CRS) programs	F-2 Develop flood warning systems	F-3 Develop BMPs for LID & green infrastructure	F-4 Pursue mitigation & planning grants/funding
		F-11 Assist with emergency Action, Evacuation, & Response plans			
G	<b>Perform Disaster Response &amp; Recovery Activities</b>	G-1 Implement emergency Action, Evacuation & Response plans	G-2 Coordinate with ICS	G-3 Participate in preliminary damage assessments	G-4 Document extent of flooding & other disasters
					G-5 Identify frequency of flood event

A-5 Conduct code compliance inspections	A-6 Participate in CAVs & CACs	A-7 Conduct site inspections (e.g., pre/post development, compliance)	A-8 Maintain permit files & documents (e.g., repetitive loss, ECs, LOMC's)	A-9 Review variance requests	A-10 Develop floodplain ordinances
A-15 Address floodplain ordinance violations (e.g., legal actions, stop work orders, 1316)	A-16 Complete FEMA Biennial Reports	A-17 Participate in community meetings	A-18 Coordinate floodplain activities with other agencies (e.g., federal, state, nonprofit)	A-19 Provide technical expertise to policy makers	
A-24 Populate program databases (e.g., CIS, MIP)	A-25 Mentor new floodplain managers				
B-5 Develop levee breach maps	B-6 Develop levee protection zone maps	B-7 Evaluate dam & levee safety	B-8 Develop watershed master plans	B-9 Develop storm water management plans	B-10 Develop master drainage plans
B-11 Conduct risk modeling (e.g., HAZUS, FIA, FDA)	B-16 Identify unique flooding risks (e.g., ice jams, alluvial fans, tsunamis)	B-17 Promote placement & retention of stream & tidal gages	B-18 Identify placement location for warning signs (e.g., evacuation, flood risk)		
C-5 Participate in media interviews	C-6 Publish outreach brochures & handouts	C-7 Distribute outreach brochures & handouts	C-8 Assist with website development	C-9 Develop outreach partnerships with other agencies (e.g., NOAA, utility mailouts, watershed councils)	C-10 Provide training to other professional groups (e.g., engineers, surveyors, realtors)
C-16 Provide outreach to schools (e.g., presentations, poster contests, scholarships)	C-17 Provide public service announcements	C-18 Demonstrate interactive floodplain & watershed models	C-19 Promote placement of historical high water markers	C-20 Develop risk notification tools (e.g., letters, website, maps)	C-21 Promote non-structural floodproofing methods
D-4 Document flooding complaints	D-5 Provide copies of documents (e.g., ECs, forms, certificates)	D-6 Provide substantial damage letters for ICC	D-7 Provide program information (e.g., NFIP, CRS, UHMA)	D-8 Refer customers to other agencies/resources (e.g., websites, contractors, USACE)	D-9 Explain processes to customers (e.g., regulations, LOMCs, permits)
E-5 Determine best available data (e.g., topography, H&H, historical)	E-6 Map repetitive loss areas	E-7 Support flood risk mapping (e.g. MapMod, RiskMap)	E-8 Support community coordination during flood risk mapping process	E-9 Generate flood hazard maps	E-10 Utilize GIS datasets
F-6 Participate in local emergency planning	F-7 Implement hazard mitigation plans	F-8 Participate in development of state & other local communities' multi-hazard mitigation plans	F-9 Coordinate with local emergency responders (e.g., USAR, police/fire, EMA directors)	F-10 Coordinate flood mitigation programs with other agencies	
G-6 Conduct damage assessment surveys	G-7 Assess substantial improvements/damages	G-8 Implement disaster recovery/debris management plans	G-9 Assess rebuilding requirements based on event	G-10 Collect other agencies' damage data	G-11 Communicate damages to decision makers

# DACUM Research Chart for Floodplain Managers



## Acronyms

1316	Section 1316 Declaration	HEC-HMS	Hydrologic Engineering Center-Hydrologic Modeling System
BCA	Benefit Cost Analysis	HEC-RAS	Hydrologic Engineering Center-River Analysis System
BFE	Base Flood Elevation	HMGP	Hazard Mitigation Grant Program
BMP	Best Management Practice	ICC	Increased Cost of Compliance
CAC	Community Assistance Contact	ICS	Incident Command Structure
CAV	Community Assistance Visit	LID	Low Impact Development
CFM	Certified Floodplain Manager	LOMC	Letter of Map Change
CFR	Code of Federal Regulations	MIP	Mapping Information Platform
CIS	Community Information System	NAI	No Adverse Impact
COBRA, CBRA	Coastal Barrier Resource Area or CBR Area	NFIP	National Flood Insurance Program
COE	Corps. of Engineers	NIMS	National Incident Management System
CRS	Community Rating System	NOAA	National Oceanic and Atmospheric Administration
DACUM	Developing A Curriculum	PA	Public Assistance
EC	Elevation Certificate	PE	Professional Engineer
EMA	Emergency Management Agency	RFC	Repetitive Flood Claims Program
EMAC	Emergency Management Assistance Compact	RFP	Request for Proposal
FDA	Flood Damage Assessment	RL	Repetitive Loss
FEMA	Federal Emergency Management	SDE	Substantial Damage Estimator
Agency		SMAC	State Mutual Aid Compact
FIA	Flood Impact Assessment	SRL	Severe Repetitive Loss
FIS	Flood Insurance Study	TAO	Tax Assessor's Office
FMA	Federal Mitigation Assistance	UHMA	Unified Hazard Mitigation Assistance
GIS	Geographic Information Systems	USACE	United States Army Corps. of Engineers
GPS	Global Positioning System	USAR	Urban Search and Rescue
H&H	Hydrologic and Hydraulic		
HAZUS	HAZards United States		

## Worker Behaviors

Knowledgeable	Inquisitive	Passionate
Ethical	Professional	Resilient
Responsible	Honest	Responsible
Detail oriented	Enthusiastic	Advocate
Accurate	Flexible	Grounded
Organized	Non-defensive	Discerning
Empathetic	Receptive	Mentor
Competent	Proactive	Good public speaker
Confident	Non-judgmental	Sense of humor
Compliance oriented	Creative	Timely
Team player	Educated	Assertive
Fair	Compassionate	Articulate
Firm	Balanced	Consistent

---

## General Knowledge and Skills

Conflict resolution	Basic economics	Environmental regulations
Knowledge of NFIP	Basic math/statistics	Geomorphology
Mediation skills	Public speaking skills	GPS
FEMA/State contacts	Writing skills	Mutual aid agreements
44 CFR 60.3	COBRA zones	Map reading
Stress management	GIS concerns	Development standards
Time management skills	Permitting process	Dam break & inundation
Multitasking skills	Building codes	Natural & beneficial functions of floodplain
Interpersonal skills	Problem solving skills	Hydrology/hydraulics concepts
Facilitation skills	Leadership skills	Nonstructural/structural flood-proofing methodologies
Organizational skills	Decision making skills	Communication skills (written, verbal, listening)
Keyboarding skills	Floodplain mapping	Community/state/federal resources
Computer software literacy	Construction techniques	Mental health issues (staff, customers)
Other agency regulations	Customer service	Bi or multi lingual (desirable)
Grant writing opportunities	Cultural knowledge	
Planning/zoning concepts	ICS	

## Tools, Equipment, Supplies and Materials

Maps	
Printer/plotter	
Computer	
Internet/Intranet	
Phone	
Fax	
Shredder	
Copier	
General office supplies	
Workspace	
Digital camera	
Calculator	
GPS	
Vehicle/license	
File cabinets	
Scanner	
44 CFR	
Software: GIS, MS Office, HAZUS, HEC-RAS, HEC-HMS, BCA, SDE, H&H software, Permit software, EC software, TAO software	
Building codes	Boots, steel toed
Measuring tapes	Waterproof paper
Engineering scale	Binoculars
Architect scale	Bug spray
First aid kit	Boat
Waders	Radios
Hard hat	Generator
Protective eyewear	Police scanner
Hand sanitizer	Weather alert radio
Personal flotation device	Flashlight
Masks	Business cards
Gloves	Authenticated identification

## Future Trends and Concerns

Lack of adequate staffing & funding
Climate change
Inadequate software/hardware
Combined recovery/debris management plan
Levee issues
Rapid growth of coastal areas
Lack of stream, rainfall & tidal gages
FEMA as a stand-alone agency
Inadequately trained staff
Mentoring state/local floodplain managers
Lack of college degrees and curriculum for floodplain management
Capturing BFE data
Communicating actual risk
Lack of authority to resolve flood insurance issues
Legal attacks on floodplain managers
Lack of training required for floodplain managers
Consistent coordination with emergency management
Disconnect between regulatory and insurance sides
Lack of higher standards in local ordinances
Lack of all hazards insurance
Insufficient funding for flood hazard mapping
Challenge of ensuring compliance
Rapid growth in watersheds
Lack of respect for floodplain regulations