USACE provides value for our Nation in many ways to diverse stakeholders.

- We deliver positive impacts for today and tomorrow – in construction, natural resource management, energy and sustainability, and capacity building, and more . . . .
- We have the “right” people: world-class professional civilians and soldiers.
- We are U.S. Army “ambassadors” on a daily basis to political leaders, America’s small businesses, and to citizens wherever we serve them . . . .

**USACE Vision**

Engineering solutions for the Nation’s toughest challenges.

**USACE Mission**

Deliver vital engineering solutions, in collaboration with our partners, to secure our Nation, energize our economy, and reduce risk from disaster.
U.S. Army Corps of Engineers

239 Years of Service to the Nation

Washington Monument
Lincoln Memorial
U.S. Capitol

Panama Canal

Wankel T. Rex

Bonneville Dam

The Pentagon

Kennedy Space Center
“America’s history is, in large part, a story of infrastructure.”

Settlers on the Ohio River

Great Mississippi River Flood

Hurricane KATRINA

1775 1824 1927 1956 2005

1800 1900 2000

1812 1862 1933 1970

Fort McHenry

Railroads

LIFE

Fort Peck Dam

Florida Everglades
National Security Strategy: Our USACE Role

Partner Nations and Combatant Commands

- Defense
- Diplomacy
- Development
USACE is Regionally Aligned; Globally Responsive

Engagement (132+ Countries)  Physical Presence (43 Countries)

Northwestern Division (Portland)
North Atlantic Division (New York City)
Trans-Atlantic Division (Winchester, VA)
Pacific Ocean Division (Honolulu)
North Atlantic Division (New York City)
South Atlantic Division (Atlanta)

33K civilians have deployed to contingency operations; 11K from USACE
USACE Mission Areas

**Military Missions**
- Military Construction
  - COCOM Support, Overseas Contingency Operations (OCO)
  - Installation Support, Environmental, Energy and Sustainability
- Federal / State / Local
  - "Whole of USACE" Capabilities
  - Capacity Development

**Civil Works**

**Contingency Operations**
- "Whole of Government"
  - Disaster Response and Recovery
  - Life-Cycle Flood Risk Management
  - Critical Infrastructure
- Warfighter
  - Installations and Energy
  - Environment
  - Water Resources

**Geospatial Support**
- Common Operating Picture / Environment
  - Civil Works Programs
  - Military Programs
  - Emergency and Contingency Operations

**International and Interagency**
- Warfighter
  - Installations and Energy
  - Environment
  - Water Resources

**Real Estate** — Acquire, Manage and Dispose / DoD Recruiting Facilities / Contingency Operations

USACE Has a Diverse Mission Set Driven by Diverse Customers
( 4 Goals )

USACE Campaign Plan

( 12 Words )

1. Support the Warfighter
2. Transform Civil Works
3. Reduce Disaster Risk
4. Prepare for Tomorrow

Engineering Solutions to the Nation's Toughest Challenges
USACE Structure and Business Model

Agency Enablers (Support Functions)

Major Subordinate Commands (Geographical)

Enterprises (Programs/Industries)

Commands (Divisions and Districts)

horizontally synchronize demands and operations for guaranteed delivery across all enterprises

Enterprises vertically integrate policies and resources for consistency across all commands
Organizational Structure

Humphreys Engineer Center Support Activity
( Alexandria, VA )

412th Engineer Command
( Vicksburg, MS )

416th Engineer Command
( Darien, IL )

Great Lakes and Ohio River Division
( Cincinnati, OH )
- Buffalo
- Chicago
- Detroit
- Huntington
- Louisville
- Nashville
- Pittsburgh

Mississippi Valley Division
( Vicksburg, MS )
- St. Paul
- Rock Island
- St. Louis
- Memphis
- Vicksburg
- New Orleans

North Atlantic Division
( New York City, NY )
- Baltimore
- New England
- New York
- Norfolk
- Philadelphia
- Europe

Northwestern Division
( Portland, OR )
- Kansas City
- New England
- New York
- Portland
- Seattle
- Walla Walla

Pacific Ocean Division
( Honolulu, HI )
- Alaska
- Far East
- Japan

South Atlantic Division
( Atlanta, GA )
- Charleston
- Jacksonville
- Savannah
- Wilmington

South Pacific Division
( San Francisco, CA )
- Albuquerque
- Sacramento
- Los Angeles
- San Francisco

Southwestern Division
( Dallas, TX )
- Fort Worth
- Galveston
- Little Rock
- Tulsa

Transatlantic Division
( Winchester, VA )

USACE Finance Center
( Millington, TN )

Institute for Water Resources
( Alexandria, VA )

USACE Logistics Agency
( Millington, TN )

Marine Design Center
( Philadelphia, PA )

249th Prime Power Battalion
( Fort Belvoir, VA )

Engineering and Support Center ( Huntsville )
( Huntsville, AL )

Engineer Research and Development Center
( Vicksburg, MS )

Army Geospatial Center
( Alexandria, VA )

Field Operating Activity
Organization with ONLY a CIVIL WORKS Mission
O-6 District Commands ( 33 of 42 )
Civilian Full Time Equivalents (FTE) and Uniformed End Strength (ES)

**USACE Total:** 35,683 FTE (782 Uniformed Military)

**Districts:**
- 29,248 (83%)
  - (301 Uniformed Military)

**ERDC, Centers, FOAs:**
- 4,120 FTE (12%)
  - (31 Uniformed Military)

**Prime Power:**
- 30 FTE
  - (343 Uniformed Military)

**FEST Teams:**
- 102 FTE
  - (34 Uniformed Military)

**Division HQs:**
- 872 FTE (2%)
  - (27 Uniformed Military)

**HQUSACE:**
- 927 FTE (3%)
  - (46 Uniformed Military)

**USACE Maintains a Balance Between In-sourced and Outsourced Work**

**35,683 Employees**
- Perform all “inherently governmental” functions

**A-E Firms**
- 5,000 Employees
- Perform > 65% of Planning and Design

**Construction Contractors**
- 300,000 Employees (daily)
- Perform 100% of Civil Works and Military Construction

**Sponsors**

**Federal Agencies**

**Associations**

**Workforce Size Driven by Customer Programs – 95% FTE Project Funded**
Districts are “Self-Financing” by Projects

Project – Based Funding

$ Income $  
(for Projects)

Military Interdepartmental Purchase Requests (MIPRs)
Funding Authorization Documents (FADs)
Contributed Funds

$ Expenses $  
(for Workforce / Overhead)

Salaries
Contracts
Equipment
Supplies
Facility Services
Rent
Other

Business – Type Accounting
Capital Budgeting
Activity – Based Costing
Complex Revolving Fund
Workforce – Workload Balancing

Districts must “turn a profit” to fund their workforce and overhead costs / initiatives
“Soldier – Statesman – CEO” District Commanders (LTC / COL)

Commander + Business Person + JIIM Operator + 4X “Political” Engagement (> most GOs)

435 + 50 + 513 + 9
(Congressional Districts / States / Tribes / COMOs)

Daily / Weekly Engagement w/ Members / Staffs

50 – 100 (+) Engagements Annually

Both “Sides of the Aisle”

Workforce = 100+ – 1000+

Programs = $100M+ – $1B+

Districts 100% Reimbursable
USACE
Civil
Works

U. S. Army
Corps of Engineers
Civil Works Divisions and Districts

Northwestern Division
\- Seattle
\- Portland
\- Walla-Walla
\- Sacramento
\- San Francisco
\- Los Angeles
\- Albuquerque
\- Sacramento

North Atlantic Division
\- New York
\- New England
\- Boston
\- New York
\- Philadelphia
\- Baltimore
\- Norfolk
\- Charleston
\- Savannah
\- Wilmington
\- Norfolk
\- Baltimore
\- Philadelphia
\- New York

South Pacific Division
\- Seattle
\- Portland
\- Walla-Walla
\- Sacramento
\- San Francisco
\- Los Angeles
\- Albuquerque
\- Sacramento

Southwestern Division
\- Little Rock
\- Tulsa
\- Fort Worth
\- Albuquerque
\- Galveston
\- St. Paul
\- Omaha
\- Kansas City
\- Rock Island
\- St. Louis
\- Memphis
\- Vicksburg
\- New Orleans
\- Mobile
\- Galveston

Mississippi Valley Division
\- St. Paul
\- Minneapolis
\- Chicago
\- St. Louis
\- Memphis
\- Vicksburg
\- New Orleans

Great Lakes and Ohio River Division
\- Detroit
\- Cleveland
\- Pittsburgh
\- St. Louis
\- St. Louis
\- St. Louis
\- St. Louis

South Atlantic Division
\- Charleston
\- Savannah
\- Jacksonville
\- Wilmington
\- Norfolk
\- Baltimore
\- Philadelphia
\- New York

Pacific Ocean Division
\- Honolulu

Europe

Division HQ

District HQ
Deliver enduring and essential water resource solutions using effective transformation strategies.

**Navigation**

**Flood Risk Management**

**Ecosystem Restoration and Infrastructure**

**Recreation and Natural Resource Management**

**Hydropower**

**Regulatory Wetlands and Waterways**

**Water Supply**

**Expenses** Includes ASA(CW)
National Water Resource Challenges

- Climate Change
- Energy
- Aging Infrastructure
- Disaster Preparedness and Response
- Governance
- Federal Budget
- Legislative Changes
- Demographic Shifts
- Persistent Conflict
- Increasing Demand for Water
- Declining Biodiversity
- Environmental Values
- Globalization

Water needed to produce 1 litre of beverage

<table>
<thead>
<tr>
<th>Beverage</th>
<th>Water needed to produce 1 litre (litres '000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffee</td>
<td>0.2</td>
</tr>
<tr>
<td>Wine</td>
<td>0.5</td>
</tr>
<tr>
<td>Apple juice</td>
<td>0.6</td>
</tr>
<tr>
<td>Orange juice</td>
<td>0.8</td>
</tr>
<tr>
<td>Beer</td>
<td>1.0</td>
</tr>
<tr>
<td>Tea</td>
<td>1.2</td>
</tr>
<tr>
<td>Bottled water</td>
<td></td>
</tr>
</tbody>
</table>

Water needed to produce 1 kg of food

<table>
<thead>
<tr>
<th>Food</th>
<th>Water needed to produce 1 kg (litres '000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roasted coffee</td>
<td>0</td>
</tr>
<tr>
<td>Hamburger</td>
<td>5</td>
</tr>
<tr>
<td>Leather shoes</td>
<td>10</td>
</tr>
<tr>
<td>Microchip</td>
<td>15</td>
</tr>
<tr>
<td>Cotton textile</td>
<td>20</td>
</tr>
<tr>
<td>Tea</td>
<td>25</td>
</tr>
<tr>
<td>Cheese</td>
<td></td>
</tr>
<tr>
<td>Bread</td>
<td></td>
</tr>
<tr>
<td>Potato crisps</td>
<td></td>
</tr>
<tr>
<td>Sheet paper</td>
<td></td>
</tr>
</tbody>
</table>

*Excluding water in grains
Source: "The Water Footprint" by Peter Waterfoot, Bird Press, waterfootprint.org
Our Nation’s Infrastructure GPA: D+
USACE Secures Nation's Future through Water
Securing Our Nation’s Future Through Water

**Navigation** - Moving goods to market
USACE operates 13,000 miles of Commercial Inland Waterways; generates $18 B / 500,000 jobs, annually

**Flood and Disaster Risk Reduction**
USACE prevents > $6 in flood damages for every $1 invested

**Hydropower** - Inexpensive and sustainable
USACE is the Nation’s largest renewable energy producer

**Drinking Water**
USACE produces 6.5 billion gallons per day

**Quality of life**
USACE is the No. 1 Federal provider of outdoor recreation contributing > $16 B to local economies
Water Management (and Water Reform) is ALWAYS political.

**Ancient Chinese Characters:**

River + Dike = Political Order
USACE
Military Missions

U. S. Army
Corps of Engineers
Military Missions Divisions and Districts

South Pacific Division

Southwestern Division

South Atlantic Division

Great Lakes and Ohio River Division

North Atlantic Division

Northwestern Division

South

Seattle

Portland

Sacramento

Los Angeles

Honolulu

Far East

Japan

Alaska

Pacific Ocean Division

Related Centers and Other Special Missions:

- Huntsville Engineering and Support Center
- St. Louis District – Archaeology
- Mobile District – Panama, Puerto Rico
- Transatlantic Division – USACE Deployment Center

Division HQ

District HQ
Deliver innovative, resilient, and sustainable solutions to the Department of Defense and the Nation.

**Military Construction**
Army / Air Force

**Overseas Contingency Operations (OCO)**

**Support to Combatant Commands**

**Installation Support**

**Environmental**

**Real Estate**

**Interagency and International**

**Energy and Sustainability**
USACE Contingency Operations

U. S. Army Corps of Engineers
Life-Cycle Risk Management

Getting Ready
Actions taken BEFORE the event, including planning, training, and preparations.

- Flood Risk Management system assessment / inspections
- Monitoring / forecasting threats
- State and Local Coordination
- Reservoir operations
- Flood Fight Preparation

Driving Down the Risks
Activities that PREVENT a disaster, reduce its chance of happening, or reduce its damaging effects.

- Modify mitigation plans
- Identify future mitigation opportunities
- Develop system improvements

The Flood Fight
Actions taken DURING the initial impact of a disaster, including those to save lives and prevent further property damage.

- Emergency system strengthening
- Monitor and report flood impact
- Monitor system performance
- Support State / Local FF

Getting back on our feet
Actions taken AFTER the initial impact, including those directed toward a return to normalcy.

- Repair damaged systems
- Assess and document system performance
- Implement mitigation measures / system improvements

State and Local Partnerships

- Hazard Mitigation Plans
- Floodplain Management Plans
- Pre- and Post-Response and Recovery Activities

Mitigation

USACE
- Disaster Preparedness, Levee Safety, and Silver Jackets Programs
- FPMS, PAS, and Silver Jackets
- Mitigation Programs
- Conservation Easements

FEMA
- Preparedness Programs
- NRF Response Activities
- Mitigation Programs
- PA, and IA Programs

NRCS
- Conservation Easements

Federal Recovery Programs

Recovery

USACE Emergency Response Program and Reservoir Operations

Response
“Driving Down the Risks with an Informed and Engaged Public”

Initial Risk
- Outreach: Federal / State / Local
- Natural Storage: Federal / State / Local
- Structural: Federal / State / Local
- Non-Structural: Federal / State / Local
- Contingency Plans: Federal / State / Local / Individual
- Building Codes: State / Local
- Zoning: Local
- Insurance: Individual / NFIP

Residual Risk

All Stakeholders contribute to reducing risk!

Resulted from Hurricane KATRINA Lessons Learned
Vision
Lead collaborative, comprehensive and sustainable national flood risk management to improve public safety and reduce flood damages to our country

Mission
Integrate and synchronize USACE flood risk management projects, programs, and authorities with counterpart projects, programs, and authorities of other Federal agencies, state organizations, and regional and local agencies

Strategic Goals

- Provide current accurate floodplain information to the public and decision makers
- Identify and assess flood hazards posed by aging flood damage reduction infrastructure
- Improve public awareness and comprehension of flood risk
- Integrate flood damage / hazard reduction programs across local, state, and Federal agencies
- Improve capabilities to collaboratively deliver and sustain flood damage reduction and flood hazard mitigation services to the nation
Key 2013 / 2014 Responses

- **Winter Ice Storm**
  - Dec. 2013

- **Typhoon Haiyan**
  - Nov. 2013

- **MS River Rock Pinnacles**
  - 2013

- **Lake Okeechobee**
  - Summer 2013

- **SR 530 Slide**
  - Mar. 2014

- **Midwest Flooding**
  - Spring 2013

- **Marselles Dam**
  - Apr. 2013

- **New Mexico Flooding**
  - Sep. 2013

- **Lock and Dam 52**
  - Oct. 2013

- **Mel Price Lock / Dam**
  - Jan. 2014

- **OK City Tornado**
  - May 2013

- **Rocky River Ice Jams**
  - Jan. 2014

- **Galena, AK**
  - May 2013

- **Midwest Flooding**
  - Spring 2013

- **FEST Deployments**
  - Afghanistan / Jordan 2013

- **WV Chemical Spill**
  - Jan. 2014

- **West, TX Fertilizer Plant**
  - Apr. 2013

- **Colorado Flash Flooding**
  - 2013

- **Lock and Dam 52**
  - Nov. 2013
The Tale of Two Storms... Katrina and Sandy

Pre-Katrina “System” 2005
- 50% complete after 50 years
- $130 B in Recovery Costs
- 1500 Lives Lost

New Orleans Before and After Katrina

$14B Post-Katrina System
- Designed and Constructed in 6 years
- Performed Successfully during Hurricane ISAAC

Sandy Impacts
- 24 US States affected
- Over 8.5 million without power
- Damages ~ $65 B
- 13-foot surge in Lower Manhattan

USACE Response / Recovery Missions
- Temporary Power and Housing
- Un-watering / Pump
- Debris
- Water
- Infrastructure Assessment
- Coastal Restoration

$351M Response + $5B Recovery
- 200+ projects and studies along the east coast

Brooklyn Battery Tunnel
- 85 million gallons of water removed...
- ... enough water to fill the Rose Bowl!
USACE
Research and Development

U. S. Army
Corps of Engineers
Engineer Research and Development Center

- **$1.3 B Annual Program**
- **2500 Employees**
  - 1800 Full Time Federal
  - >1,000 Scientists and Engineers
  - 32% PhDs
  - 44% MS degrees
- **$1.2 B Unique Research Facilities / Equipment**
- **77 Active Patents**

Field Offices:
- Military Engineering
- Civil Works and Water Resources
- Environmental Quality and Installations
- Geospatial Research and Engineering

Laboratories:
- Construction Engineering Research Laboratory
- Cold Regions Research and Engineering Laboratory
- Coastal and Hydraulics Laboratory
- Environmental Laboratory
- Geotechnical and Structures Laboratory
- Information Technology Laboratory
- Geospatial Research Laboratory
- ERDC Headquarters
- Geospatial Research Laboratory (Army Geospatial Center)
- Coastal and Hydraulics Laboratory
- Environmental Laboratory
- Geotechnical and Structures Laboratory
- Information Technology Laboratory

Locations:
- Vicksburg, MS
- Hanover, NH
- Champaign, IL
- Alexandria, VA
Support to the Army and the Nation, Leveraging Technical Engineer Capabilities with R&D

Enable Theater Access

Force Protection

Chemical and Biological

Counter Rocket, Artillery & Mortar

Structural Retrofit

Immune Buildings

Countermine Phenomenology

IED Simulation and Detection

Countermine Phenomenology Test bed
Army Geospatial Center

U. S. Army Corps of Engineers
Mission: The AGC provides timely, accurate and relevant geospatial information, capabilities and domain expertise for Army Geospatial Enterprise implementation in support of full spectrum operations.

Soldier Geospatial Support and Production (Terrain and Water Resources)

Tactical Source and Enterprise Solutions

Enterprise Development and Support

- Divisions/Districts
- GEOINT Cells
- ARSTAF
- Special Operations
- GPCs, Topographic Teams

Connection

- ASA(ALT) OCSE
- PEO I, STRI, IEWS, and C3T
- TRADOC(ARCIC)
- TCM Geospatial
- TCM Sensor Processing

Geospatial Engineering Research, Development, Technology and Evaluation

- ASPO
- CTSF
- SMDC
- OSD
- AT&L/HSCB
- NGA
- USAID
- Marine Corps

Systems Acquisition and Program Management
A complex environment with many stakeholders and various lines of effort ALL working together to move the AGE implementation forward
Shaping Our Future

U. S. Army Corps of Engineers
Perception vs. Reality

Responsive
Community Members
“Solutioneers”

Joint
International
Interagency

“Life Cycle”
Anticipatory
“Full – Service”

Expensive
Slow
Bureaucratic
Arrogant

Doesn’t
Communicate
Can’t Be Trusted
Self- Absorbed
Battling Perception vs. Reality With “Targeted” Outreach

- Responsive Community Members
- Joint International Interagency
- Expensive Slow Bureaucratic Arrogant
- Doesn’t Communicate Can’t Be Trusted Self-Absorbed

GLMRIS Report Public Information Campaign / Chicago
Lake Tahoe Summit Capabilities Display / South Pacific Division
 Leaders Emeritus Strategic Engagement / HQ USACE

“First Pitch” Recreation Safety / Springfield, MO
“Solutioneers”

Media Outreach Talk Show / Albuquerqe, NM

“Full-service”

John Day Lock and Dam Water Safety / Oregon
Civil Works Budget Press Conference / USACE HQ

National Press Club Hurricane SANDY Update / Washington, DC

Foreign Press Center USACE Overview / Washington, DC

Twitter Lake Isabella Dam Property Owners Public Meeting / Sacramento
Plan  
Shape the workforce by managing skills / knowledge
- Workload – Workforce Balancing / Competency Management (CoPs)

Recruit  
Win the war for talent by getting the right person in the right job
- Diversity / STEM Outreach / Wounded Warriors / Soldier Transition

Develop  
Shape the workforce by providing enrichment opportunities
- Technical Workforce / Leader Development / Emerging Leaders

Retain  
Prevent talent loss by valuing employee contributions
- Performance Management / Family Readiness / Knowledge Management
Questions?

Speaker
Title
U. S. Army Corps of Engineers
Date