

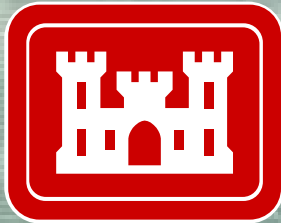
# US Army Corps of Engineers

## Speaker

Title

U. S. Army Corps of Engineers

Date



US Army Corps of Engineers  
**BUILDING STRONG®**





## **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

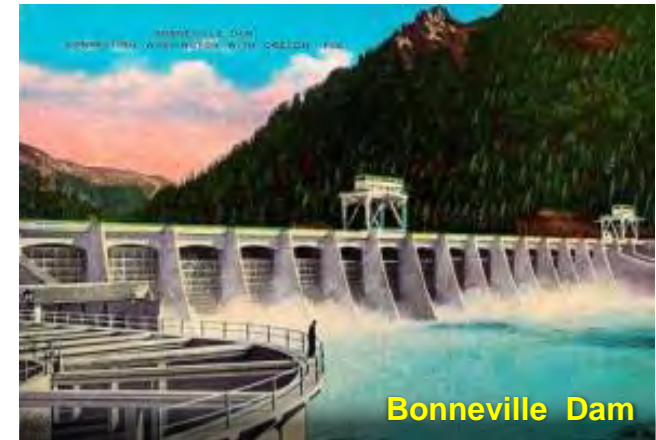
Washington Monument  
Lincoln Memorial  
U.S. Capitol



Panama Canal



Wankel T. Rex



Bonneville Dam



The Pentagon



Kennedy Space Center





# USACE in our Nation's History



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



Settlers on the Ohio River



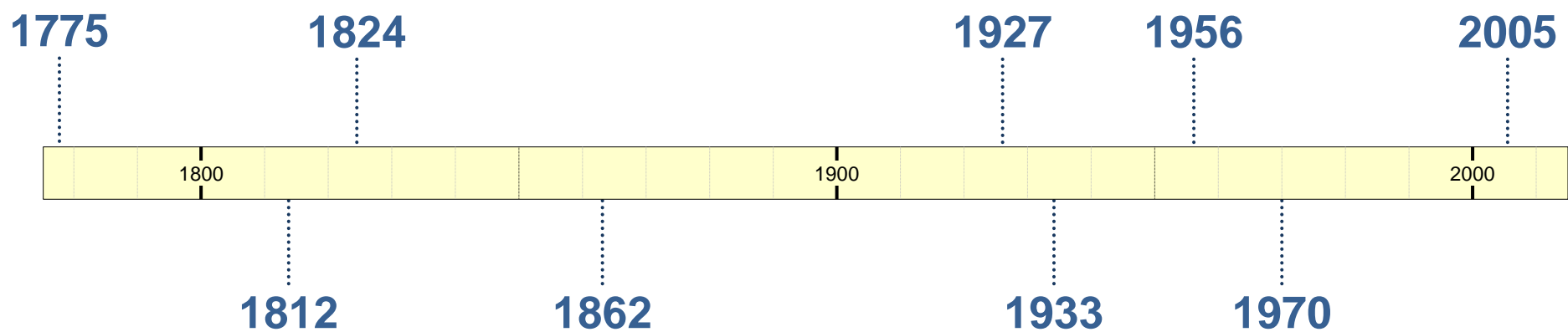
Great Mississippi River Flood



EISENHOWER INTERSTATE SYSTEM



Hurricane KATRINA



Fort Mchenry



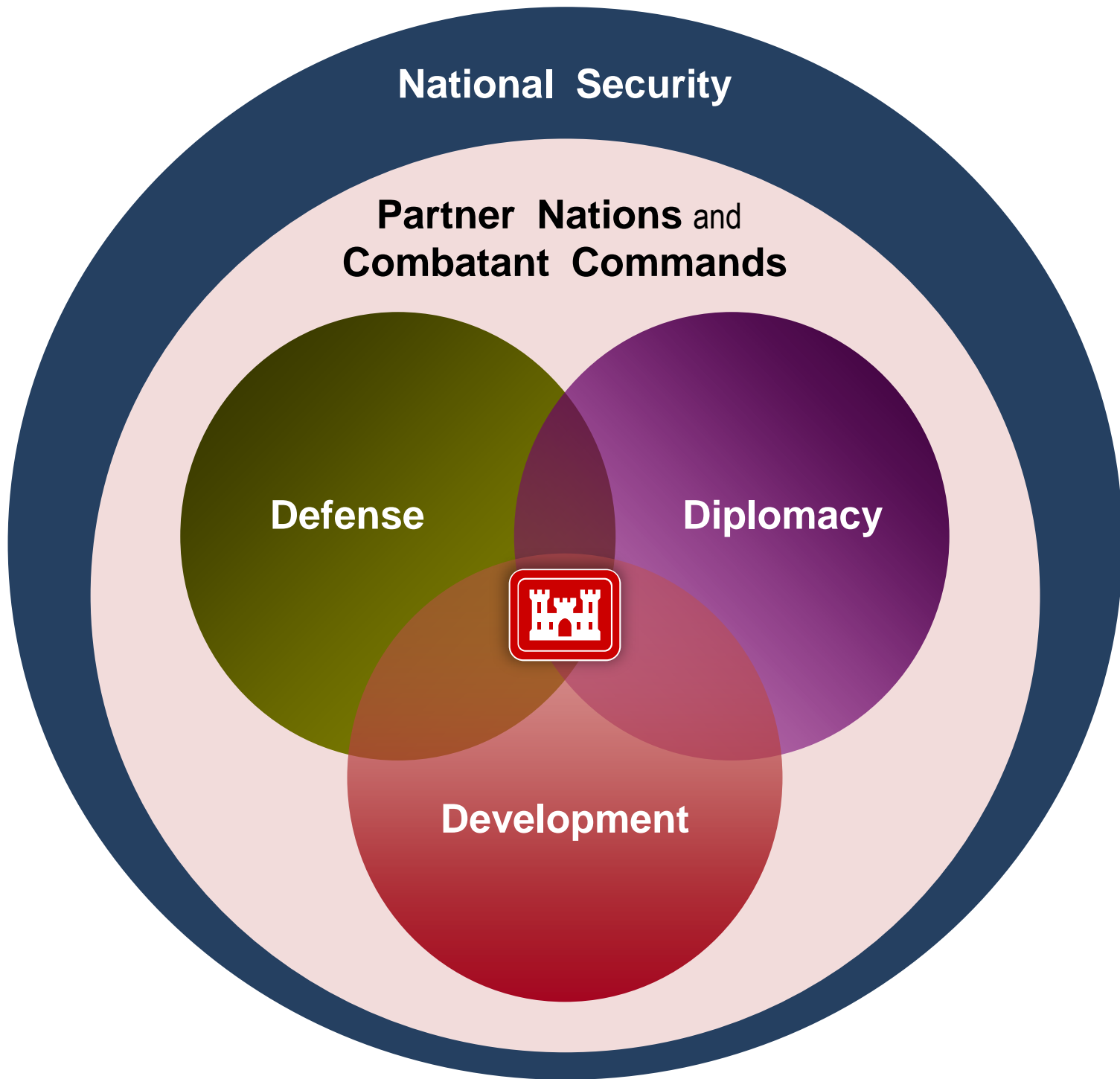
Railroads



Fort Peck Dam



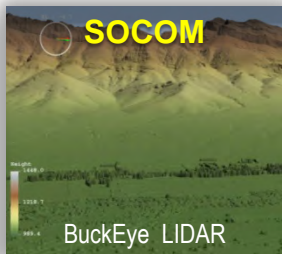
Florida Everglades







# USACE is Regionally Aligned; Globally Responsive



SOCOM

BuckEye LIDAR



Afghanistan



Rapid Tunnel Detection



Mongolia



Alaska



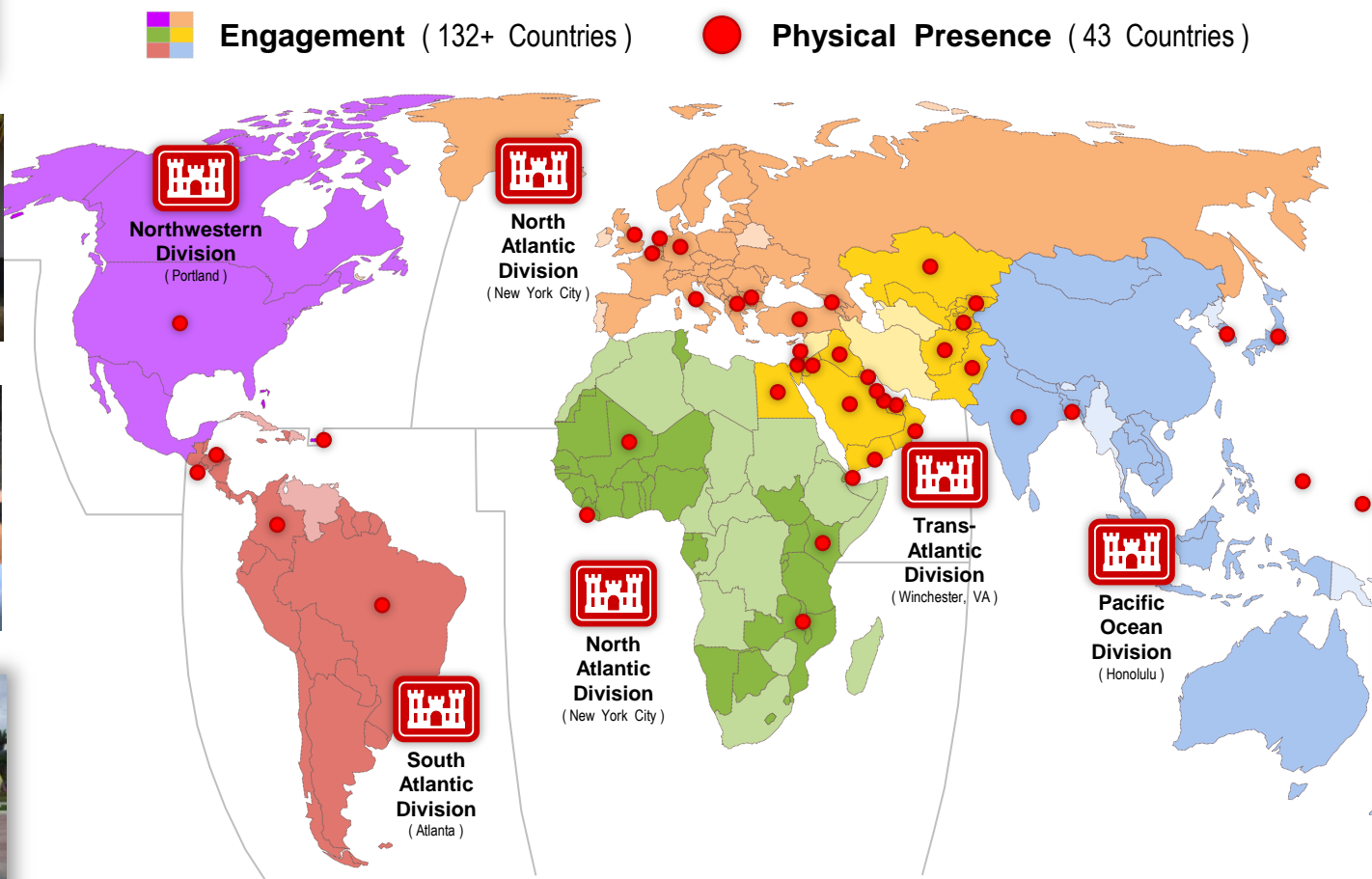
Guatemala



Peru



Columbia



Turkmenistan



Armenia

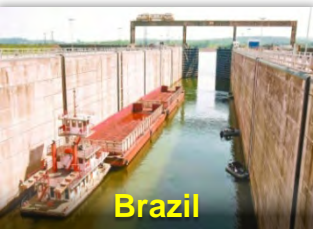


Romania



Bangladesh

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



Brazil



Tanzania



Mozambique



Pakistan



India



Lower Mekong





# 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



## International and Interagency

### Real Estate

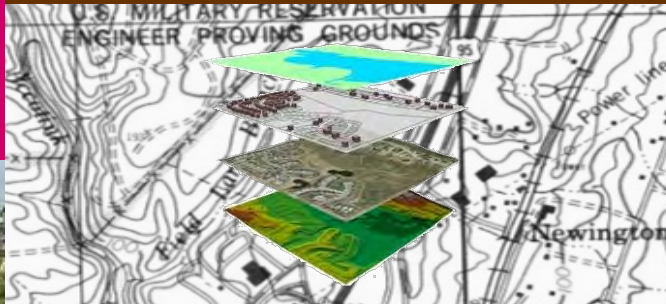
— Acquire, Manage and Dispose / DoD Recruiting Facilities / Contingency Operations

Navigation, Flood Control, Disaster Response, Shore Protection, Hydropower, Water Supply, Regulatory, Recreation, Environmental Restoration



## Civil Works

## Geospatial Support



Common Operating Picture / Environment

Civil Works Programs

Military Programs

Emergency and Contingency Operations

## Contingency Operations



“Whole of Government” Disaster Response and Recovery  
Life-Cycle Flood Risk Management  
Critical Infrastructure

Warfighter

Installations and Energy

Environment

Water Resources

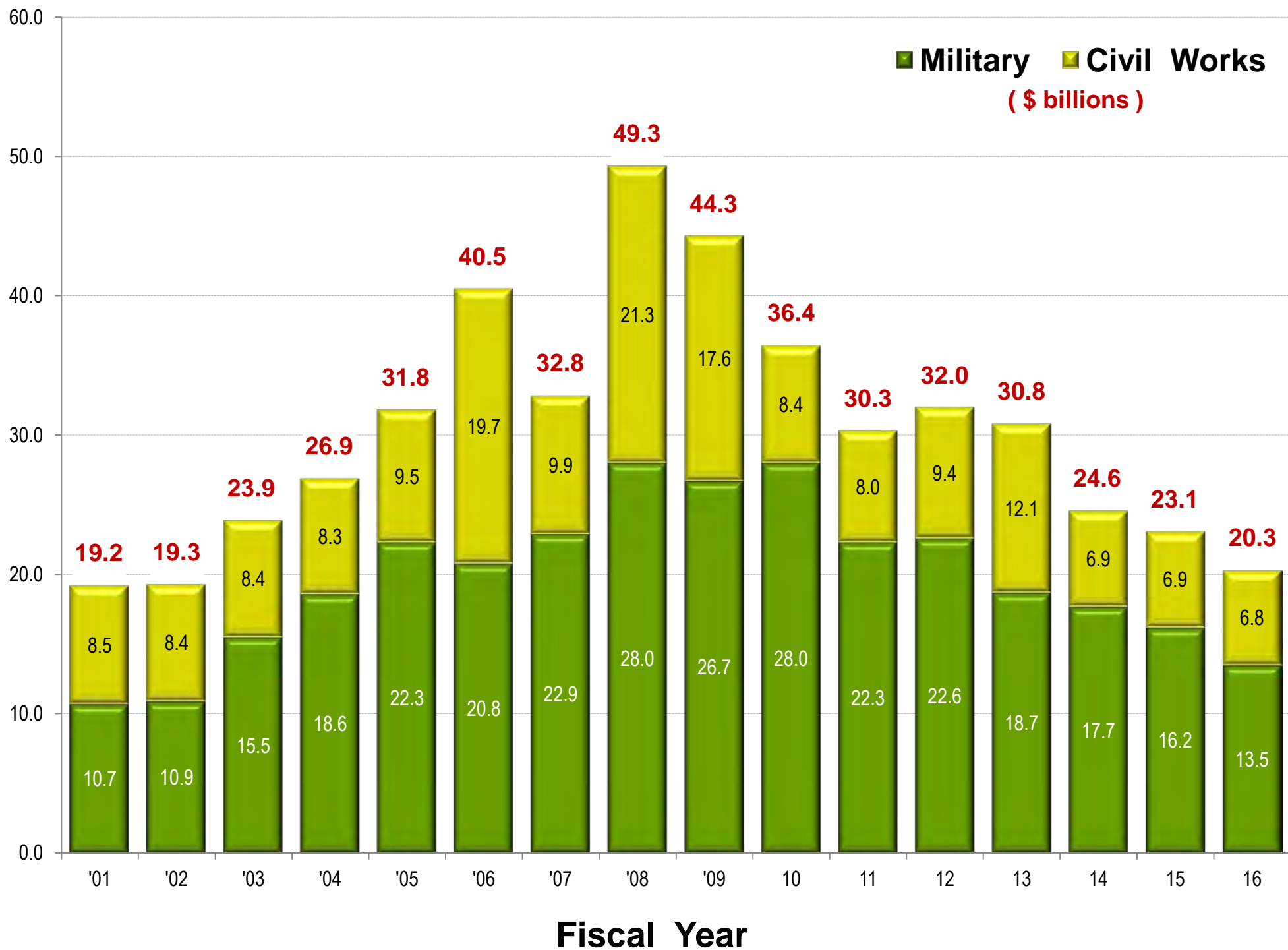


## Research and Development

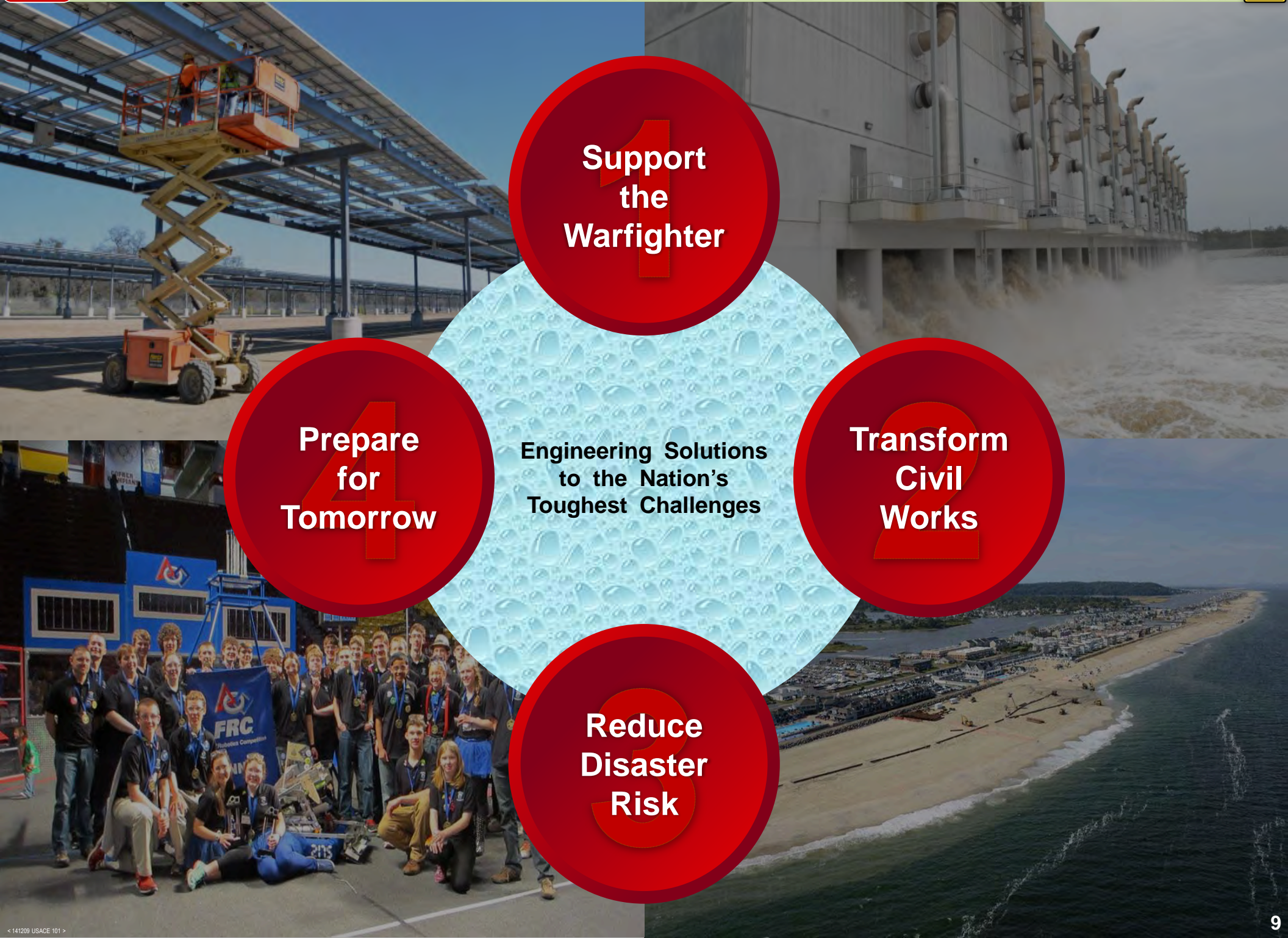
**USACE Has a Diverse Mission Set Driven by Diverse Customers**



# The USACE Program







**1**  
Support  
the  
Warfighter

**4**  
Prepare  
for  
Tomorrow

Engineering Solutions  
to the Nation's  
Toughest Challenges

**2**  
Transform  
Civil  
Works

**3**  
Reduce  
Disaster  
Risk



## Multiple Roles

**Chief of Engineers**  
Army Staff



**Army Staff  
Principal**

**Commander**  
USACE



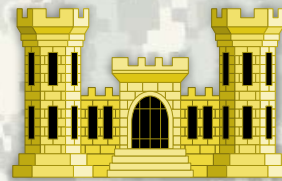
**Direct Reporting  
Unit Commander**

General Order No. 3  
Army Regulation 10-87

**Geospatial Governance  
Board Co-Chair**

GGB Charter / VSCA 1 May 2011

**Chief of Branch  
Engineer**



**Advisor / Senior Mentor**  
Engineer Regiment

**Joint Operations Engineer  
Board Co-Chair**

JROCM 05 / DODD 7045.23

**Capability Area Manager  
Operational Engineering**

DODD 7045.23







# USACE Structure and Business Model



**Agency Enablers**  
(Support Functions)

\*\*\* 35,683  
**CG**

**CEO**

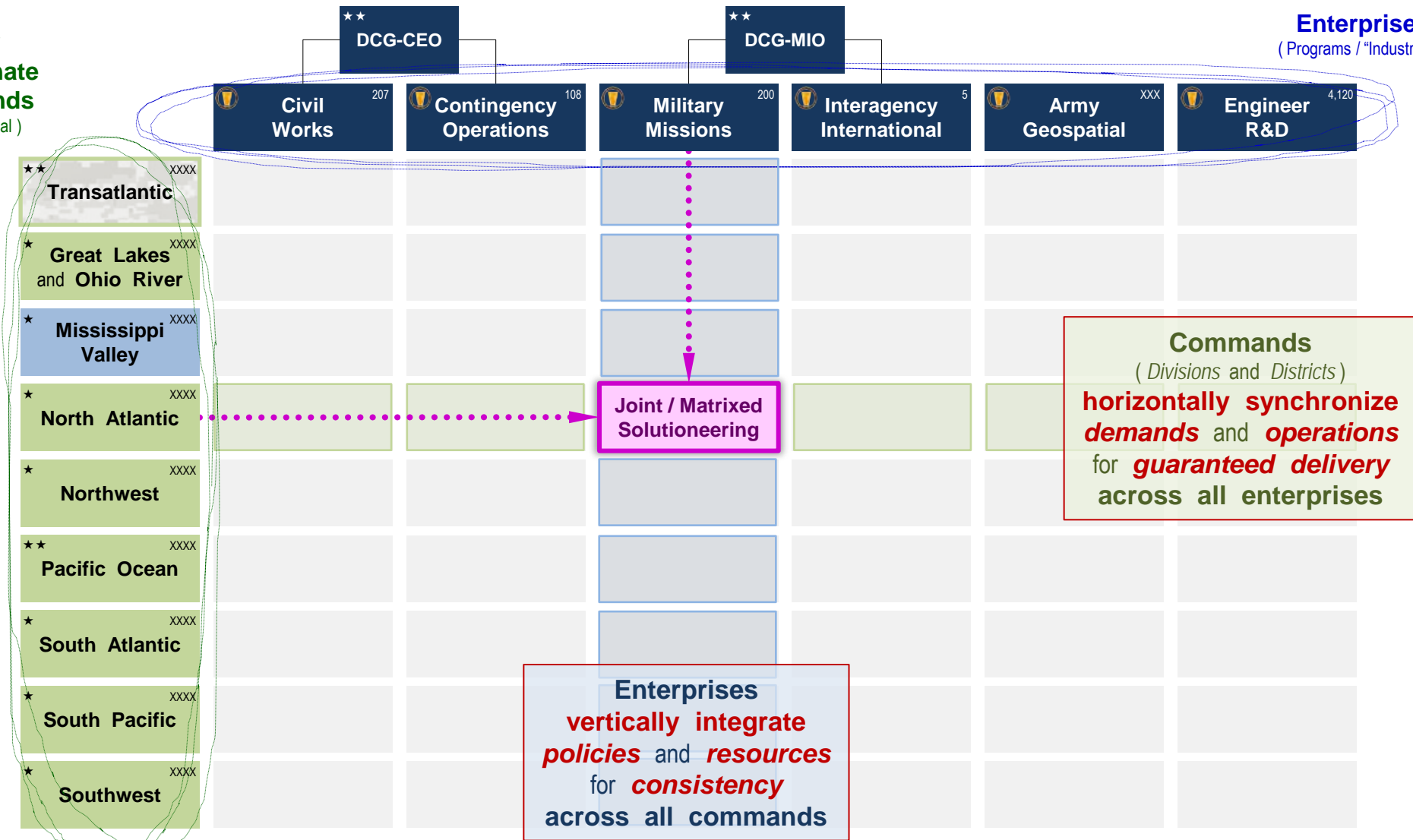
\*\*  
**DCG**

**COO**



**Major Subordinate Commands**  
(Geographical)

**Enterprises**  
(Programs / "Industries")

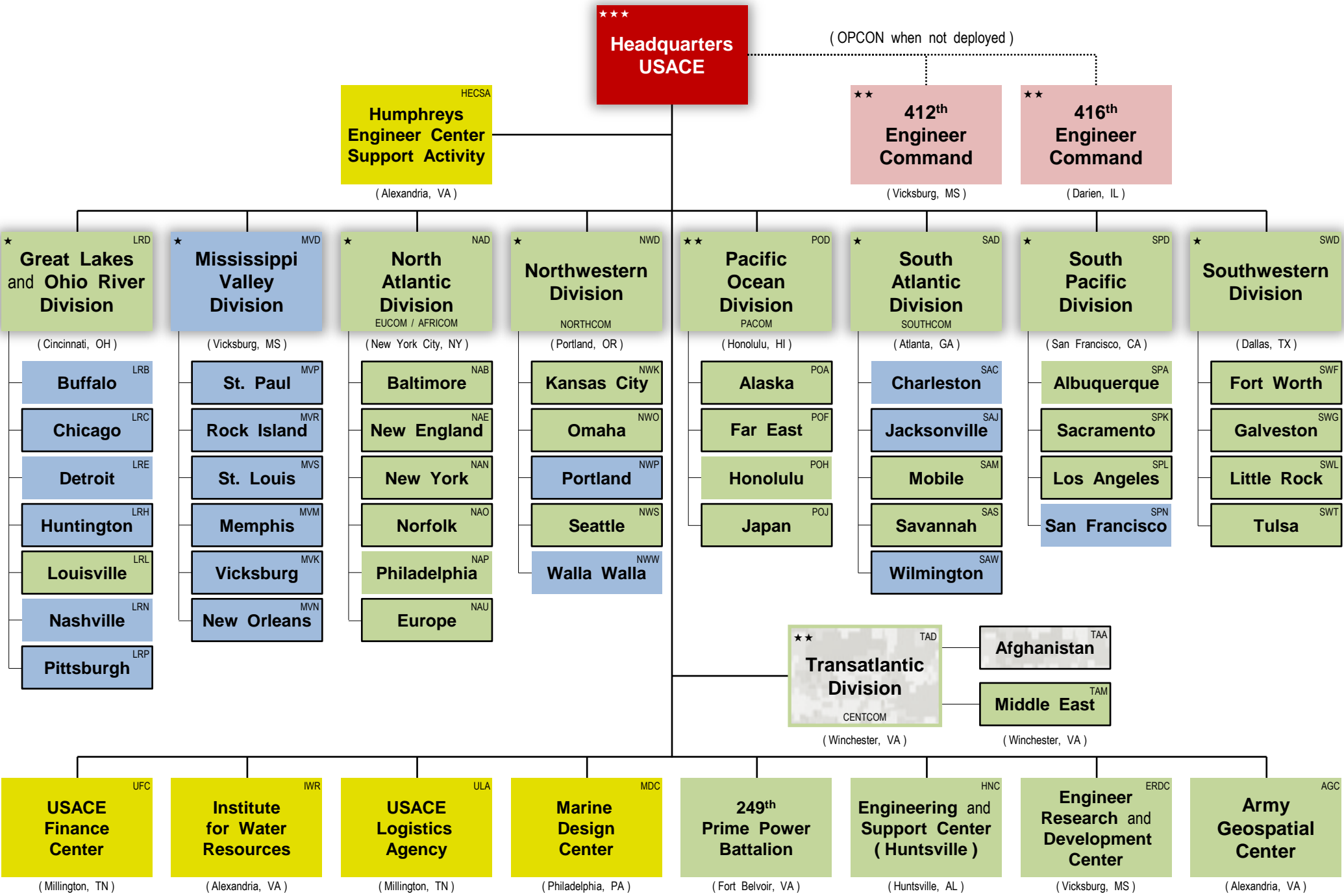


**Commands**  
(Divisions and Districts)  
**horizontally synchronize demands and operations** for **guaranteed delivery** across all enterprises

**Enterprises**  
**vertically integrate policies and resources** for **consistency** across all commands



# Organizational Structure



Field Operating Activity

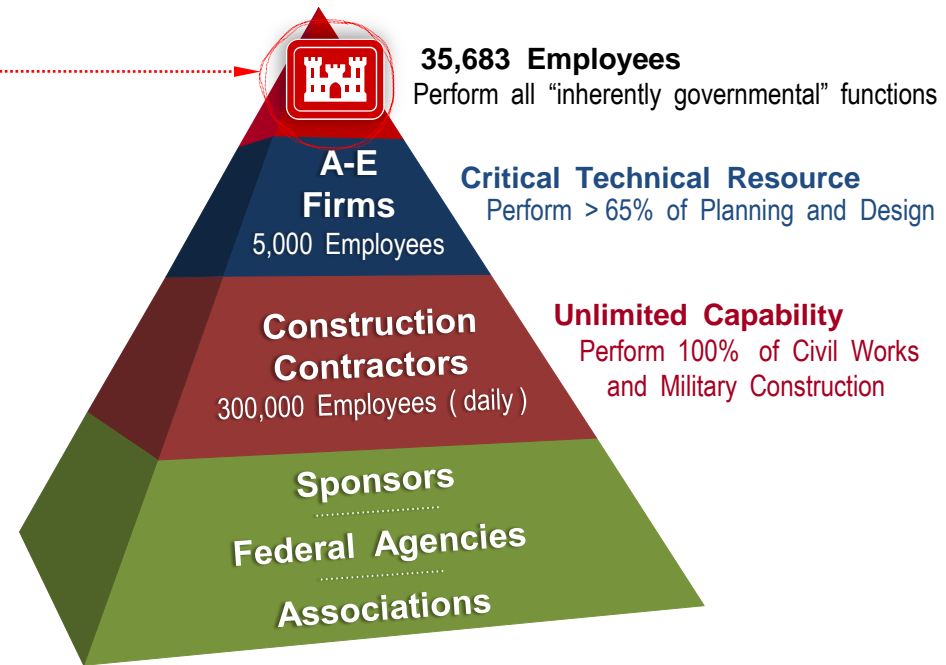
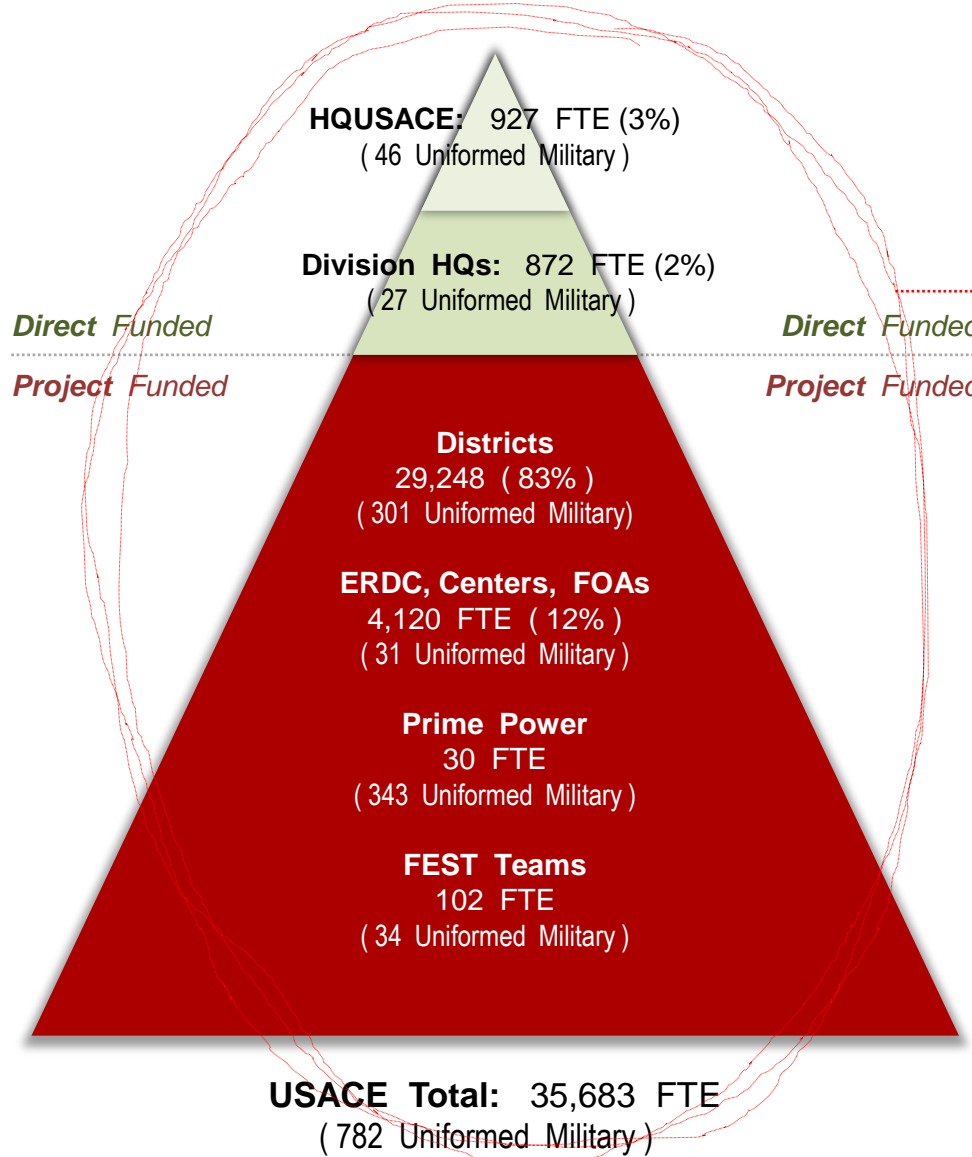
Organization with ONLY a CIVIL WORKS Mission

O-6 District Commands (33 of 42)





## Civilian Full Time Equivalents ( FTE ) and Uniformed End Strength ( ES )



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

**Workforce Size Driven by Customer Programs – 95% FTE Project Funded**



## Project – Based Funding

**\$ Income \$**  
( for Projects )

Military Interdepartmental  
Purchase Requests ( MIPRs )

Funding Authorization  
Documents ( FADs )

Contributed Funds

**Business – Type  
Accounting**

**Capital Budgeting**

**Activity – Based  
Costing**

**Complex Revolving Fund**

**Workforce – Workload  
Balancing**

**\$ Expenses \$**  
( for Workforce / Overhead )

**Salaries**

**Contracts**

**Equipment**

**Supplies**

**Facility Services**

**Rent**

**Other**

**Districts must “turn a profit” to fund their workforce and overhead costs / initiatives**

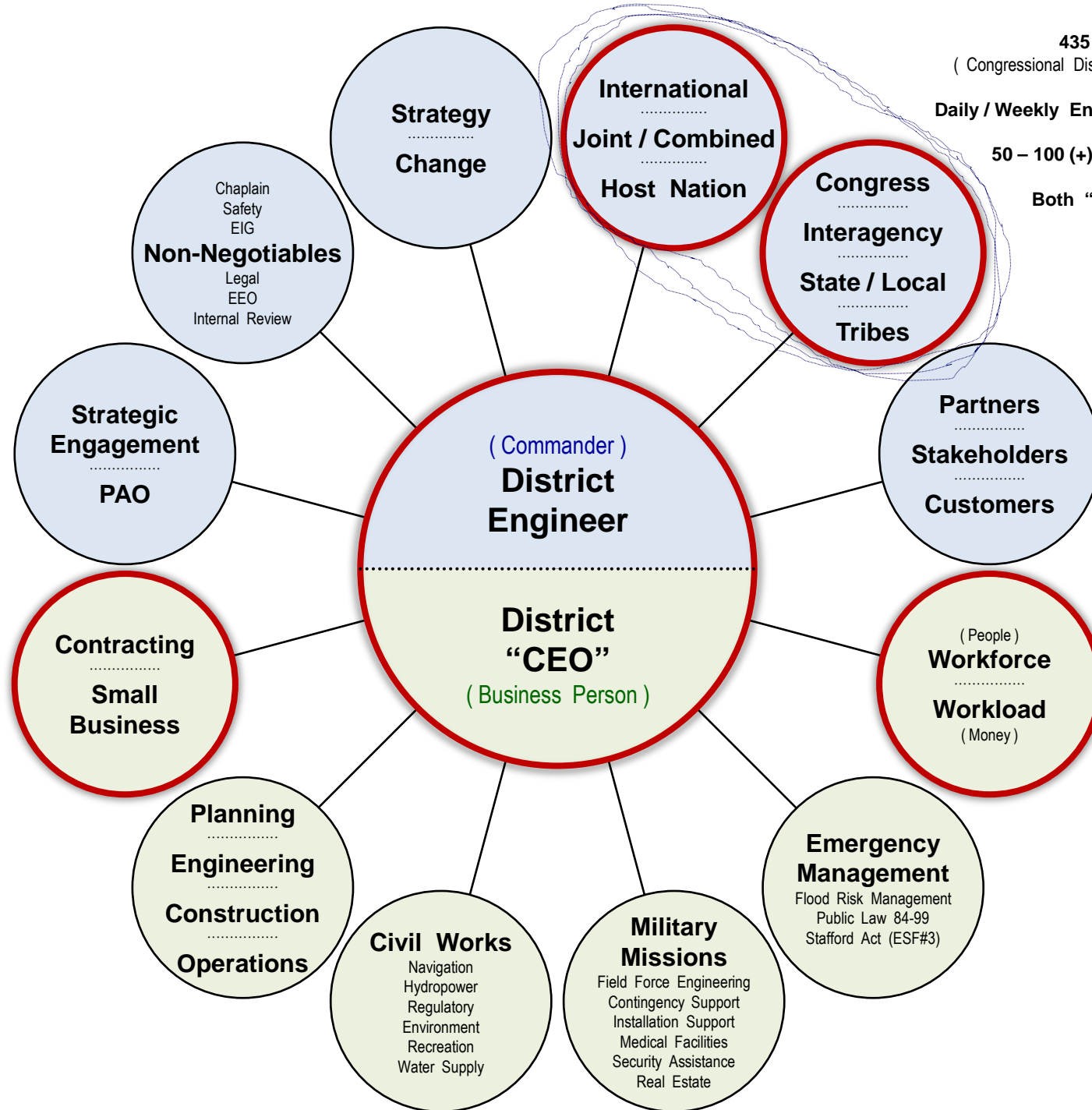




# “Soldier – Statesman – CEO” District Commanders ( LTC / COL )



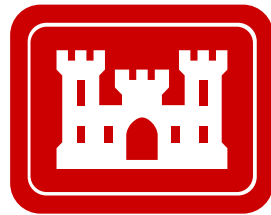
Commander + Business Person + JIIM Operator + 4X “Political” Engagement (> most GOs)



435 + 50 + 513 + 9  
 ( Congressional Districts / States / Tribes / COCOMs )  
 .....  
 Daily / Weekly Engagement w/ Members / Staffs  
 .....  
 50 – 100 (+) Engagements Annually  
 .....  
 Both “Sides of the Aisle”

**Workforce = 100+ – 1000+**  
 .....  
**Programs = \$100M+ – \$1B+**  
 .....  
**Districts 100% Reimbursable**

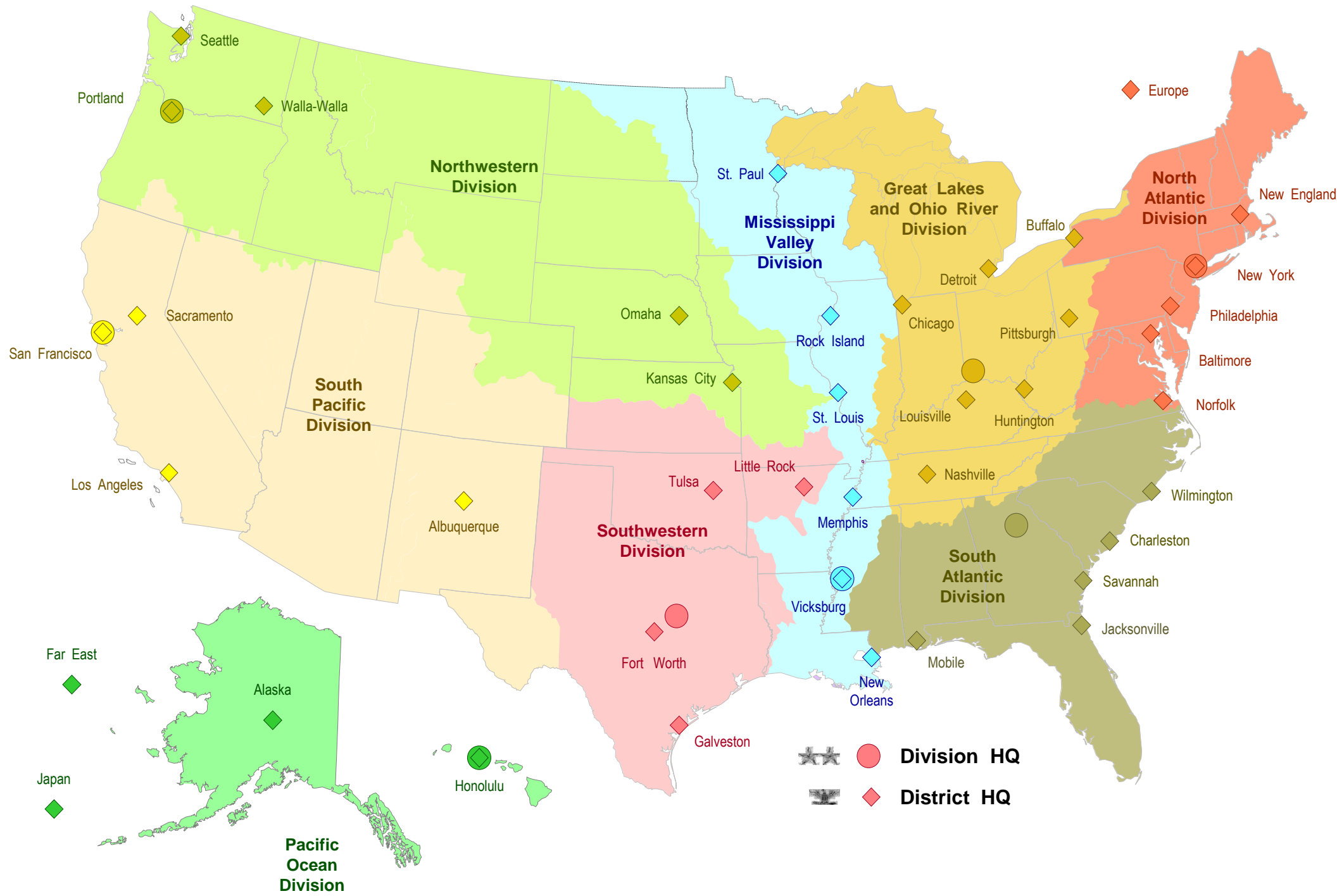
# USACE Civil Works



**U. S. Army  
Corps of Engineers**



# Civil Works Divisions and Districts







**Lock and Dam 15**  
Navigation / Mississippi River



**Flood Wall**  
Flood Risk Management / Williamson, KY



**Florida Everglades**  
Ecosystem Restoration / South Florida



**New Orleans, LA**  
Flood Risk Management / HDRRS

**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)



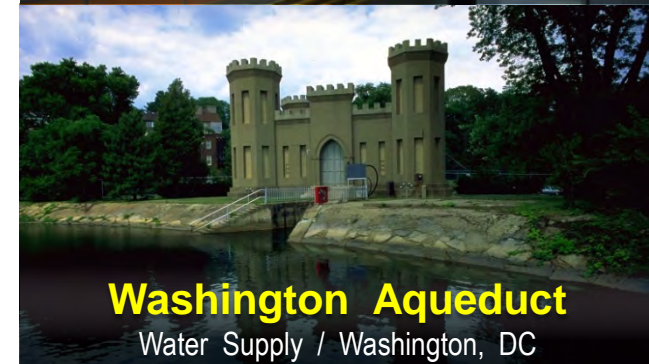
**Dredge ESSAYONS**  
Navigation / Coos Bay, OR



**Lake Seminole, GA**  
Recreation / Mobile District



**Bonneville II Powerhouse**  
Hydropower / Columbia River

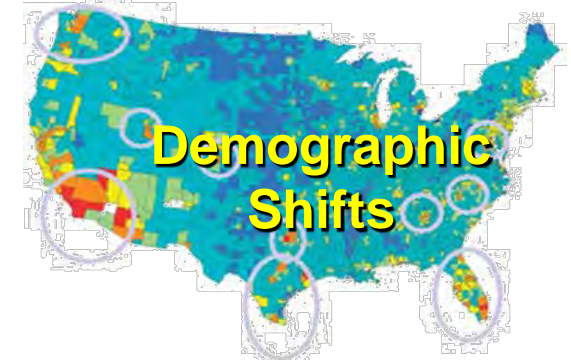
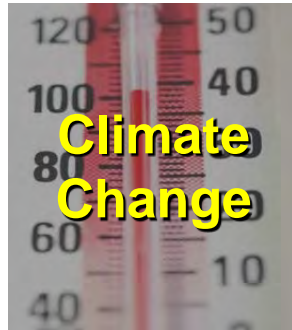


**Washington Aqueduct**  
Water Supply / Washington, DC

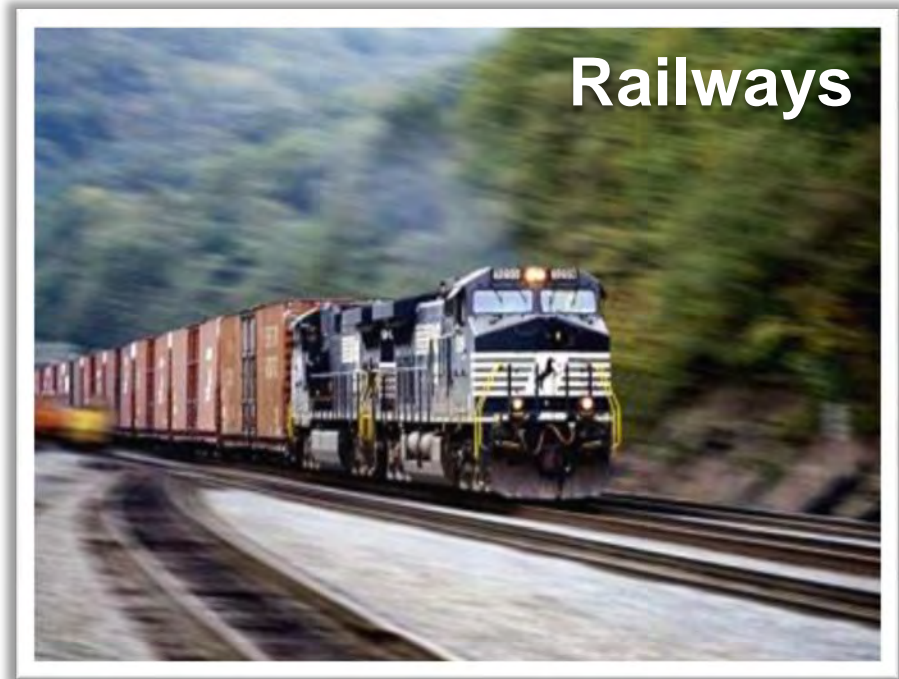




# National Water Resource Challenges











®



370 + million visits annually



2003-2012, prevented \$361B in total damages



50% of Americans live w/in 50 miles of coast



404 Lakes / Rivers in 43 States



20% US jobs and 1/3 GDP in waterborne commerce

## 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

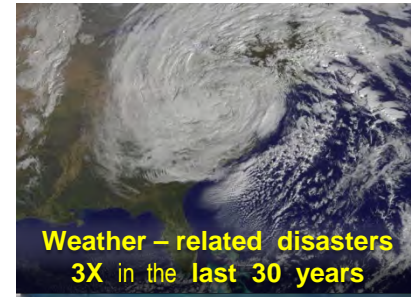
USACE is the Nation's largest renewable energy producer

## 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



Weather - related disasters 3X in the last 30 years



95% US imports and exports @ \$1.4T / year



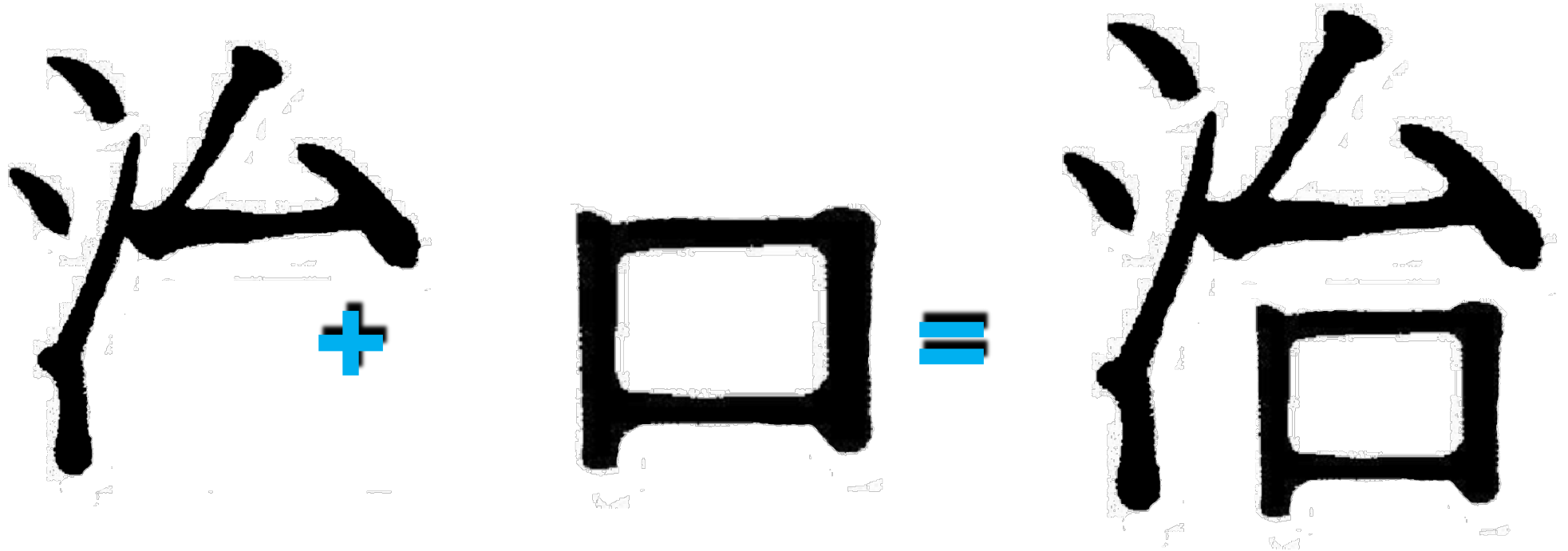
Drinking H2O for 96 million people



25% US Hydropower and 3% Total US electricity

Water Management ( and Water Reform )  
is ALWAYS political . . . .

***Ancient Chinese Characters:***



**River**

**+**

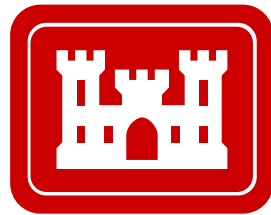
**Dike**

**=**

**Political Order**



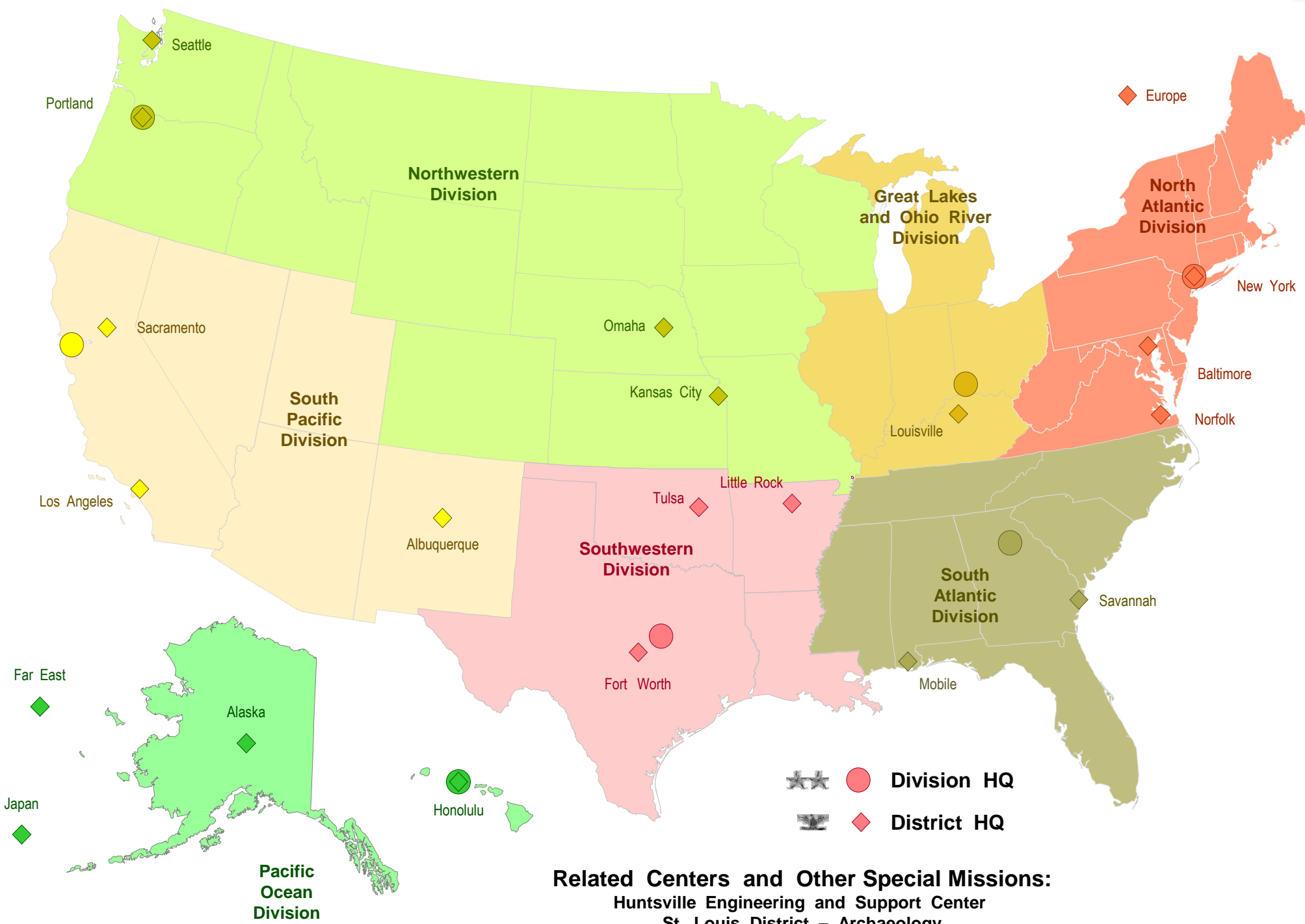
# **USACE Military Missions**



**U. S. Army  
Corps of Engineers**



# Military Missions Divisions and Districts



**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





# USACE Military Missions



**Fort Belvoir, VA**  
Community Hospital (\$1.0 B)



**Fort Hood, TX**  
Hospital Replacement (\$534 M)



**Pyongtaek, Korea**  
Korea Relocation Programs



**Fort Belvoir, VA**  
National Geospatial Center (\$1.7 B)

**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



**Fort Benning, GA**  
HQ US Army Maneuver Center



**Afghanistan**  
Overseas Contingency Operations



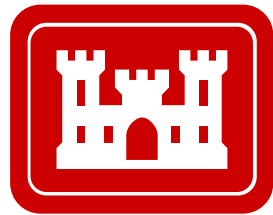
**Fort Hunter Liggett, CA**  
Renewable Energy



**Fort Carson, CO**  
Net Zero Installation



# **USACE Contingency Operations**



**U. S. Army  
Corps of Engineers**



## 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

## 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

## Driving Down the Risks

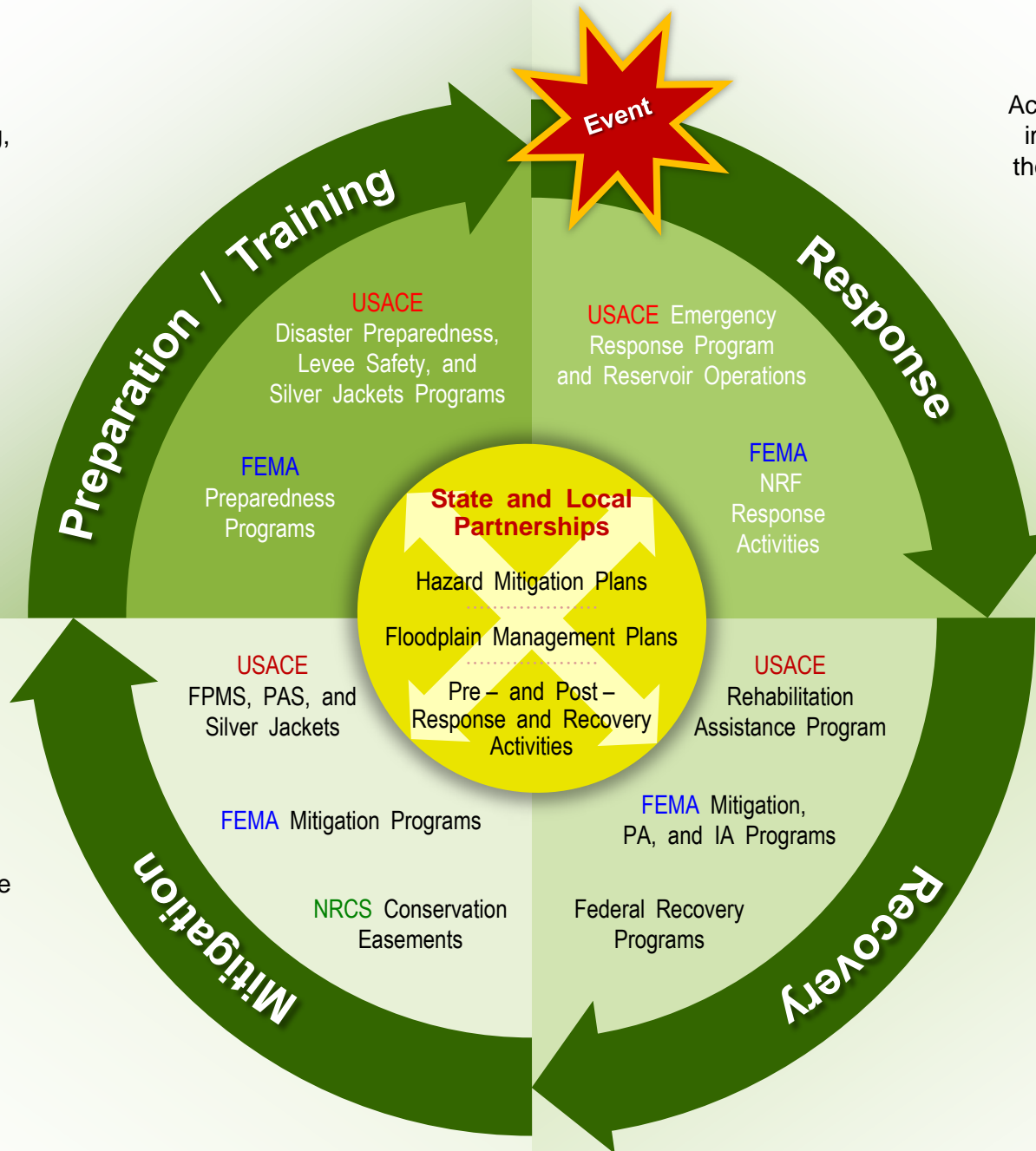
Activities that **PREVENT** a disaster, reduce its chance of happening, or reduce its damaging effects.

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

## Getting back on our feet

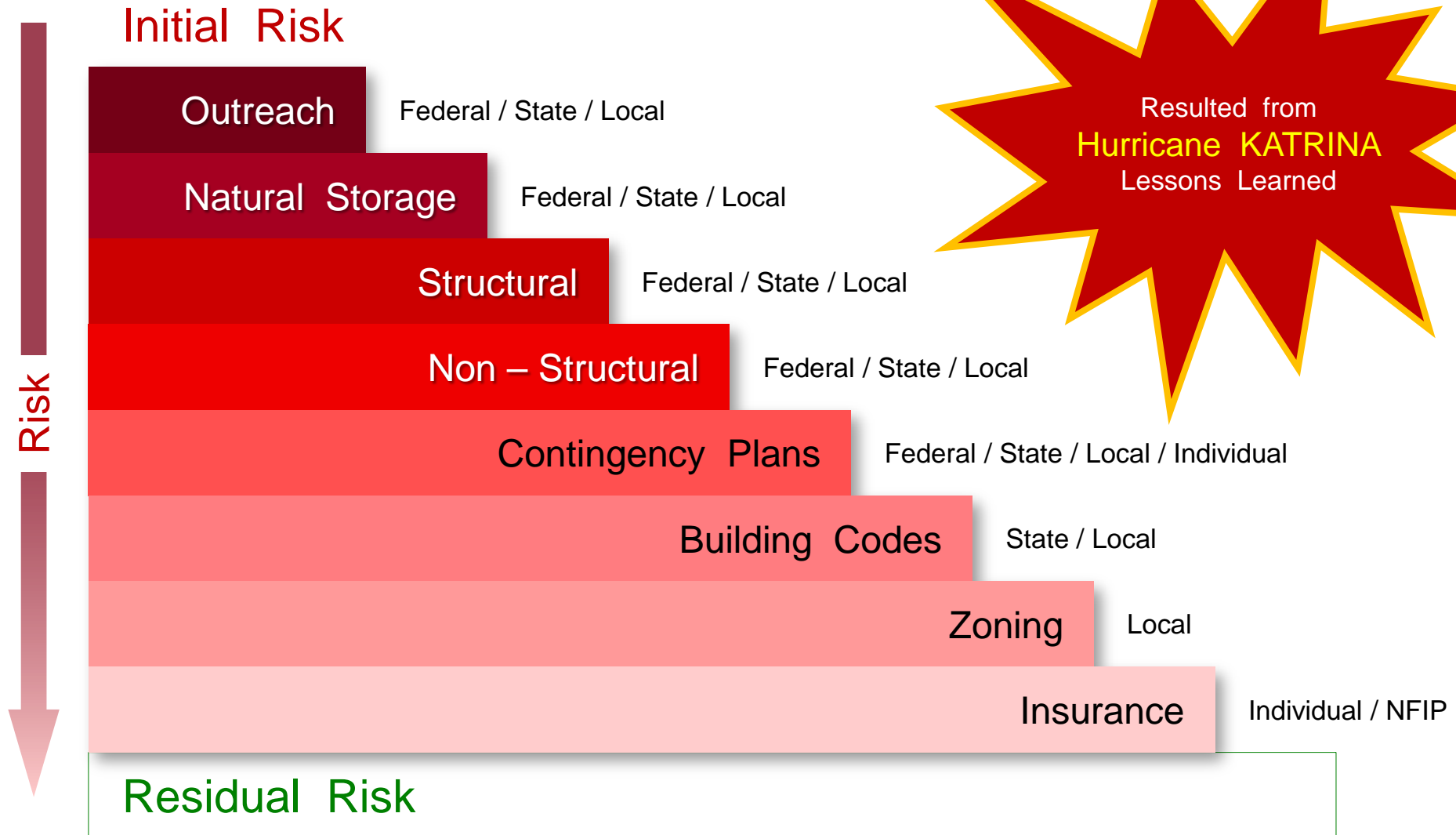
Actions taken **AFTER** the initial impact, including those directed toward a return to normalcy.

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





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



All Stakeholders contribute to reducing risk !





## Vision

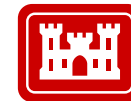
Lead collaborative, comprehensive and sustainable national flood risk management to improve public safety and reduce flood damages to our country

## 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



FEMA





# Key 2013 / 2014 Responses



Winter Ice Storm  
DEC 2013



Marselles Dam  
APR 2013



SR 530 Slide  
MAR 2014



Midwest Flooding  
Spring 2013



Mel Price Lock / Dam  
JAN 2014



Lock and Dam 52  
OCT 2013



Rocky River Ice Jams  
JAN 2014



Galena, AK  
MAY 2013



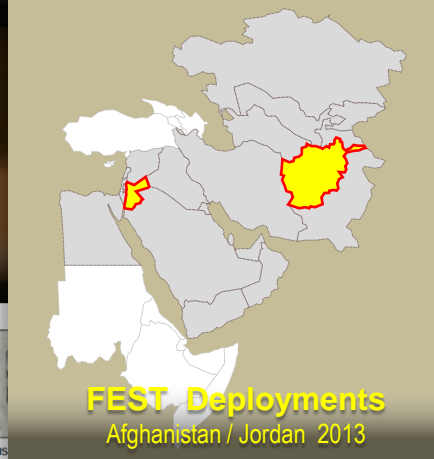
Midwest Flooding  
Spring 2013



New Mexico Flooding  
SEP 2013



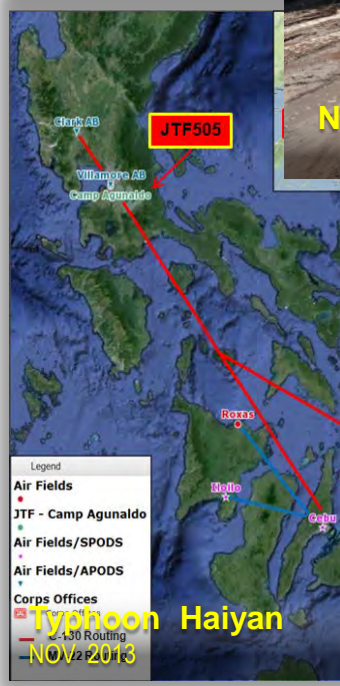
OK City Tornado  
MAY 2013



FEST Deployments  
Afghanistan / Jordan 2013



Colorado Flash Flooding  
2013



JTF505



MS River Rock Pinnacles  
2013



WV Chemical Spill  
JAN 2014



West, TX Fertilizer Plant  
APR 2013

**C&SF System Status Update**

Current Conditions  
30 September 2013, 0000 hrs

**LAKE OKEECHOBEE**

Stage  
15.92 ft (Falling)

Structure Flows  
Total Inflow: 5,640 cfs  
Total Outflow: 5,170 cfs

Other Estimated Net Gains/Losses  
Direct Rain/ET/Other: -2,640 cfs

Target Outflows  
S-77: 4,000 cfs  
S-80: 1,800 cfs

Area	Stage	Departure from Stage	Trend
WCA-1	16.92 ft	-0.58'	Rising
WCA-2A	13.76 ft	+0.78'	Steady
WCA-3A	11.17 ft	+1.33'	Steady

Elevation  
Flows are in average daily CFS





## 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

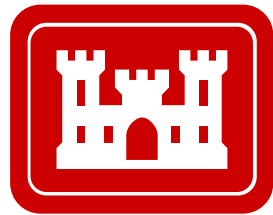
85 million gallons of water removed . . .  
. . . enough water to fill the Rose Bowl!



# **USACE**

# **Research and**

# **Development**



**U. S. Army**  
**Corps of Engineers**



# Engineer Research and Development Center



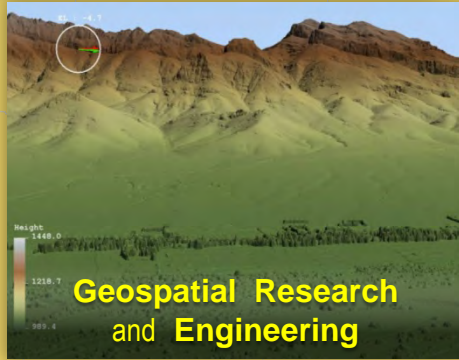
**Military Engineering**



**Environmental Quality and Installations**



**Civil Works and Water Resources**



**Geospatial Research and Engineering**



**Cold Regions Research and Engineering Laboratory**  
Hanover, NH

**Construction Engineering Research Laboratory**  
Champaign, IL

**Geospatial Research Laboratory**  
( Army Geospatial Center )  
Alexandria, VA

**ERDC Headquarters**  
Vicksburg, MS

**Coastal and Hydraulics Laboratory**  
**Environmental Laboratory**  
**Geotechnical and Structures Laboratory**  
**Information Technology Laboratory**

**\$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**



Laboratories



Field Offices



## *Support to the Army and the Nation, Leveraging Technical Engineer Capabilities with R&D*

### Enable Theater Access



Rapid Airfield Construction

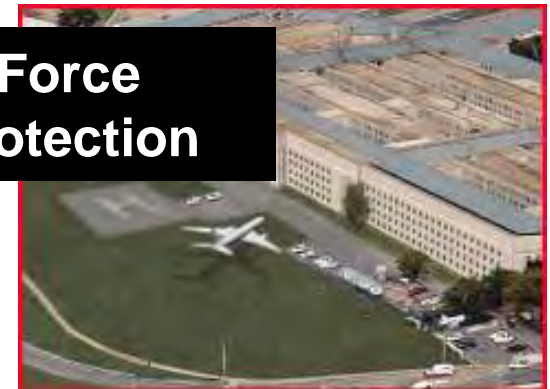
### Chemical and Biological



Immune Buildings

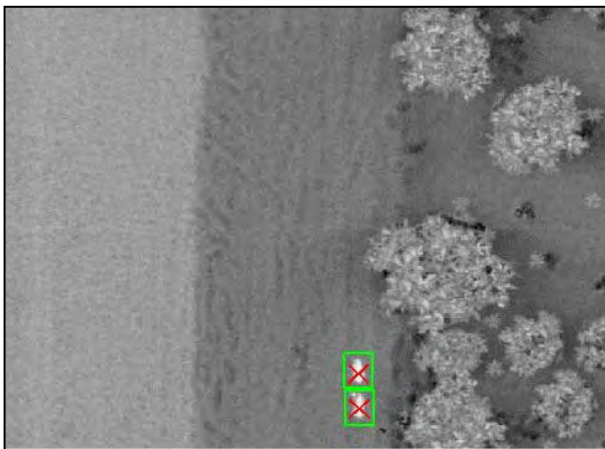
Counter Rocket, Artillery & Mortar

### Force Protection



Structural Retrofit

### Countermine Phenomenology



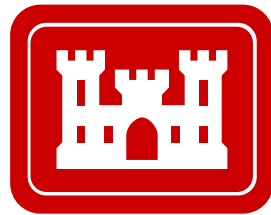
IED Simulation and Detection



Countermine Phenomenology Test bed



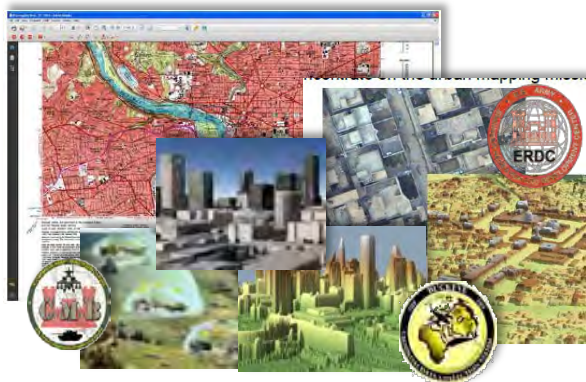
# Army Geospatial Center



**U. S. Army  
Corps of Engineers**



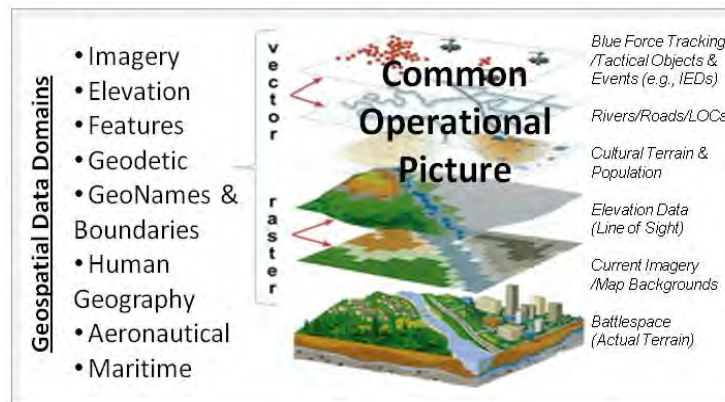
**Mission:** The AGC provides timely, accurate and relevant geospatial information, capabilities and domain expertise for Army Geospatial Enterprise implementation in support of full spectrum operations.



**Soldier Geospatial Support and Production (Terrain and Water Resources)**



**Tactical Source and Enterprise Solutions**



**Enterprise Development and Support**

- Connection**
- Divisions/Districts
  - GEOINT Cells
  - ARSTAF
  - Special Operations
  - GPCs, Topographic Teams
  - ASA(ALT) OCSE
  - PEO I, STRI, IEWS, and C3T
  - TRADOC(ARCIC)
  - TCM Geospatial
  - TCM Sensor Processing
  - ASPO
  - CTSF
  - SMDC
  - OSD AT&L /HSCB
  - NGA
  - USAID
  - Marine Corps



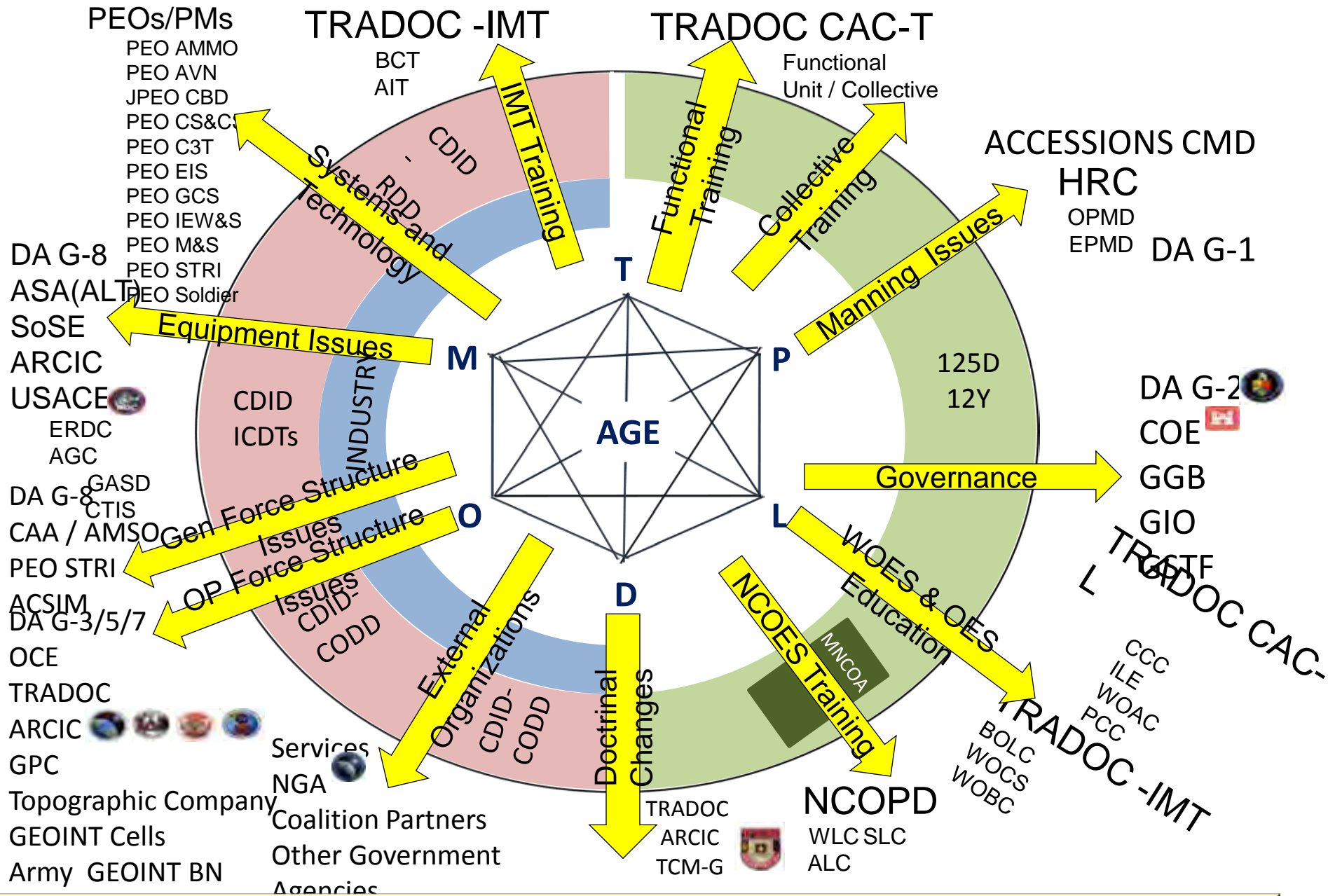
**Geospatial Engineering Research, Development, Technology and Evaluation**



**Systems Acquisition and Program Management**



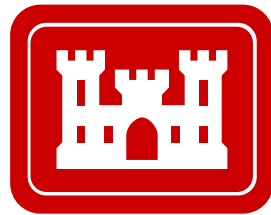
# U.S. Army Geospatial Center



*A complex environment with many stakeholders and various lines of effort  
ALL working together to move the AGE implementation forward*



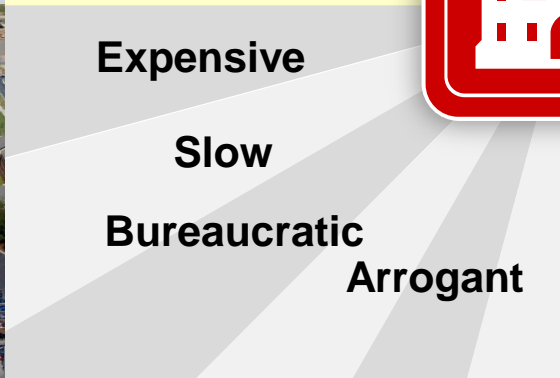
# Shaping Our Future



**U. S. Army  
Corps of Engineers**



# Perception vs. Reality







# Battling Perception vs. Reality With "Targeted" Outreach



**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



**John Day Lock and Dam**

Water Safety / Oregon



**Media Outreach**

Talk Show / Albuquerque, NM



**Civil Works Budget**

Press Conference / USACE HQ



**National Press Club**

Hurricane SANDY Update / Washington, DC



**Lake Isabella Dam**

Property Owners Public Meeting / Sacramento



**Foreign Press Center**

USACE Overview / Washington, DC





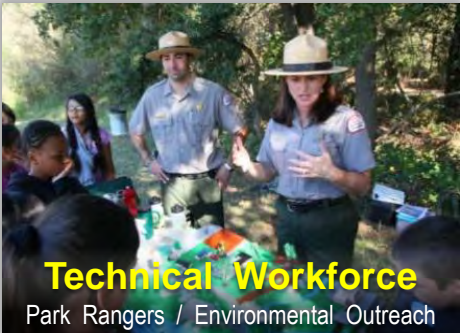
# Talent Management



**Plan** Shape the workforce by managing skills / knowledge  
Workload – Workforce Balancing / Competency Management ( CoPs )



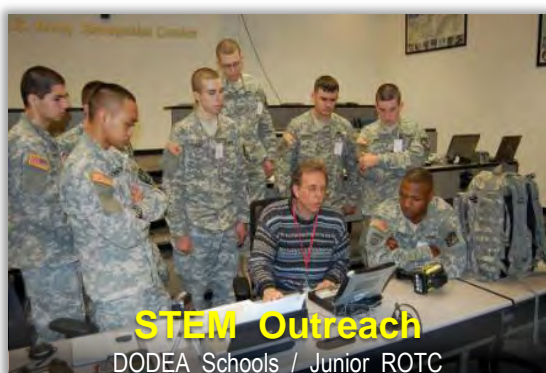
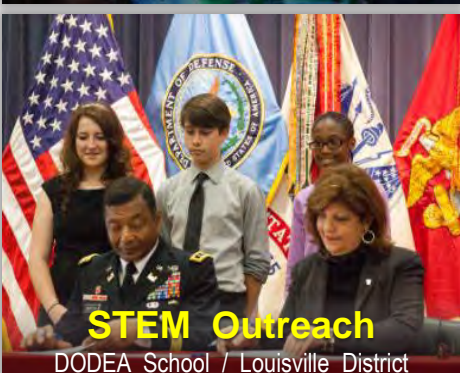
**Recruit** Win the war for talent by getting the right person in the right job  
Diversity / STEM Outreach / Wounded Warriors / Soldier Transition



**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





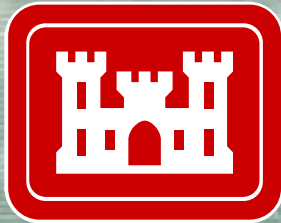
# Questions ?

## Speaker

Title

U. S. Army Corps of Engineers

Date



US Army Corps of Engineers  
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