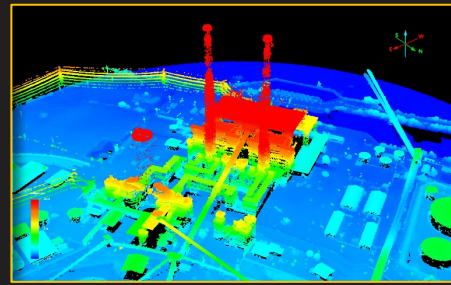


THE POWER OF ERDC

ENGINEER RESEARCH & DEVELOPMENT CENTER
VICKSBURG, MS • CHAMPAIGN, IL • ALEXANDRIA, VA • HANOVER, NH

A World-Class Research & Development Organization
that **Discovers**, **Develops** and **Delivers**
New Ways to Make the World
Safer and Better Every Day



Joshua Q. Church

Acting Chief, Software Engineering and Informatics Division

I-ACED Kickoff Meeting
September 5, 2025



**US Army Corps
of Engineers®**



ERDC
ENGINEER RESEARCH & DEVELOPMENT CENTER

Controlled by: USACE/CEERD-ZBS
Category: Approved for Public Release | Distribution Statement: A
POC: ERDC Strategic Integration Office | Martin.C.Kittrell@usace.army.mil; 601-634-5239



U.S. Army Corps of Engineers

Service to the Nation Since 1775



Lincoln Memorial – 1922 | Washington Monument
– 1884 | U.S. Capitol – 1800



Military Construction and Combat



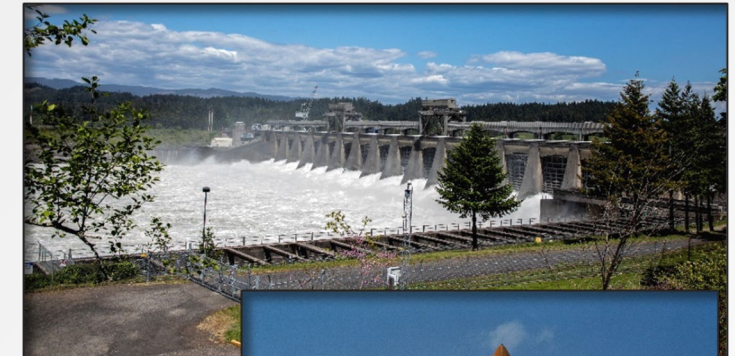
The Pentagon - 1941



Mississippi River and Tributaries Project – 1928-Present



Panama Canal - 1914



Bonneville
Dam –
1937



Kennedy
Space
Center -
1962



Army S&T Enterprise

Where USACE And ERDC Align in the Army Science & Technology Enterprise

**POLICY,
BUDGET AND
OVERSIGHT**

**Secretary
of the Army**

**Under
Secretary
of the Army**

**Assistant Secretary
of the Army for
Acquisitions, Logistics
and Technology
(ASA(ALT))**

**Deputy Assistant
Secretary of the Army
for Research
and Technology
(DASA(R&T))**

OPERATIONAL AND S&T PROGRAM EXECUTION



**Army Futures
Command (AFC)**

Medical Research
and Development
Command
(MRDC)

Army Artificial
Intelligence
Integration Center
(AI2C)

Combat Capabilities
Development
Command
(DEVCOM)



**U.S. Army Corps
of Engineers
(USACE)**



**U.S. Army Engineer
Research and
Development Center**



**U.S. Army Space and
Missile Defense
Command (SMDC)**

Space & Missile
Defense Command
Technical Center
(SMDTC)



**Headquarters,
Department of
the Army (HQDA)
G-1 Personnel**

U.S. Army Research
Institute for
Behavioral and Social
Sciences (ARI)

Non-Traditional Laboratories

Army Cyber Capabilities
Development Integration
Directorate

Joint Program Executive
Office for Chemical, Biological,
Radiological and Nuclear
Defense (JPEO CBRND)

U.S. Army Training and
Doctrine Command (TRADOC)
Army Medical Center of
Excellence (MEDCoE)

U.S. Military Academy

Army Cyber Command
(ARCYBER) Technical
Warfare Center

Deputy Under Secretary
of the Army, Army Analytics
Group (AAG)



**Cold Regions
Research and
Engineering
Laboratory**



**Construction
Engineering
Research Laboratory**



**Geospatial
Research
Laboratory**



**Coastal and
Hydraulics
Laboratory**



**Information
Technology
Laboratory**



**Environmental
Laboratory**



**Geotechnical and
Structures
Laboratory**



ERDC Locations

Seven Laboratories in Four States

ERDC Laboratories



ERDC Headquarters
Vicksburg,
Mississippi



Coastal and Hydraulics Laboratory (CHL)



Environmental Laboratory (EL)



Geotechnical and Structures Laboratory (GSL)



Information Technology Laboratory (ITL)



Cold Regions Research and Engineering Laboratory (CRREL)
Hanover, New Hampshire



Geospatial Research Laboratory (GRL)
Alexandria, Virginia



Construction Engineering Research Laboratory (CERL)
Champaign, Illinois

Field Offices

Permafrost Tunnel Research Facility
Fox, Alaska

Alaska Research Office
Fairbanks, Alaska

Lewisville Aquatic Ecosystem Research Facility
Lewisville, Texas

Contingency Base Integration Technology Evaluation Center (CBITEC)
Fort Leonard Wood, Missouri

Field Research Facility
Duck, North Carolina

Corbin Field Station
Woodford, Virginia

Extreme Exposure Station
Treat Island, Maine

ERDC International Research Office
London, England

A World-Class Research & Development Organization that Discovers, Develops and Delivers New Ways to Make the World Safer and Better Every Day



UNCLASSIFIED



ERDC's History

Solving Challenges Has Been Our Mission From Year One

Flood of 1927 –
Origin of CHL

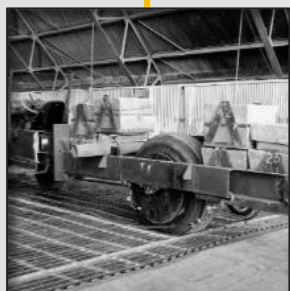


Construction Engineering Research –
Origin of CERL
in 1968



1980s: First
Supercomputer
– Origin of ITL

2023 –
ERDC's 25th Anniversary



WWII: Portable
Airfields–
Precursor
to GSL 1932



Topographical
Engineering –
Origin of GRL
in 1967



1970s:
Environmental
Research –
Origin of EL



1998
ERDC
established

MILESTONE WORK

- ★ **2001:** ERDC research saves lives during 9/11
- ★ **2005:** Post-Katrina Analyses
- ★ **2017:** Hurricane Recovery (Harvey, Irma & Maria)
- ★ **2020:** COVID-19 Pandemic Response
- ★ **2024:** Francis Scott Key Bridge collapse
- ★ **2025:** Lithuania Recovery Effort



ERDC Leadership

Decades of Experience Solving the World's Toughest Challenges

EXECUTIVE OFFICE



DR. BETH FLEMING
Director



MS. PATRICIA SULLIVAN
Deputy Director



LT. COL. JOSHUA HAYNES
Commander



DR. LUCY PRIDDY
Associate Director

LAB DIRECTORS



DR. ANDY NELSON
Construction Engineering
Research Laboratory -- IL



DR. TY WAMSLEY
Coastal and Hydraulics
Laboratory -- MS



DR. IVAN BECKMAN
Cold Regions Research
and Engineering
Laboratory-- NH



DR. EDMOND RUSSO
Environmental
Laboratory -- MS



MR. VIJAY ACHARYA
(Acting)
Geospatial Research
Laboratory -- VA



MR. NICK BOONE
Geotechnical and
Structures Laboratory --
MS



DR. JACKIE PETTWAY
(Acting)
Information Technology
Laboratory -- MS

ERDC SENIOR SCIENTISTS (ST)



DR. DAVID MOORE
Environmental
Science



DR. EDWARD J. PERKINS
Environmental Networks
& Genetic Toxicology



DR. MATTHEW FARTHING
Hydrodynamic
Phenomena



**DR. MIHAN HOUSE
McKENNA TAYLOR**
Near Surface
Phenomenology



DR. JASON ROTH
Weapons Effects/
Structural Dynamics



ERDC's People are Our Greatest Strength

Highly Qualified, Highly Motivated to Solve Complex Challenges

Civilian FTE Employees

2,610*

Engineers & Scientists (E&S)

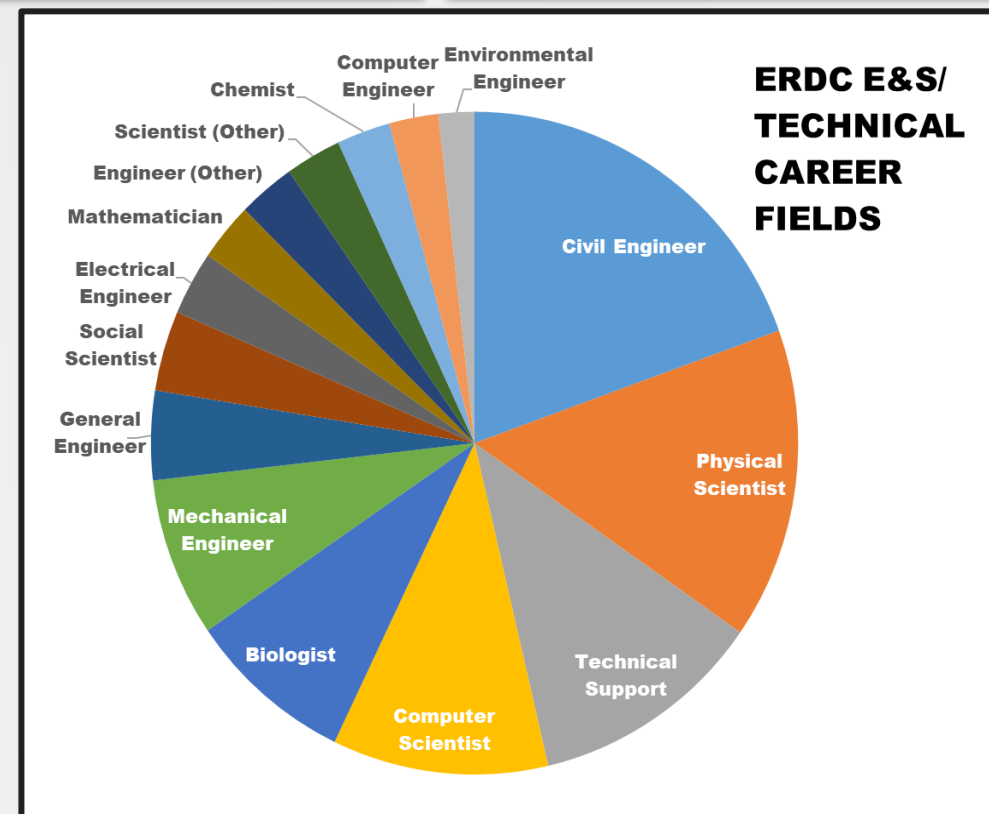
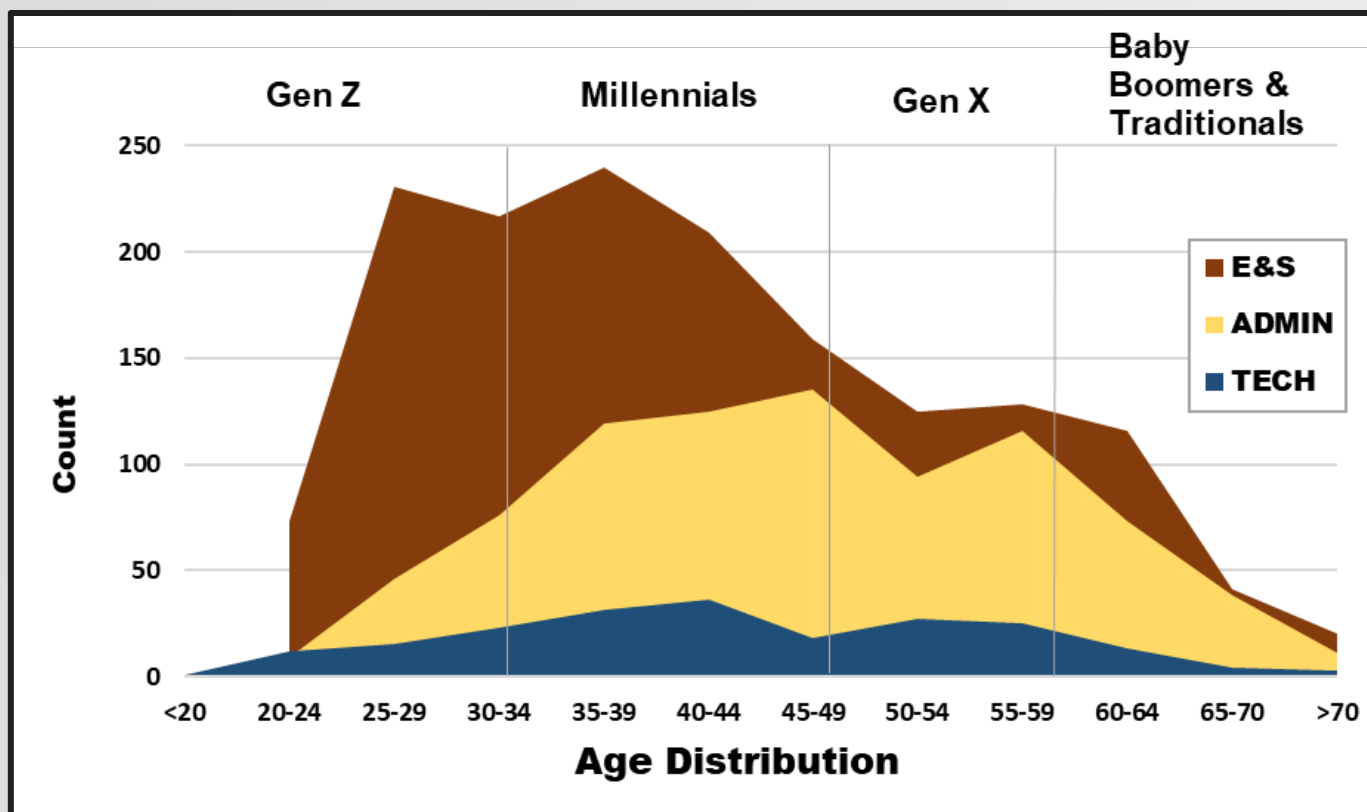
1,559

E&S w/Advanced Degrees

1,049

E&S w/PhDs

452



* Does not include other workforce population segments: student trainees, temp positions, active-duty military, AFP Interns, or contractors. Data reflects as of 09 MARCH 2025



ERDC's FY24 Portfolio

Total Obligation Authority in FY24

KEY ARMY PRINCIPAL STAKEHOLDERS:



**Assistant Secretary
of the Army for
Acquisition,
Logistics &
Technology
ASA(ALT)**



**Assistant Secretary
of the Army for
Installations, Energy
and Environment
ASA(IEE)**



**Assistant Secretary
of the Army for Civil
Works
ASA(CW)**

**MILITARY DIRECT
(37%)**

\$807M

**MILITARY
REIMBURSABLE
(29%)**

\$625M

**HPCMP
(12%)**

\$272M

\$2.15B

CIVIL WORKS DIRECT	\$191M	9%
CIVIL WORKS REIMBURSABLE	\$141M	6%
OTHER REIMBURSABLE (SfO)	\$112M	5%
BASOPS	\$37M	2%



USACE ERDC's FY25 Portfolio

Total Obligation Authority in FY24 through 31 JULY 2025

KEY ARMY PRINCIPAL STAKEHOLDERS:



**Assistant Secretary
of the Army for
Acquisition,
Logistics &
Technology
ASA(ALT)**



**Assistant Secretary
of the Army for
Installations, Energy
and Environment
ASA(IEE)**



**Assistant Secretary
of the Army for Civil
Works
ASA(CW)**

**MILITARY DIRECT
(incl. CPI)
(30%)**

\$481M

**MILITARY
REIMB.
(20%)**

\$319M

**HPCMP
(24%)**

\$378M

\$1.58B

Does not reflect efficiencies to be applied in FY26

*Congressional Program Increase

Historically ~85%-93% of ERDC OTA is received through July

CIVIL WORKS DIRECT (incl. CPI) \$116M 7%

CIVIL WORKS REIMBURSABLE \$155M 10%

OTHER REIMBURSABLE (SfO) \$91M 6%

BASOPS \$38M* 2%



UNCLASSIFIED



ERDC's Premier R&D Facilities

Approximately \$2 Billion in Infrastructure



Cognitive Ecology & Ecohydraulics Research Facility/EL



U.S. Army Watercraft and Ship Simulator/CHL



Climatic Cold Chamber/CRREL



DoD Supercomputer Resource Center/ITL



Robotics Research Facility/CERL



Heavy Vehicle Simulator "The Titan"/GSL



Advanced Blast Load Simulator/GSL



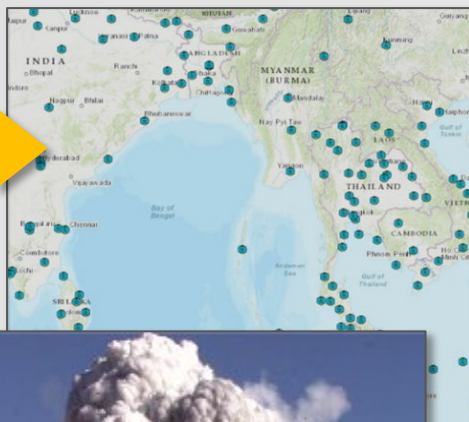
Physical Models/CHL



ERDC Core Competencies

Unique Innovative Capabilities for the Nation & Warfighter

**BATTLESPACE
TERRAIN MAPPING
AND
CHARACTERIZATION**



**COLD REGIONS
SCIENCE AND
ENGINEERING**



**BLAST AND
WEAPONS EFFECTS
ON STRUCTURES
AND
GEO-MATERIALS**



**COMPUTATIONAL
PROTOTYPING
OF MILITARY
PLATFORMS**



**CIVIL AND
MILITARY
ENGINEERING**



**COASTAL, RIVER
AND
ENVIRONMENTAL
ENGINEERING**



**MILITARY
INSTALLATIONS
AND
INFRASTRUCTURE**





ERDC's Synergy

We Excel at Extending Innovation Across Different Mission Spaces

U.S. ARMY WATERCRAFT AND SHIP SIMULATOR

Developed for CIVIL WORKS



A civilian pilot practices guiding barges down a river under specific wave and current conditions.

The same U.S. Army Watercraft and Ship Simulator and research team that supports USACE's Navigation mission...



Now Supports WARFIGHTERS



A Warfighter pilot practices driving a bridge erector boat (BEB) to place portions of an Improved Ribbon Bridge in a waterway

...also supports our Warfighters as they plan logistics-over-the-shore operations overseas.



Building Strong Relationships

Examples of Army, USACE, Academia, Government and Industry Relationships

7 of 12 Army PEOs



98 Universities



30+ Federal Agencies (Excluding DoD, Tri-Services)



145 Industries



CONNECT: Mechanisms & Authorities

Other Transaction Authority (OTA)
(Civil Works and Military Programs)

Broad Agency Announcement
(BAA) Authority

Cooperative Ecosystem Studies
Units (CESU) National Network

ERDCWERX Innovation Ecosystem Investment

Identifying New Partnerships and Collaboration Between Industry and ERDC

ERDCWERX creates a streamlined path for collaboration and partnerships with Industry and Academia

ERDCWERX is located inside the Mississippi Center for Innovation & Technology (MCITY) building in downtown Vicksburg, MS.

Public Website for Doing Business with ERDC
<https://www.erdcd.usace.army.mil/Business-With-Us/Technology-Transfer/>

ERDC Licensing Opportunities
<https://www.erdccinnovation.org/>

<https://https://techlinkcenter.org/labs/erdcd/090a42b4-2b75-46b7-ad95-7a445cf5aee>

ERDCWERX Ecosystem
<https://www.erdcdwerx.org/>



An Innovation Roundtable at ERDCWERX on 12 July 2024.

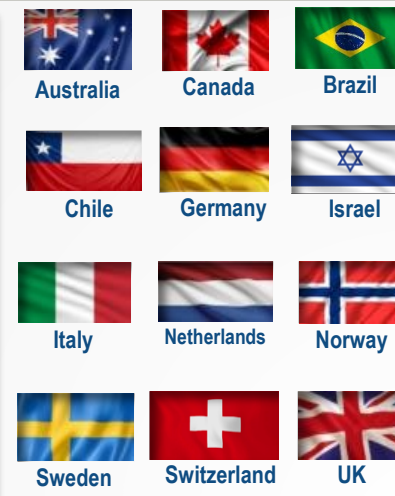


U.S. Army
Corps of
Engineers

9 Divisions
44 Districts

ERDC
International
Research Office
London, England

INTERNATIONAL
PARTNERS



THANK YOU!

Joshua Q. Church

Acting Chief, Software Engineering and
Informatics Division
Information Technology Laboratory
U.S. Army Engineer Research and
Development Center
U.S. Army Corps of Engineers

Joshua.Q.Church@usace.army.mil
601-634-2474



Scan the QR code
with your phone
for instant access
to ERDC websites
and social media



ERDC

ENGINEER RESEARCH & DEVELOPMENT CENTER

