

ERDC/ITL SR-17-1

Information Technology Laboratory



US Army Corps  
of Engineers®



## **Publications of the US Army Engineer Research and Development Center**

Appendix H: FY23 (October 2022–September 2023)

Compiled by Emily B. Moynihan

May 2024

**The US Army Engineer Research and Development Center (ERDC)** solves the nation's toughest engineering and environmental challenges. ERDC develops innovative solutions in civil and military engineering, geospatial sciences, water resources, and environmental sciences for the Army, the Department of Defense, civilian agencies, and our nation's public good. Find out more at [www.erdclibrary.on.worldcat.org/discovery](http://www.erdclibrary.on.worldcat.org/discovery).

To search for other technical reports published by ERDC, visit the ERDC online library at [www.erdclibrary.on.worldcat.org/discovery](http://www.erdclibrary.on.worldcat.org/discovery).

# **Publications of the US Army Engineer Research and Development Center**

Appendix H: FY23 (October 2022–September 2023)

Compiled by Emily B. Moynihan

*US Army Engineer Research and Development Center (ERDC)  
Information Technology Laboratory (ITL)  
3909 Halls Ferry Road  
Vicksburg, MS 39180-6199*

Final Special Report (SR)

Distribution Statement A. Approved for public release: distribution is unlimited.

Prepared for US Army Engineer Research and Development Center  
3909 Halls Ferry Road  
Vicksburg, MS 39180-6199

Under Information Technology Laboratory labor charge code

## Abstract

Each year, the US Army Engineer Research and Development Center (ERDC) publishes more than 200 reports through the Information Technology Laboratory's Information Science and Knowledge Management (ISKM) Branch, the publishing authority for ERDC. Annually since 2017, ISKM has compiled a list of the last fiscal year's publications. This Appendix H to the original collection includes ERDC publications issued October 2022 through September 2023. The publications are grouped according to the technical laboratories or technical program for which they were prepared, and the preface includes procedures for obtaining ERDC reports. Through this compilation, online distribution, and physical collections, ISKM continues to support ERDC, the Army, and the nation.

**DISCLAIMER:** The contents of this report are not to be used for advertising, publication, or promotional purposes. Citation of trade names does not constitute an official endorsement or approval of the use of such commercial products. All product names and trademarks cited are the property of their respective owners. The findings of this report are not to be construed as an official Department of the Army position unless so designated by other authorized documents.

**DESTROY THIS REPORT WHEN NO LONGER NEEDED. DO NOT RETURN IT TO THE ORIGINATOR.**

# Contents

<b>Abstract</b> .....	<b>ii</b>
<b>Preface</b> .....	<b>v</b>
<b>1 Engineer Research and Development Center (ERDC)</b> .....	<b>1</b>
1.1 Brochures.....	1
1.2 Miscellaneous Papers .....	1
1.3 Special Reports.....	2
1.4 Technical Note .....	3
1.5 Technical Reports.....	4
<b>2 Coastal and Hydraulics Laboratory (CHL)</b> .....	<b>7</b>
2.1 Letter Reports .....	7
2.2 Special Reports.....	7
2.3 Technical Notes .....	7
2.3.1 Section II—Beach Behavior and Restoration .....	7
2.3.2 Section VI—Miscellaneous Coastal Subjects.....	8
2.3.3 Section VII—River Engineering and Sedimentation.....	8
2.3.4 Section IX—Navigation .....	8
2.3.5 Section XII—Hydroinformatics.....	9
2.3.6 Section XIII—Miscellaneous Inland Subjects .....	9
2.3.7 Section XIV—Regional Sediment Management.....	9
2.4 Technical Reports.....	9
<b>3 Cold Regions Research Engineering Laboratory (CRREL)</b> .....	<b>12</b>
3.1 Miscellaneous Papers .....	12
3.2 Special Reports.....	12
3.3 Technical Reports .....	13
<b>4 Construction Engineering Research Laboratory (CERL)</b> .....	<b>16</b>
4.1 Miscellaneous Papers .....	16
4.2 Special Reports.....	16
4.3 Technical Notes .....	16
4.4 Technical Reports .....	17
4.5 Contract Reports.....	19
<b>5 Environmental Laboratory (EL)</b> .....	<b>21</b>
5.1 Special Reports.....	21
5.2 Technical Notes .....	21
5.3 Technical Reports.....	22
<b>6 Geospatial Research Laboratory (GRL)</b> .....	<b>24</b>
6.1 Technical Reports .....	24
<b>7 Geotechnical and Structures Laboratory (GSL)</b> .....	<b>25</b>

7.1	Special Reports.....	25
7.2	Technical Notes .....	25
7.3	Technical Reports .....	25
<b>8</b>	<b>Information Technology Laboratory (ITL).....</b>	<b>28</b>
8.1	Miscellaneous Papers .....	28
8.2	Special Reports.....	28
8.3	Technical Reports.....	28
<b>9</b>	<b>Aquatic Plant Control Research Program (APCRP) .....</b>	<b>30</b>
9.1	Technical Notes .....	30
9.1.1	Chemical Control.....	30
<b>10</b>	<b>Dredging Operations Technical Support Program (DOTS).....</b>	<b>31</b>
10.1	Technical Notes .....	31
<b>11</b>	<b>Ecosystem Management and Restoration Research Program (EMRRP) .....</b>	<b>32</b>
11.1	Technical Notes .....	32
11.1.1	Ecosystem Management and Support Systems (EM).....	32
11.1.2	Ecosystem Restoration (ER).....	32
<b>12</b>	<b>Engineering with Nature (EWN).....</b>	<b>33</b>
12.1	Technical Notes .....	33
<b>13</b>	<b>Regional Sediment Management Demonstration Program (RSM).....</b>	<b>34</b>
13.1	Technical Note .....	34
<b>14</b>	<b>Water Quality Research Program (WQRP) .....</b>	<b>35</b>
14.1	Technical Note .....	35
<b>15</b>	<b>Wetlands Regulatory Assistance Program (WRAP).....</b>	<b>36</b>
15.1	Technical Notes .....	36
<b>16</b>	<b>Miscellaneous Publications .....</b>	<b>37</b>
16.1	Technical Note .....	37
16.2	Technical Reports .....	37
	<b>Report Documentation Page (SF 298).....</b>	<b>38</b>

## Preface

The purpose of this report is to provide an annual update of literature produced by the US Army Engineer Research and Development Center (ERDC). Publications issued October 2022 through September 2023 are listed herein. The publications are grouped according to the technical laboratories or technical programs for which they were prepared.

ERDC publications containing the statement “Distribution Statement A. Approved for public release: distribution is unlimited” are available electronically by clicking on the digital object identifier (DOI) link located under each report or from the ERDC Library’s digital repository at <https://erdc-library.erdcdren.mil/>. A footnote by the report number denotes a limited distribution report. Limited distribution reports are available to qualified agencies from the Defense Technical Information Center (DTIC) at [www.dtic.mil](http://www.dtic.mil). For ordering purposes and when available, Accession Document (AD) numbers have been supplied.

Some Miscellaneous Papers (MP) were originally published as a journal article or conference proceeding paper. The link and document will be accessible after a 12-month embargo.

When electronic access is not an option, library-to-library loaning is available through Online Computer Library Center (OCLC). The ERDC Library’s OCLC symbol is AERDC. Requestors should contact their local library for interlibrary loans. The ERDC Library does not loan directly to individuals. The loaning of limited distribution reports is at the discretion of the ERDC Library and only if the requestor meets the qualifications of the report’s limited distribution statement.

This work was conducted for ERDC with funding via an Information Technology Laboratory (ITL) labor charge code.

This report was compiled by the Information Science and Knowledge Management Branch of the Software Engineering and Informatics Division, ERDC-ITL. At the time of publication, Ms. Molly S. McManus was branch chief; and Mr. Quincy G. Alexander was division chief. The deputy director of ERDC-ITL was Dr. Jackie S. Pettway, and the director was Dr. David A. Horner.

COL Christian Patterson was commander of ERDC, and Dr. David W. Pittman was the director.

# 1 Engineer Research and Development Center (ERDC)

## 1.1 Brochures

Report Number	Date	Title	AD Number
ERDC B-23-1	Feb 2023	<i>Civil Works R&amp;D Value to the Nation: 2023 Edition</i> , by the US Army Engineer Research and Development Center <a href="http://dx.doi.org/10.21079/11681/46532">http://dx.doi.org/10.21079/11681/46532</a>	—
ERDC B-23-2	Feb 2023	<i>USACE R&amp;D FY22 Annual Report</i> , by the US Army Engineer Research and Development Center <a href="http://dx.doi.org/10.21079/11681/46490">http://dx.doi.org/10.21079/11681/46490</a>	—

## 1.2 Miscellaneous Papers

Report Number	Date	Title	AD Number
ERDC MP-22-6	Oct 2022	<i>Numerical Modeling of Mesoscale Infrasound Propagation in the Arctic</i> , by D. K. Wilson, M. J. Shaw, V. E. Ostashev, M. B. Muhlestein, R. E. Alter, M. E. Swearingen, and S. L. McComas <a href="http://dx.doi.org/10.21079/11681/45788">http://dx.doi.org/10.21079/11681/45788</a>	AD1183169
ERDC MP-22-7	Dec 2022	<i>Helicopter Rotor Blade Planform Optimization Using Parametric Design and Multi-Objective Genetic Algorithm</i> , by Y. Wenren, J. W. Lim, L. D. Allen, R. B. Haehnel, and I. D. Dettwiller <a href="http://dx.doi.org/10.21079/11681/46261">http://dx.doi.org/10.21079/11681/46261</a>	AD1188148
ERDC MP-22-8 <sup>1</sup>	Dec 2022	<i>Acoustic Detection of Unmanned Aerial Systems in Arctic Winter and Summer Atmospheric Conditions</i> , by A. C. Meyer, R. A. Romond, A. R. Gallagher, L. J. Purdy, M. J. Kamrath, D. K. Wilson, S. N. Vecherin, C. M. Best, W. J. Shuart, T. D. Sullivan, F. J. Lichtner, Z. J. Zody, and S. E. Kopczynski	AD1189201
ERDC MP-23-1	Mar 2023	<i>An Ontology for an Epigenetics Approach to Prognostics and Health Management</i> , by A. Ruvinsky, M. Seale, C. Salter, and N. Garcia-Reyero <a href="http://dx.doi.org/10.21079/11681/46632">http://dx.doi.org/10.21079/11681/46632</a>	AD1196460

---

1. Limited distribution; see Preface.

Report Number	Date	Title	AD Number
ERDC MP-23-2	May 2023	<i>Application of a Satellite-Retrieved Sheltering Parameterization (v1.0) for Dust Event Simulation with WRF-Chem v4.1</i> , by S. L. LeGrand, T. W. Letcher, G. S. Okin, N. P. Webb, A. R. Gallagher, S. Dhital, T. S. Hodgdon, N. P. Ziegler, and M. L. Michaels <a href="http://dx.doi.org/10.21079/11681/47116">http://dx.doi.org/10.21079/11681/47116</a>	AD1202417
ERDC MP-23-3	Jun 2023	<i>Development of Alternative Air Filtration Materials and Methods of Analysis</i> , by I. P. Beckman <a href="http://dx.doi.org/10.21079/11681/47188">http://dx.doi.org/10.21079/11681/47188</a>	AD1204056
ERDC MP-23-4	Jul 2023	<i>Adverse Outcome Pathways for Engineered Systems</i> , by R. C. Salter, N. Garcia-Reyero, A. Ruvinsky, M. Seale, and E. Perkins <a href="http://dx.doi.org/10.21079/11681/47336">http://dx.doi.org/10.21079/11681/47336</a>	AD1206071

### 1.3 Special Reports

Report Number	Date	Title	AD Number
ERDC SR-23-1	Feb 2023	<i>Establishing a Series of Dust Event Case Studies for North Africa</i> , by K. H. Sparrow and S. L. LeGrand <a href="http://dx.doi.org/10.21079/11681/46445">http://dx.doi.org/10.21079/11681/46445</a>	AD1192719
ERDC SR-23-2	Apr 2023	<i>A 10-Year Monthly Climatology of Wind Direction: Case-Study Assessment</i> , by B. Hoch and S. N. Cook <a href="http://dx.doi.org/10.21079/11681/46912">http://dx.doi.org/10.21079/11681/46912</a>	AD1199068
ERDC SR-23-3	Apr 2023	<i>Technical Guide for the Development, Evaluation, and Modification of Wetland Rapid Assessment Methods for the Corps Regulatory Program</i> , by J. F. Berkowitz, G. C. L. David, and K. Gordon <a href="http://dx.doi.org/10.21079/11681/46932">http://dx.doi.org/10.21079/11681/46932</a>	AD1200020
ERDC SR-23-4 <sup>2</sup>	Apr 2023	<i>Focused Excursion 23-1: Distributed Engineering in 2040. Report 1: Proceedings of FE23-1 DE2040</i> , by R. C. Salter, M. Margaret Mitchell, M. K. McDaniel, S. R. Goerger, M. J. Lies, S. P. McCafferty, R. Todd, D. Polizzotti, and S. R. Ahern	AD1200058

<sup>2</sup> Limited distribution; see Preface.

Report Number	Date	Title	AD Number
ERDC SR-23-5	Jun 2023	<i>ERDC R&amp;D Strategy: Connecting the Dots to Innovation</i> , by J. P. Buchanan, S. M. Tennison, V. P. Acharya, K. M. Bolts, C. S. Cooksey, J. L. Corriveau, A. V. Davis, J. E. Davis, M. D. Farr, K. Flowers, R. Harris, D. J. Lawrence, C. H. Maynard, R. D. Moser, J. S. Pettway, L. P. Reid, and M. K. Swiderski <a href="http://dx.doi.org/10.21079/11681/47164">http://dx.doi.org/10.21079/11681/47164</a>	AD1203714
ERDC SR-23-6	Aug 2023	<i>International Workshop on Cold Regions Defense Infrastructure: 13–15 September 2022, Hanover, New Hampshire</i> , by T. A. Douglas, L. Bosche, E. Martinez-Guerra, C. Tibbetts, O. Welling, C. Smith, J. Yu, K. Bjella, and J. Woods <a href="http://dx.doi.org/10.21079/11681/47422">http://dx.doi.org/10.21079/11681/47422</a>	AD1207834
ERDC SR-23-7	Sep 2023	<i>Proceedings from the US Army Corps of Engineers (USACE) 2021 Beneficial Use of Dredged Material Virtual Workshop</i> , by T. Cagle, E. Russ, K. Fall, A. Tritinger, B. Suedel, K. Brutsché, and T. Bridges <a href="http://dx.doi.org/10.21079/11681/47561">http://dx.doi.org/10.21079/11681/47561</a>	AD1209941
ERDC SR-23-8	Sep 2023	<i>Real-Time Forecasting Model Development Work Plan</i> , by F. Messina, I. Y. Georgiou, M. M. Baustian, T. A. Dahl, J. L. Ryder, M. D. Miner, and R. E. Heath <a href="http://dx.doi.org/10.21079/11681/47599">http://dx.doi.org/10.21079/11681/47599</a>	AD1210776
ERDC SR-23-9	Sep 2023	<i>A Resilient Path Forward for the Marine Transportation System: Recommendations for Response and Recovery Operations from the 2017–2019 Hurricane Seasons</i> , by K. Chambers, J. Straub, J. Murphy, E. Russ, and the US Committee on the Marine Transportation System Resilience Integrated Action Team <a href="http://dx.doi.org/10.21079/11681/47607">http://dx.doi.org/10.21079/11681/47607</a>	AD1210825

## 1.4 Technical Note

Report Number	Date	Title	AD Number
ERDC TN-23-1	Sep 2023	<i>Accelerated Corrosion of Infrastructural Seven-Strand Cables via Additively Manufactured Corrosion Flow Cells</i> , by M. W. Glasscott and J. D. Ray <a href="http://dx.doi.org/10.21079/11681/47606">http://dx.doi.org/10.21079/11681/47606</a>	AD1210786

## 1.5 Technical Reports

Report Number	Date	Title	AD Number
ERDC TR-22-21	Oct 2022	<i>Development and Validation of a Balanced Mix Design Approach for CIR Mixtures Using Full-Scale Testing</i> , by A. Ali, A. Saidi, Y. Mehta, C. J. DeCarlo, M. H. Elshaer, B. C. Cox, and W. A. Lein <a href="http://dx.doi.org/10.21079/11681/45704">http://dx.doi.org/10.21079/11681/45704</a>	AD1181900
ERDC TR-22-22	Nov 2022	<i>Meteorological Influences of a Major Dust Storm in Southwest Asia during July–August 2018</i> , by R. E. Alter, S. L. LeGrand, F. D. Spates, W. D. Ledbetter, S. D. Minnigan, J. W. Thompson, K. I. Carter, and P. D. Elliott <a href="http://dx.doi.org/10.21079/11681/45960">http://dx.doi.org/10.21079/11681/45960</a>	AD1184596
ERDC TR-23-1	Jan 2023	<i>Swan Island Resilience Model Development; Phase I: Conceptual Model</i> , by B. D. Herman, P. E. Whitfield, J. Davis, A. S. Tritinger, B. Raves Golden, S. Catie Dillon, Danielle. M. Szimanski, T. M. Swannack, J. Z. Gailani, and J. K. King <a href="http://dx.doi.org/10.21079/11681/46402">http://dx.doi.org/10.21079/11681/46402</a>	AD1191583
ERDC TR-23-2	Mar 2023	<i>Engineering Considerations for Deployment of a Mobile Nuclear Power Plant (MNPP) Prototype: Engineering Support to Project PELE</i> , by B. C. Masters, S. W. Morefield, C. A. Weiss Jr., O. Esquilin-Mangual, G. E. Johnston, P. M. Border, D. E. Harder, A. J. Bowman, J. W. Murphy, J. A. Gilliland, E. M. Chappell, D. H. Nelson, P. A. Sparks, S. R. Wade, B. H. Green, W. C. Floyd, M. A. Chappell, A. J. Bednar, A. R. Scircle, and E. P. Tarpey	AD1194736
ERDC TR-23-3	Mar 2023	<i>Characterization of Pigmented Microbial Isolates for Use in Material Applications</i> , by E. J. L. Corriveau, T. L. Thornell, M. G. UcakAstarlioglu, D. N. Wedgeworth, H. A. Hanna, R. M. Jones, A. K. Thurston, and R. A. Barbato <a href="http://dx.doi.org/10.21079/11681/46633">http://dx.doi.org/10.21079/11681/46633</a>	AD1196470
ERDC TR-23-4	Mar 2023	<i>Exploration of Two Polymer Nanocomposite Structure-Property Relationships Facilitated by Molecular Dynamics Simulation and Multiscale Modeling</i> , by W. A. Pisani, D. N. Wedgeworth, M. R. Roth, J. K. Newman, and M. K. Shukla <a href="http://dx.doi.org/10.21079/11681/46713">http://dx.doi.org/10.21079/11681/46713</a>	AD1197144
ERDC TR-23-5	Mar 2023	<i>Waste Management and Landfill Facilities Assessment Using Unmanned Aircraft Systems</i> , by A. B. Urban, R. C. Strange, A. B. Ward, G. Rodriguez, and H. R. Howard <a href="http://dx.doi.org/10.21079/11681/46714">http://dx.doi.org/10.21079/11681/46714</a>	AD1197203

Report Number	Date	Title	AD Number
ERDC TR-23-6	May 2023	<i>Advances in Dredged Material Evaluations for Inland and Ocean Aquatic Placement: Modernized Processes and Supportive Tools</i> , by A. J. Kennedy, D. W. Moore, J. D. Farrar, G. R. Lotufo, B. C. Suedel, S. E. Bailey, P. R. Schroeder, P. M. Krupa, T. E. Rycroft, and T. C. May <a href="http://dx.doi.org/10.21079/11681/47071">http://dx.doi.org/10.21079/11681/47071</a>	AD1201726
ERDC TR-23-7 <sup>3</sup>	May 2023	<i>Evaluation of Terrain Layers and Soil Moisture Results in Geospatial Weather-Affected Terrain Conditions and Hazards (GeoWATCH)</i> , by J. B. Eylander, J. R. Jackson, T. W. Letcher, J. G. Green, M. T. Stevens, S. J. Price, and J. R. Fairley	AD1202119
ERDC TR-23-8 <sup>4</sup>	Jun 2023	<i>Dimensional Analysis of Airfield Craters from LiDAR Point Clouds</i> , by E. S. Berney IV, N. B. Ganesh, A. B. Ward, and J. K. Fulk	AD1203517
ERDC TR-23-9	Jul 2023	<i>Load and Resistance Factors from Reliability Analysis Probability of Unsatisfactory Performance (PUP) of Flood Mitigation, Batter Pile-Founded T-Walls Given a Target Reliability Index (<math>\beta</math>)</i> , by R. M. Ebeling, B. C. White, J. E. Hite, J. R. Tallent, L. M. Williams, B. C. McCoy, A. Hill, C. Dell, J. Bruhl, and K. McMullen <a href="http://dx.doi.org/10.21079/11681/47245">http://dx.doi.org/10.21079/11681/47245</a>	AD1205046
ERDC TR-23-10	Jul 2023	<i>Docker Containers and Images for Robot Operating System (ROS)-Based Applications</i> , by A. Naser, O. Ennasr, A. Soylemezoglu, and G. Glaspell <a href="http://dx.doi.org/10.21079/11681/47279">http://dx.doi.org/10.21079/11681/47279</a>	AD1205155
ERDC TR-23-11	Aug 2023	<i>Dynamic Material Properties of Grade 50 Steel: Effects of High Strain Rates on ASTM A992 and A572 Grade 50 Steels</i> , by M. P. Murray, T. A. Thornton, S. P. Rowell, and C. E. Grey <a href="http://dx.doi.org/10.21079/11681/47445">http://dx.doi.org/10.21079/11681/47445</a>	AD1208030
ERDC TR-23-12	Aug 2023	<i>Unmanned Ground Vehicle (UGV) Path Planning in 2.5D and 3D</i> , by O. Ennasr, C. Ellison, A. Netchaev, A. Soylemezoglu, and G. Glaspell <a href="http://dx.doi.org/10.21079/11681/47459">http://dx.doi.org/10.21079/11681/47459</a>	AD1208423
ERDC TR-23-13	Aug 2023	<i>Unmanned Ground Vehicle (UGV) Full Coverage Planning with Negative Obstacles</i> , by J.-K. Lee, A. Naser, O. Ennasr, A. Soylemezoglu, and G. Glaspell <a href="http://dx.doi.org/10.21079/11681/47527">http://dx.doi.org/10.21079/11681/47527</a>	AD1209288

---

3. Limited distribution; see Preface.

4. Limited distribution; see Preface.

Report Number	Date	Title	AD Number
ERDC TR-23-14	Sep 2023	<i>Resilience Modeling for Civil Military Operations with the Framework Incorporating Complex Uncertainty Systems</i> , by C. R. Ehlschlaeger, J. A. Burkhalter, I. Chiu, I. Linkov, J. Cegan, O. David, Y. Ouyang, J. M. Parker, F. Serafin, D. A. Morrison, J. D. Westervelt, L. Lu, J. Palacio, D. Patterson, T. K. Perkins, A. M. A. Petit, and Y. Liu <a href="http://dx.doi.org/10.21079/11681/47562">http://dx.doi.org/10.21079/11681/47562</a>	AD1209943
ERDC TR-23-15	Sep 2023	<i>Sensitivity of Sediment Transport Analyses in Dam Removal Applications</i> , by W. Echevarria-Doyle, S. K. McKay, and S. E. Bailey <a href="http://dx.doi.org/10.21079/11681/47595">http://dx.doi.org/10.21079/11681/47595</a>	AD1210482
ERDC TR-23-16	Sep 2023	<i>Mapping and Localization Within a Mock Sewer System</i> , by B. Dodd, O. Ennasr, A. Naser, C. Ellison, J. Ray, G. Glaspell, and A. Netchaev <a href="http://dx.doi.org/10.21079/11681/47616">http://dx.doi.org/10.21079/11681/47616</a>	AD1211024
ERDC TR-23-17	Sep 2023	<i>Low Size, Weight, Power, and Cost (SWaP-C) Payload for Autonomous Navigation and Mapping on an Unmanned Ground Vehicle</i> , by O. Ennasr, B. Dodd, M. Paquette, C. Ellison, and G. Glaspell <a href="http://dx.doi.org/10.21079/11681/47683">http://dx.doi.org/10.21079/11681/47683</a>	AD1213595

## 2 Coastal and Hydraulics Laboratory (CHL)

### 2.1 Letter Reports

Report Number	Date	Title	AD Number
ERDC CHL/LR-23-2 <sup>5</sup>	Mar 2022	<i>Shoreline Change Data Collection and Analysis for 2021</i> , by B Scully, R. Styles, and S. J. Smith	—
ERDC CHL/LR-23-3	Aug 2023	<i>Evaluation of Navigation Conditions at Brazos River and GIWW West Channel Flood Gate Structure</i> , by R. Hoben	—
ERDC CHL/LR-23-4	Sep 2023	<i>USACE Cost Engineering Dredge Estimating Program (CEDEP) Methodology Report</i> , by D. Krafft	—
ERDC CHL/LR-23-5	Aug 2023	<i>Lower James River Sediment Transport Modeling: Tribell Shoals</i> , by T. Lackey	—
ERDC CHL/LR-23-6	Sep 2023	<i>Bonneville Spillway Rock Removal Project: Physical Model Study Report</i> , by R. Santiago	—

### 2.2 Special Reports

Report Number	Date	Title	AD Number
ERDC/CHL SR-22-5	Nov 2022	<i>A Review of Tidal Embayment Shoaling Mechanisms in the Context of Future Wetland Placement</i> , by D. Krafft, R. Bain, J. A. Cadigan, and R. Styles <a href="http://dx.doi.org/10.21079/11681/46143">http://dx.doi.org/10.21079/11681/46143</a>	AD1186522
ERDC/CHL SR-23-1	Jan 2023	<i>US Port Connectivity and Ramifications for Maintenance of South Atlantic Division Ports</i> , by R. L. Bain, D. L. Young, M. M. Kress, K. F. Chambers, and B. M. Scully <a href="http://dx.doi.org/10.21079/11681/46385">http://dx.doi.org/10.21079/11681/46385</a>	AD1190574

### 2.3 Technical Notes

#### 2.3.1 Section II—Beach Behavior and Restoration

Report Number	Date	Title	AD Number
ERDC/CHL CHETN-II-60	Apr 2023	<i>Representative Beach Profile Generator</i> , by S. L. Spurgeon <a href="http://dx.doi.org/10.21079/11681/46916">http://dx.doi.org/10.21079/11681/46916</a>	AD1199577

---

5. ERDC/CHL LR-23-1 was published in October 2023 and so is not considered an FY23 publication.

### 2.3.2 Section VI—Miscellaneous Coastal Subjects

Report Number	Date	Title	AD Number
ERDC/CHL CHETN-VI-51	Aug 2023	<i>3D Measurements of Water Surface Elevation Using a Flash Lidar Camera</i> , by A. O’Dea, N. Spore, T. Jernigan, B. Bruder, I. Conery, J. Straub, and K. Brodie <a href="http://dx.doi.org/10.21079/11681/47496">http://dx.doi.org/10.21079/11681/47496</a>	AD1208933

### 2.3.3 Section VII—River Engineering and Sedimentation

Report Number	Date	Title	AD Number
ERDC/CHL CHETN-VII-26	Aug 2023	<i>Geomorphic Metrics Used in Fluvial Geomorph</i> , by C. Haring and M. Dougherty <a href="http://dx.doi.org/10.21079/11681/47494">http://dx.doi.org/10.21079/11681/47494</a>	AD1208937

### 2.3.4 Section IX—Navigation

Report Number	Date	Title	AD Number
ERDC/CHL CHETN-IX-61	Jan 2023	<i>Strength and Toughness Inputs to Fitness for Service Analysis of Existing Hydraulic Steel Structures</i> , by M. T. Schultz, J. H. Milligan, B. E. Skahill, L. E. Campbell, P. W. Sauser, and R. D. Bell <a href="http://dx.doi.org/10.21079/11681/46360">http://dx.doi.org/10.21079/11681/46360</a>	AD1189990
ERDC/CHL CHETN-IX-62	Feb 2023	<i>AIS Data: An Overview of Free Sources</i> , by M. M. Kress and K. N. Mitchell <a href="http://dx.doi.org/10.21079/11681/46491">http://dx.doi.org/10.21079/11681/46491</a>	AD1193822
ERDC/CHL CHETN-IX-63	Mar 2023	<i>Underwater Carbon Fiber–Reinforced Polymer (CFRP)–Retrofitted Steel Hydraulic Structures (SHS) Fatigue Cracks</i> , by G. A. Riveros and H. Mahmoud <a href="http://dx.doi.org/10.21079/11681/46588">http://dx.doi.org/10.21079/11681/46588</a>	AD1195810
ERDC/CHL CHETN-IX-64	Mar 2023	<i>Reception of Automatic Identification System (AIS) Message 21 from US Army Corps of Engineer AIS sites along the Upper Mississippi River, Mile 0 to 301</i> , by J. P. Zlotopolski, J. C. Vest, C. R. Tabbert, and M. M. Kress <a href="http://dx.doi.org/10.21079/11681/46629">http://dx.doi.org/10.21079/11681/46629</a>	AD1196337
ERDC/CHL CHETN-IX-65	Aug 2023	<i>Sensitivity of Simulated Flaw-Height Estimates to Phased Array Scan Parameters</i> , by J. D. Ray, J. S. Kinnebrew, R. D. Bell, and M. T. Schultz <a href="http://dx.doi.org/10.21079/11681/47403">http://dx.doi.org/10.21079/11681/47403</a>	AD1207761

Report Number	Date	Title	AD Number
ERDC/CHL CHETN-IX-66	Aug 2023	<i>Measuring Maritime Connectivity to Puerto Rico and the Virgin Islands Using Automatic Identification System (AIS) Data</i> , by M. M. Kress, D. L. Young, K. F. Chambers, and B. M. Scully <a href="http://dx.doi.org/10.21079/11681/47495">http://dx.doi.org/10.21079/11681/47495</a>	AD1208935

### 2.3.5 Section XII—Hydroinformatics

Report Number	Date	Title	AD Number
ERDC/CHL CHETN-XII-2	Mar 2023	<i>MODIS Optical Global Water Intelligence (MOGWAI) Web Application User Guide</i> , by D. Brown, M. Pham, M. D. Wahl, and K. Cotterman <a href="http://dx.doi.org/10.21079/11681/46612">http://dx.doi.org/10.21079/11681/46612</a>	AD1196521
ERDC/CHL CHETN-XII-3	Aug 2023	<i>Soil-Moisture Estimation of Root Zone through Vegetation-Index-Based Evapotranspiration-Fraction and Soil-Properties (SERVES) User's Manual Version 1.0</i> , by N. R. Pradhan <a href="http://dx.doi.org/10.21079/11681/47399">http://dx.doi.org/10.21079/11681/47399</a>	AD1207471

### 2.3.6 Section XIII—Miscellaneous Inland Subjects

Report Number	Date	Title	AD Number
ERDC/CHL CHETN-XIII-5	Mar 2023	<i>Hands-Free Mooring for Inland USACE Locks, Phase I: Technical Screening</i> , by L. M. Williams, J. D. Cheek, A. Hammack, M. M. Johnston, and R. E. Smith <a href="http://dx.doi.org/10.21079/11681/46628">http://dx.doi.org/10.21079/11681/46628</a>	AD1196326

### 2.3.7 Section XIV—Regional Sediment Management

Report Number	Date	Title	AD Number
ERDC/CHL CHETN-XIV-57	May 2023	<i>Geomorphic Feature Extraction to Support the Great Lakes Restoration Initiative's Sediment Budget and Geomorphic Vulnerability Index for Lake Michigan</i> , by C. Sylvester, S. Spurgeon, S. McGill, and L. Dunkin <a href="http://dx.doi.org/10.21079/11681/47079">http://dx.doi.org/10.21079/11681/47079</a>	AD1201982

## 2.4 Technical Reports

Report Number	Date	Title	AD Number
ERDC/CHL TR-22-21	Nov 2022	<i>Ship-Induced Waves at Tybee Island, Georgia</i> , by R. Bain, R. Styles, and J. M. Lopes <a href="http://dx.doi.org/10.21079/11681/46140">http://dx.doi.org/10.21079/11681/46140</a>	AD1186516

Report Number	Date	Title	AD Number
ERDC/CHL TR-22-22	Nov 2022	<i>Evaluation of Cedar Tree Revetments for Bank Stabilization at the Locust Creek Conservation Area, Missouri: Quantifying Bank Erosion Volumes from Preproject to Postfailure</i> , by J. E. Shelley, C. P. Haring, and N. J. Chrisman <a href="http://dx.doi.org/10.21079/11681/46144">http://dx.doi.org/10.21079/11681/46144</a>	AD1186544
ERDC/CHL TR-22-23	Dec 2022	<i>Coastal Hazards System–Puerto Rico and US Virgin Islands (CHS-PR)</i> , by N. C. Nadal-Caraballo, M. C. Yawn, L. A. Aucoin, M. L. Carr, J. A. Melby, E. Ramos-Santiago, F. A. Garcia-Moreno, V. M. Gonzalez, T. C. Massey, M. B. Owensby, A. A. Taflanidis, A. P. Kyprioti, A. T. Cox, and J. Gonzalez-Lopez <a href="http://dx.doi.org/10.21079/11681/46200">http://dx.doi.org/10.21079/11681/46200</a>	AD1187078
ERDC/CHL TR-23-1 <sup>6</sup>	Jan 2023	<i>Hydrodynamic Scale Model Testing of the Improved Ribbon Bridge for FoHMLC Crossings</i> , by L. A. Provost, D. B. Bryant, J. A. Sharp, and K. L. Pigg	AD1191355
ERDC/CHL TR-23-2	Feb 2023	<i>Sustainable Sediment Management at US Army Corps of Engineers Reservoirs</i> , by G. L. Morris, T. A. Dahl, M. Ramos-Villanueva, J. R. Leech, and M. M. Jonas <a href="http://dx.doi.org/10.21079/11681/46470">http://dx.doi.org/10.21079/11681/46470</a>	AD1193098
ERDC/CHL TR-23-3	Mar 2023	<i>A Large-Scale Community Storm Processes Field Experiment: The During Nearshore Event Experiment (DUNEX) Overview Reference Report</i> , by M. A. Cialone, J. A. Straub, B. Raubenheimer, J. A. Brown, K. L. Brodie, N. Elko, P. J. Dickhudt, M. F. Forte, S. R. DeLoach, H. F. Stockdon, and J. D. Rosati <a href="http://dx.doi.org/10.21079/11681/46548">http://dx.doi.org/10.21079/11681/46548</a>	AD1195013
ERDC/CHL TR-23-4	Mar 2023	<i>Numerical Modeling of Supercritical Flow in the Los Angeles River: Part I: Adaptive Hydraulic Numerical Modeling of the 1943 Physical Model</i> , by T. O. McAlpin, G. Savant, G. Zhao, J. E. Petrie, and M. Mouton <a href="http://dx.doi.org/10.21079/11681/46631">http://dx.doi.org/10.21079/11681/46631</a>	AD1196308
ERDC/CHL TR-23-5	May 2023	<i>Mississippi River Climate Model–Based Hydrograph Projections at the Tarbert Landing Location</i> , by W. Clay LaHatte, A. A. Tavakoly, S. E. Lytle, and J. W. Lewis <a href="http://dx.doi.org/10.21079/11681/47084">http://dx.doi.org/10.21079/11681/47084</a>	AD1202033
ERDC/CHL TR-23-6	Jun 2023	<i>Evaluation of a Permeable Dam as an Erosion Control Structure on Coca River, Ecuador</i> , by E. Ramos-Santiago, Y. Pagán-Albelo, J. A. Sharp, C. L. Blades, and K. L. Pigg <a href="http://dx.doi.org/10.21079/11681/47169">http://dx.doi.org/10.21079/11681/47169</a>	AD1203698

---

6. Limited distribution; see Preface.

Report Number	Date	Title	AD Number
ERDC/CHL TR-23-7	Jul 2023	<i>Geomorphic Assessment of the St. Francis River: Between Wappapello Lake and Lake City</i> , by H. K. Enlow, N. Wetzel, D. Bidenharn, C. Haring, J. M. Lamport, K. Raburn, and S. E. Girdner <a href="http://dx.doi.org/10.21079/11681/47280">http://dx.doi.org/10.21079/11681/47280</a>	AD1205192
ERDC/CHL TR-23-8	Aug 2023	<i>Evaluation of Structural and Operational Alternatives to Optimize the Distribution of Water and Sediment in the Passes of the Mississippi River</i> , by R. R. Copeland, M. A. Hartman, and J. Lewis <a href="http://dx.doi.org/10.21079/11681/47402">http://dx.doi.org/10.21079/11681/47402</a>	AD1207603
ERDC/CHL TR-23-9	Aug 2023	<i>Houston Ship Channel Numerical Model Update and Validation</i> , by J. McAlpin and C. Ross <a href="http://dx.doi.org/10.21079/11681/47498">http://dx.doi.org/10.21079/11681/47498</a>	AD1208931
ERDC/CHL TR-23-10	Sep 2023	<i>Applicability of CoastSnap, a Crowd-Sourced Coastal Monitoring Approach for US Army Corps of Engineers District Use</i> , by I. Conery, B. Bruder, C. Geis, J. Straub, N. Spore, and K. Brodie <a href="http://dx.doi.org/10.21079/11681/47568">http://dx.doi.org/10.21079/11681/47568</a>	AD1210053
ERDC/CHL TR-23-11	Sep 2023	<i>Surge Analysis in Mobile Harbor, Alabama: Ship-Simulation Report</i> , by M. M. Johnston, K. I. Pazan, Y. Ding, M. C. Allison, and S.-C. Kim <a href="http://dx.doi.org/10.21079/11681/47596">http://dx.doi.org/10.21079/11681/47596</a>	AD1210533

## 3 Cold Regions Research Engineering Laboratory (CRREL)

### 3.1 Miscellaneous Papers

Report Number	Date	Title	AD Number
ERDC/CRREL MP-22-16	Oct 2022	<i>Willis Coupling in One-dimensional Layered Bulk Media</i> , by M. B. Muhlestein <a href="http://dx.doi.org/10.21079/11681/45862">http://dx.doi.org/10.21079/11681/45862</a>	AD1183953
ERDC/CRREL MP-22-17	Nov 2022	<i>Environmentally Informed Buried Object Recognition</i> , by S. Potoczak Bragdon, V. Truong, and J. Clausen <a href="http://dx.doi.org/10.21079/11681/45902">http://dx.doi.org/10.21079/11681/45902</a>	AD1184213
ERDC/CRREL MP-23-1	Jun 2023	<i>A Generalized Photon-Tracking Approach to Simulate Spectral Snow Albedo and Transmittance Using X-ray Microtomography and Geometric Optics</i> , by T. Letcher, J. Parno, Z. Courville, L. Farnsworth, and J. Olivier <a href="http://dx.doi.org/10.21079/11681/47122">http://dx.doi.org/10.21079/11681/47122</a>	AD1202610
ERDC/CRREL MP-23-2	Aug 2023	<i>Phase-Modulated Rice Model for Statistical Distributions of Complex Signals</i> , by D. K. Wilson, V. E. Ostashev, and M. E. Krackow <a href="http://dx.doi.org/10.21079/11681/47379">http://dx.doi.org/10.21079/11681/47379</a>	AD1207093
ERDC/CRREL MP-23-3	Sep 2023	<i>Plant Phenology Drives Seasonal Changes in Shear Stress Partitioning in a Semi-Arid Rangeland</i> , by N. P. Ziegler, N. P. Webb, J. A. Gillies, B. L. Edwards, G. Nikolich, J. W. Van Zee, B. F. Cooper, D. M. Browning, E. M. Courtright, and S. L. LeGrand <a href="http://dx.doi.org/10.21079/11681/47680">http://dx.doi.org/10.21079/11681/47680</a>	AD1213566

### 3.2 Special Reports

Report Number	Date	Title	AD Number
ERDC/CRREL SR-22-4	Oct 2022	<i>Data Acquisition Software for Impedance Tube Measurements</i> , by C. M. Best, C. R. Hart, and M. B. Muhlestein <a href="http://dx.doi.org/10.21079/11681/45740">http://dx.doi.org/10.21079/11681/45740</a>	AD1182298
ERDC/CRREL SR-23-1	May 2023	<i>Summary of Ice Jams and Mitigation Techniques in Alaska</i> , by J. Giovando, C. Engel, D. Vandevort, and C. Chow <a href="http://dx.doi.org/10.21079/11681/47069">http://dx.doi.org/10.21079/11681/47069</a>	AD1201563

### 3.3 Technical Reports

Report Number	Date	Title	AD Number
ERDC/CRREL TR-22-21	Oct 2022	<i>A Review of Airfield Pavement Drainage Guidance</i> , by R. L. Hastings, M. C. L. Quinn, A. P. Bernier, and C. A. Rutland <a href="http://dx.doi.org/10.21079/11681/45720">http://dx.doi.org/10.21079/11681/45720</a>	AD1182112
ERDC/CRREL TR-22-22	Nov 2022	<i>Dissolution of NTO, DNAN, and Insensitive Munitions Formulations and Their Fates in Soils: SERDP ER-2220</i> , by K. M. Dontsova, S. Taylor, J. D. Arthur, J. B. Becher, M. L. Brusseau, E. Hunt, N. W. Mark, D. B. Ringelberg, J. Šimůnek, and M. E. Walsh <a href="http://dx.doi.org/10.21079/11681/45920">http://dx.doi.org/10.21079/11681/45920</a>	AD1184293
ERDC/CRREL TR-22-23	Nov 2022	<i>Cold Regions Vehicle Start: Next-Generation Lithium-Ion Battery Technologies for Stryker Vehicles</i> , by K. P. Trubac, R. W. Reynolds, T. J. Cooke, C. A. Hartshorn, D. A. Punt, C. J. Donnelly, and C. A. Callaghan <a href="http://dx.doi.org/10.21079/11681/45921">http://dx.doi.org/10.21079/11681/45921</a>	AD1184354
ERDC/CRREL TR-22-24	Nov 2022	<i>A k-Means Analysis of the Voltage Response of a Soil-Based Microbial Fuel Cell to an Injected Military-Relevant Compound (Urea)</i> , by R. M. Jones, M. Creagar, M. Musty, R. Reynolds, S. M. Slone, and R. Barbato <a href="http://dx.doi.org/10.21079/11681/45940">http://dx.doi.org/10.21079/11681/45940</a>	AD1184447
ERDC/CRREL TR-22-25	Nov 2022	<i>Understanding Plant Volatiles for Environmental Awareness: Chemical Composition in Response to Natural Light Cycles and Wounding</i> , by S. S. Whitecloud, H. H. VerMeulen, F. J. Lichtner, N. A. Podpora, T. Cooke, C. Williams, M. Musty, I. E. MacAllister, and J. R. Dorvee <a href="http://dx.doi.org/10.21079/11681/45961">http://dx.doi.org/10.21079/11681/45961</a>	AD1184874
ERDC/CRREL TR-22-26	Nov 2022	<i>National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams: Interim Version</i> , by G. C. L. David, K. M. Fritz, S. Kichefski, T.-L. Nadeau, B. J. Topping, A. O. Allen, P. H. Trier, S. L. Kichefski, L. A. James, E. Wohl, and D. Hamill <a href="http://dx.doi.org/10.21079/11681/46102">http://dx.doi.org/10.21079/11681/46102</a>	AD1187018
ERDC/CRREL TR-22-27 <sup>7</sup>	Nov 2022	<i>McMurdo Shear Zone Crossing Relocation Report</i> , by Z. Courville, L. Kaluziński, A. Lines, N. Lamie, S. Campbell, B. Johnson, K. Hottel, and L. Farnsworth	AD1191365

7. Limited distribution; see Preface.

Report Number	Date	Title	AD Number
ERDC/CRREL TR-23-1	Mar 2023	<i>Shallow Geothermal Technology, Opportunities in Cold Regions, and Related Data for Deployment at Fort Wainwright</i> , by Z. Zody and V. Gisladottir <a href="http://dx.doi.org/10.21079/11681/46672">http://dx.doi.org/10.21079/11681/46672</a>	AD1196784
ERDC/CRREL TR-23-2	Apr 2023	<i>Live-Fire Validation of Command-Detonation Residues Testing Using an 81 mm IMX-104 Munition</i> , by S. A. Beal, M. F. Bigl, and C. A. Ramsey <a href="http://dx.doi.org/10.21079/11681/46913">http://dx.doi.org/10.21079/11681/46913</a>	AD1199130
ERDC/CRREL TR-23-3	Apr 2023	<i>Testing of Dry Decontamination Technologies for Chemical, Biological, Radiological, and Nuclear (CBRN) Response</i> , by M. I. Reilly-Collette, B. K. Booker, K. P. Trubac, T. J. Elliott, A. C. Reichert, C. R. Woodruff, and L. Senchak <a href="http://dx.doi.org/10.21079/11681/47032">http://dx.doi.org/10.21079/11681/47032</a>	AD1201107
ERDC/CRREL TR-23-4	May 2023	<i>Analysis of Paxton Siphon Frazil Ice Blockage Event during January 2022</i> , by C. Engel, J. Giovando, and G. Halvorson <a href="http://dx.doi.org/10.21079/11681/47078">http://dx.doi.org/10.21079/11681/47078</a>	AD1201886
ERDC/CRREL TR-23-5	Jun 2023	<i>Comparison of the Quantitation of Heavy Metals in Soil Using Handheld LIBS, XRFs, and ICP-OES</i> , by M. I. Bishop, J. L. Clausen, S. A. Beal, and P. Sims <a href="http://dx.doi.org/10.21079/11681/47182">http://dx.doi.org/10.21079/11681/47182</a>	AD1203958
ERDC/CRREL TR-23-6	Jul 2023	<i>Testing Expedient Ground Anchor Solutions for Guyed Towers in Remote Cold Regions: Considerations for Cold Remote Regions with Limited Tools</i> , by K. Bjella, D. Vandevort, and S. E. Kopczynski <a href="http://dx.doi.org/10.21079/11681/47328">http://dx.doi.org/10.21079/11681/47328</a>	AD1205799
ERDC/CRREL TR-23-7	Sep 2023	<i>Cold Impacts on Vehicle Electrical Systems: Developing a Baseline for Cold Testing Military Vehicles</i> , by A. R. Stott, C. A. Callaghan, D. A. Punt, and T. J. Elliott <a href="http://dx.doi.org/10.21079/11681/47594">http://dx.doi.org/10.21079/11681/47594</a>	AD1210481
ERDC/CRREL TR-23-8	Sep 2023	<i>Isolation and Characterization of Bacterial Isolates from Alaskan Permafrost for Synthetic Biology Applications</i> , by A. K. Thurston, L. M. Gonzalez, F. Laurent, E. J. Corriveau, and R. A. Barbato <a href="http://dx.doi.org/10.21079/11681/47645">http://dx.doi.org/10.21079/11681/47645</a>	AD1213402
ERDC/CRREL TR-23-9	Sep 2023	<i>Evaluation of Non-Destructive Testing (NDT) Methods for Wood Power Poles</i> , by M. Nallar, A. P. Bernier, and J. T. Potter <a href="http://dx.doi.org/10.21079/11681/47652">http://dx.doi.org/10.21079/11681/47652</a>	AD1213544

---

Report Number	Date	Title	AD Number
ERDC/CRREL TR-23-10	Sep 2023	<i>Incorporating Advanced Snow Microphysics and Lateral Transport into the Noah-Multiparameterization (Noah-MP) Land Surface Model</i> , by T. W. Letcher and J. Parno <a href="http://dx.doi.org/10.21079/11681/47660">http://dx.doi.org/10.21079/11681/47660</a>	AD1213546
ERDC/CRREL TR-23-11	Sep 2023	<i>Enhancing Building Thermal Comfort: A Review of Phase Change Materials in Concrete</i> , by M. Nallar and A. A. Gelina <a href="http://dx.doi.org/10.21079/11681/47679">http://dx.doi.org/10.21079/11681/47679</a>	AD1213557
ERDC/CRREL TR-23-12	Sep 2023	<i>Microbial Activity in Dust-Contaminated Antarctic Snow</i> , by A. Thurston, K. Foley, S. Rosten, S. Taylor, R. B. Haehnel, and R. A. Barbato <a href="http://dx.doi.org/10.21079/11681/47681">http://dx.doi.org/10.21079/11681/47681</a>	AD1213583
ERDC/CRREL TR-23-13	Sep 2023	<i>Arctic Seed Sterilization and Germination</i> , by N. A. Wuerslin, F. J. Lichtner, N. A. Podpora, and S. S. Whitecloud <a href="http://dx.doi.org/10.21079/11681/47682">http://dx.doi.org/10.21079/11681/47682</a>	AD1213589
ERDC/CRREL TR-23-14	Sep 2023	<i>Phase I Geothermal Opportunities Assessment of the Delta Junction Area, Alaska</i> , by V. R. Gisladottir, A. Kolker, Z. J. Zody, and I. Warren <a href="http://dx.doi.org/10.21079/11681/47766">http://dx.doi.org/10.21079/11681/47766</a>	AD1213508

## 4 Construction Engineering Research Laboratory (CERL)

### 4.1 Miscellaneous Papers

Report Number	Date	Title	AD Number
ERDC/CERL MP-22-4	Dec 2022	<i>Evaluating a Multi-Panel Air Cathode Through Electrochemical and Biotic Tests</i> , by R. Ruggero, D. Jones, J. Myung, E. Zikmund, W. Yang, Y. Alvarez Gallego, D. Pant, P. J. Evans, M. A. Page, D. M. Cropek, and B. E. Logan <a href="http://dx.doi.org/10.21079/11681/46320">http://dx.doi.org/10.21079/11681/46320</a>	AD1189287
ERDC/CERL MP-23-1	Aug 2023	<i>Technology Transfer: Converting Multizone HVAC Systems from Constant to Variable Volume</i> , by E. Westervelt, J. Bush, C. Battisti, B. Morton, H. FitzHenry, and D. Schwenk <a href="http://dx.doi.org/10.21079/11681/47439">http://dx.doi.org/10.21079/11681/47439</a>	AD1207956

### 4.2 Special Reports

Report Number	Date	Title	AD Number
ERDC/CERL SR-22-5	Oct 2022	<i>Old Post Reevaluation, Fort Huachuca, AZ</i> , by A. R. Schmidt, A. D. Smith, M. W. Tooker, and S. E. Adams <a href="http://dx.doi.org/10.21079/11681/45701">http://dx.doi.org/10.21079/11681/45701</a>	AD1181909
ERDC/CERL SR-23-1	Jun 2023	<i>US Air Force Academy Gallagher and Massey Ranch Houses: Historic American Buildings Surveys CO-237, CO-237-A, and CO-238</i> , by A. R. Young, C. L. Baxter, J. S. Murphey, K. E. Feinen, M. L. Story, and A. D. Smith <a href="http://dx.doi.org/10.21079/11681/47190">http://dx.doi.org/10.21079/11681/47190</a>	AD1204118

### 4.3 Technical Notes

Report Number	Date	Title	AD Number
ERDC/CERL TN-22-1	Nov 2022	<i>Automation of Gridded HEC-HMS Model Development Using Python: Initial Condition Testing and Calibration Applications</i> , by S. A. Matus and D. R. Gambill <a href="http://dx.doi.org/10.21079/11681/46126">http://dx.doi.org/10.21079/11681/46126</a>	AD1186446

## 4.4 Technical Reports

Report Number	Date	Title	AD Number
ERDC/CERL TR-22-12 <sup>8</sup>	Oct 2022	<i>People-Centered System Engineering: A Smart Installation GIS-Based Mobility Map</i> , by L. L. Larkin, J. P. Allen, N. R. D. Myers, A. L. Stumpf, T. A. Carlson, T. Hylton, C. Emmenegger, J. Wartell, M. Kovic, S. Ramirez, J. Li, B. Roberts, H. Le, S. Munoz, K. Leon, H. Liner, B. Brandow, and A. Sebald	AD1182735
ERDC/CERL TR-22-13	Nov 2022	<i>Network Development and Autonomous Vehicles: A Smart Transportation Testbed at Fort Carson</i> , by L. L. Larkin, T. A. Carlson, W. R. D'Andrea, A. L. Johnson, and N. R. Myers <a href="http://dx.doi.org/10.21079/11681/45941">http://dx.doi.org/10.21079/11681/45941</a>	AD1184488
ERDC/CERL TR-22-14	Dec 2022	<i>Fort Hunter Liggett: A History and Analysis</i> , by M. L. Story and A. D. Smith <a href="http://dx.doi.org/10.21079/11681/46340">http://dx.doi.org/10.21079/11681/46340</a>	AD1189685
ERDC/CERL TR-23-1	Mar 2023	<i>Assessment of LEED 2.2 and LEED 2009 Implementation in Meeting Army SDD Policy Goals</i> , by L. D. Spiewak, A. L. Stumpf, and H. R. FitzHenry <a href="http://dx.doi.org/10.21079/11681/46585">http://dx.doi.org/10.21079/11681/46585</a>	AD1195641
ERDC/CERL TR-23-2 <sup>9</sup>	Mar 2023	<i>Fort Leonard Wood Ranges and Training Areas Inventory: Facility Category Code Investigation</i> , by L. Rivera, S. E. Adams, H. R. Howard, and A. P. Eckert	AD1196742
ERDC/CERL TR-23-3 <sup>10</sup>	Mar 2023	<i>Range Reconfiguration: Fort Leonard Wood, Missouri, Training Ranges Analysis</i> , by N. G. Svendsen, H. R. Howard, D. R. Gambill, W. A. Wall, A. P. Eckert, and A. R. Young	AD1196744
ERDC/CERL TR-23-4	Mar 2023	<i>Evaluation of 11 Properties at Fort Hunter Liggett, California for Eligibility to the National Register</i> , by S. E. Adams, A. D. Smith, and M. L. Story <a href="http://dx.doi.org/10.21079/11681/46712">http://dx.doi.org/10.21079/11681/46712</a>	AD1196949
ERDC/CERL TR-23-5	Apr 2023	<i>Character-Defining Features of the Buffalo South Mole (South Pier), NY</i> , by A. D. Smith and M. W. Tooker <a href="http://dx.doi.org/10.21079/11681/46743">http://dx.doi.org/10.21079/11681/46743</a>	AD1198063
ERDC/CERL TR-23-6 <sup>11</sup>	Apr 2023	<i>Seismic Site Inspection of Building 585 at Eareckson Air Station</i> , by J. Wilcoski	AD1198094

---

8. Limited distribution; see Preface.

9. Limited distribution; see Preface.

10. Limited distribution; see Preface.

11. Limited distribution; see Preface.

Report Number	Date	Title	AD Number
ERDC/CERL TR-23-7	Apr 2023	<i>4D Printing Structures for Extreme Temperatures Using Metakaolin Based Geopolymers</i> , by G. Al-Chaar, Al. Brandvold, A. Kozych, and W. Mendoza <a href="http://dx.doi.org/10.21079/11681/46750">http://dx.doi.org/10.21079/11681/46750</a>	AD1198199
ERDC/CERL TR-23-8	Apr 2023	<i>Historic Architecture and Landscape Inventory for Gordon Lakes Golf Club, Fort Gordon, Georgia</i> , by A. S. Fuelberth, M. L. Story, A. D. Smith, and M. W. Tooker	AD1198976
ERDC/CERL TR-23-9 <sup>12</sup>	Apr 2023	<i>Improvements to Army Family Housing at Fort Lesley J. McNair: Review and Cultural Analysis</i> , by A. D. Smith, M. L. Story, A. R. Schmidt, A. R. Young, K. L. Whitney, and M. W. Tooker	AD1199115
ERDC/CERL TR-23-10 <sup>13</sup>	Apr 2023	<i>Range Hydrology Analysis and Erosion BMPs: Fort Leonard Wood</i> , by D. R. Gambill, H. R. Howard, and G. Feezor	AD1199373
ERDC/CERL TR-23-11 <sup>14</sup>	May 2023	<i>5G Applications for Army Installations: Summit Report for Developing a 5G Roadmap for Army Installations</i> , by A. L. Johnson	AD1201639
ERDC/CERL TR-23-12	May 2023	<i>Architectural Survey of Eight Ohio Army National Guard Armories, 1971–1977</i> , by S. E. Adams and M. L. Story <a href="http://dx.doi.org/10.21079/11681/47092">http://dx.doi.org/10.21079/11681/47092</a>	AD1202091
ERDC/CERL TR-23-13	Jun 2023	<i>A History and Analysis of the WPA Exhibit of Black Art at the Fort Huachuca Mountain View Officers' Club, 1943–1946</i> , by K. R. Schacht, D. C. Gonçalves, A. R. Schmidt, and A. D. Smith <a href="http://dx.doi.org/10.21079/11681/47184">http://dx.doi.org/10.21079/11681/47184</a>	AD1203977
ERDC/CERL TR-23-14 <sup>15</sup>	Jun 2023	<i>Fort McCoy Firebreak Stabilization: Analysis of Impact Area Firebreaks for Development of Best Management Practices and Rehabilitation and Maintenance of Eroded Slopes</i> , by M. M. Stoklosa, D. R. Gambill, H. R. Howard, and N. Rosenberg	AD1204089
ERDC/CERL TR-23-15 <sup>16</sup>	Jun 2023	<i>Fort McCoy Stream Attenuation, Bank Erosion, and Total Phosphorus Assessment: Analysis of Military Training Effects on Streambank Erosion and Total Phosphorus Load in the North Impact Area</i> , by D. R. Gambill, M. M. Stoklosa, H. R. Howard, and N. C. Rosenberg	AD1204240

---

12. Limited distribution; see Preface.

13. Limited distribution; see Preface.

14. Limited distribution; see Preface.

15. Limited distribution; see Preface.

16. Limited distribution; see Preface.

Report Number	Date	Title	AD Number
ERDC/CERL TR-23-16 <sup>17</sup>	Jun 2023	<i>Factors Impacting Water Reuse at US Army Wastewater Treatment Plants</i> , by D. A. Morrison, L. J. Mueller, K. A. Guy, N. M. Josefik, and A. C. Petri	AD1204631
ERDC/CERL TR-23-17	Jul 2023	<i>Bridge Resource Inventory Database for Gap Emplacement Selection (BRIDGES)</i> , by M. V. Pham, W. R. Fields, D. T. Brown, D. A. Pasley, J. L. Davila-Perez, W. D. Meyer, and M. D. Hiatt <a href="http://dx.doi.org/10.21079/11681/47359">http://dx.doi.org/10.21079/11681/47359</a>	AD1206576
ERDC/CERL TR-23-18 <sup>18</sup>	Aug 2023	<i>Operational Impact of Inconsistent Flow at US Army Wastewater Treatment Plants</i> , by K. G. Gunderson, A. Chaudry, D. A. Morrison, S. D. Coper, and L. Mueller	AD1207937
ERDC/CERL TR-23-19	Sep 2023	<i>Dining Facility Whole-Building Evaluation to Reduce Solid Waste: Opportunities and Best Practices for Optimization and Management of Food Waste</i> , by A. B. Urban, S. C. Davidson, and A. R. Young <a href="http://dx.doi.org/10.21079/11681/47560">http://dx.doi.org/10.21079/11681/47560</a>	AD1209939
ERDC/CERL TR-23-20	Sep 2023	<i>Evaluation of a Visible Light Responsive Photocatalytic Coating to Resist Microbial Contamination and Increase Indoor Air Quality</i> , by C. M. Arnett and R. C. Wilson <a href="http://dx.doi.org/10.21079/11681/47644">http://dx.doi.org/10.21079/11681/47644</a>	AD1213396
ERDC/CERL TR-23-21	Sep 2023	<i>Historic Context for Railroads at Fort McCoy, Wisconsin</i> , by A. R. Schmidt and C. L. Baxter <a href="http://dx.doi.org/10.21079/11681/47699">http://dx.doi.org/10.21079/11681/47699</a>	AD1213623

## 4.5 Contract Reports

Report Number	Date	Title	AD Number
ERDC/CERL CR-23-1; Report 1 <sup>19</sup>	April 2023	<i>Fort Carson Transportation Testbed: Report 1: Evaluating On-Base Deployments of Autonomous Vehicles</i> , by S. Sankaranarayanan, S. McGuire, M. Lahijanian, N. Ahmed, and C. Heckman	AD1186446
ERDC/CERL CR-23-1; Report 2 <sup>20</sup>	April 2023	<i>Fort Carson Transportation Testbed: Report 2: Autonomous Vehicle Research Testbed: On Base Shuttle Pilot</i> , by First Transit, Inc.	AD1200273

17. Limited distribution; see Preface.

18. Limited distribution; see Preface.

19. Limited distribution; see Preface.

20. Limited distribution; see Preface.

---

Report Number	Date	Title	AD Number
ERDC/CERL CR-23-1; Report 3 <sup>21</sup>	April 2023	<i>Fort Carson Transportation Testbed: Report 3: AV Shuttle Project Report</i> , by E. Werner	AD1200276
ERDC/CERL CR-23-1; Report 4 <sup>22</sup>	April 2023	<i>Fort Carson Transportation Testbed: Report 4: AV Service Vehicle Report: Automated Aerial Runway Inspection and Safety Scan (AARISS)</i> , by E. Werner	AD1200279

---

21. Limited distribution; see Preface.

22. Limited distribution; see Preface.

## 5 Environmental Laboratory (EL)

### 5.1 Special Reports

Report Number	Date	Title	AD Number
ERDC/EL SR-23-1	Mar 2023	<i>Safe and Rapid Development of Advanced Materials: A Research Case Study for Safe Development of Nanoenabled Environmental Sensors</i> , by M. Ballentine, A. Kennedy, L. May, W.-S. Shih, R. Patel, V. Kavastha, C. Price, M. Chappell, K. Gust, T. Rycroft, and J. Laird <a href="http://dx.doi.org/10.21079/11681/46584">http://dx.doi.org/10.21079/11681/46584</a>	AD1195614
ERDC/EL SR-23-2	Jul 2023	<i>A Review of Sensor-Based Approaches for Monitoring Rapid Response Treatments of cyanoHABs</i> , by R. A. Johansen, A. W. Katzenmeyer, K. L. Pokrzywinski, and M. K. Reif <a href="http://dx.doi.org/10.21079/11681/47261">http://dx.doi.org/10.21079/11681/47261</a>	AD1205118
ERDC/EL SR-23-3	Aug 2023	<i>Wildrice (Zizania palustris; Manoomin) Biology, Functions and Values, and Soil Physiochemical Properties Affecting Production: A Review of Available Literature</i> , by C. M. VanZomeren, K. D. Philley, N. R. Hurst, and J. F. Berkowitz <a href="http://dx.doi.org/10.21079/11681/47513">http://dx.doi.org/10.21079/11681/47513</a>	AD1209057
ERDC/EL SR-23-5 <sup>23</sup>	Sep 2023	<i>During Nearshore Event Vegetation Gradation (DUNEVEG): Geospatial Tools for Automating Remote Vegetation Extraction</i> , by S. S. Jackson, C. L. Saltus, M. K. Reif, and G. M. Suir <a href="http://dx.doi.org/10.21079/11681/47649">http://dx.doi.org/10.21079/11681/47649</a>	AD1213539
ERDC/EL SR-23-6	Sep 2023	<i>Proceedings from the Soft Substrate Island Design</i> , by A. J. Calomeni and C. Theiling <a href="http://dx.doi.org/10.21079/11681/47721">http://dx.doi.org/10.21079/11681/47721</a>	AD1214196

### 5.2 Technical Notes

Report Number	Date	Title	AD Number
ERDC/EL TN-23-1 Rev. 1	Feb 2023 Rev. Apr 2023	<i>Estimating Present Value Cost of Invasive Emerald Ash Borer (Agrilus planipennis) on USACE Project Lands</i> , by N. E. Pfisterer, N. R. Beane, and C. R. Weber <a href="http://dx.doi.org/10.21079/11681/46475">http://dx.doi.org/10.21079/11681/46475</a>	AD1193375

<sup>23</sup> ERDC/EL SR-23-4 was published in October 2023 and so is not considered an FY23 publication.

Report Number	Date	Title	AD Number
ERDC/EL TN-23-2	May 2023	<i>Extraction and Analysis of Per- and Polyfluoroalkyl Substances (PFAS) from Meals Ready-to-Eat (MRE) Films Using GC-MS and LC-MS/MS</i> , by A. N. Kimble, D. J. Muensterman, L. Cahuas, I. A. Titaley, J. Field, A. J. Bednar, and L. C. Moores <a href="http://dx.doi.org/10.21079/11681/47114">http://dx.doi.org/10.21079/11681/47114</a>	AD1202324
ERDC/EL TN-23-3	Sep 2023	<i>Linking the SEDLZJ Portable Standalone Library to the CMS Coastal Hydrodynamic Model</i> , by T. Gerald <a href="http://dx.doi.org/10.21079/11681/47646">http://dx.doi.org/10.21079/11681/47646</a>	AD1213404

### 5.3 Technical Reports

Report Number	Date	Title	AD Number
ERDC/EL TR-22-16	Dec 2022	<i>Invasive Species Costs to the USACE Navigation Business Line: A Demonstration Analysis in the Chicago District</i> , by D. Abou-El-Seoud, J. J. Potthoff, J. D. Cheek, J. L. Stamper, S. B. Yates, D. E. Druzbecki, C. E. Chambers, T. J. Whitsel, G. L. Boudreaux, C. M. Chagnovich, and C. J. Frank <a href="http://dx.doi.org/10.21079/11681/46223">http://dx.doi.org/10.21079/11681/46223</a>	AD1187306
ERDC/EL TR-23-1	Apr 2023	<i>Eelgrass Functions, Services, and Considerations for Compensatory Mitigation</i> , by S. Altman, M. T. Balazik, and C. C. Thomas <a href="http://dx.doi.org/10.21079/11681/46833">http://dx.doi.org/10.21079/11681/46833</a>	AD1198444
ERDC/EL TR-23-2	Apr 2023	<i>Stormwater Management Practices, Monitoring, and Maintenance Plan for US Army Garrison at West Point, NY</i> , by D. D. Hernandez-Abram, B. Pruitt, S. R. Wiest, and S. K. McKay <a href="http://dx.doi.org/10.21079/11681/46933">http://dx.doi.org/10.21079/11681/46933</a>	AD1200026
ERDC/EL TR-23-3	May 2023	<i>Small Plot Applications of Florpyrauxifen -Benzyl (Procellacor SC™) for Control of Monoecious Hydrilla in Roanoke Rapids Lake, NC</i> , by B. T. Sartain, E. Haug, K. Getskinger, B. P. Sperry, M. Heilman, and M. Greer <a href="http://dx.doi.org/10.21079/11681/47115">http://dx.doi.org/10.21079/11681/47115</a>	AD1202403
ERDC/EL TR-23-4	Aug 2023	<i>Improving Spatial and Temporal Monitoring of Dredging Operations Incorporating Unmanned Technologies</i> , by J. L. Wilkens, A. D. McQueen, and B. C. Suedel <a href="http://dx.doi.org/10.21079/11681/47520">http://dx.doi.org/10.21079/11681/47520</a>	AD1209121
ERDC/EL TR-23-5	Aug 2023	<i>Effects of Sedimentation on Three Hawaiian Coral Species under Laboratory Conditions</i> , by J. Wilkens, A. Barkman, A. Meltel, B. Suedel, and R. H. Richmond <a href="http://dx.doi.org/10.21079/11681/47541">http://dx.doi.org/10.21079/11681/47541</a>	AD1209620

Report Number	Date	Title	AD Number
ERDC/EL TR-23-6	Sep 2023	<i>Aquatic Ecosystem Restoration in the Texas Western Gulf Coast Plain / Lower Rio Grande Alluvial Floodplain Ecoregion: Resaca Boulevard Resaca Section 206—Vegetation Community Adaptive Management</i> , by A. N. Schad, D. Allen, L. L. Dodd, R. Luna, J. Kelly, K. Hellinghausen, N. E. Harms, G. O. Dick, and Y. Charo <a href="http://dx.doi.org/10.21079/11681/47559">http://dx.doi.org/10.21079/11681/47559</a>	AD1209935
ERDC/EL TR-23-7	Sep 2023	<i>Field Demonstration of a Peroxide-Based Algaecide for Harmful Algal Bloom Control in Lake Okeechobee</i> , by B. P. Sperry, B. T. Sartain, K. D. Getsinger, B. Fernando, K. L. Pokrzywinski, W. M. Bishop, and M. Heilman <a href="http://dx.doi.org/10.21079/11681/47624">http://dx.doi.org/10.21079/11681/47624</a>	AD1211160
ERDC/EL TR-23-8	Sep 2023	<i>A Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing Wetland Functions of Forested Riverine Wetlands in Alluvial Valleys of the Piedmont Region of the United States</i> , by B. A. Pruitt and R. D. Rheinhardt <a href="http://dx.doi.org/10.21079/11681/47685">http://dx.doi.org/10.21079/11681/47685</a>	AD1213612
ERDC/EL TR-23-9	Sep 2023	<i>Spatial Screening for Environmental Pool Management Opportunities</i> , by E. S. Neipert, T. E. Steissberg, and C. Theiling <a href="http://dx.doi.org/10.21079/11681/47719">http://dx.doi.org/10.21079/11681/47719</a>	AD1214183
ERDC/EL TR-23-10	Sep 2023	<i>A Review of Algal Phytoremediation Potential to Sequester Nutrients from Eutrophic Surface Water</i> , by C. Theiling <a href="http://dx.doi.org/10.21079/11681/47720">http://dx.doi.org/10.21079/11681/47720</a>	AD1214186

## 6 Geospatial Research Laboratory (GRL)

### 6.1 Technical Reports

Report Number	Date	Title	AD Number
ERDC/GRL TR-22-3	Oct 2022	<i>Snow-Covered Region Improvements to a Support Vector Machine-Based Semi-Automated Land Cover Mapping Decision Support Tool</i> , by F. O'Neill, K. Lasko, and E. Sava <a href="http://dx.doi.org/10.21079/11681/45842">http://dx.doi.org/10.21079/11681/45842</a>	AD1183780
ERDC/GRL TR-22-4 <sup>24</sup>	Nov 2022	<i>Comparing Qualitative and Quantitative Performance of Image-Based 3D Reconstruction Methods</i> , by S. M. Tra, C. L. Ellison, and N. M. Wayant	AD1185700
ERDC/GRL TR-22-5	Nov 2022	<i>Cross Country Mobility (CCM) Modeling Using Triangulated Irregular Networks (TIN)</i> , by S. Rehrer, A. Griffin, and M. Renner <a href="http://dx.doi.org/10.21079/11681/46082">http://dx.doi.org/10.21079/11681/46082</a>	AD1186119
ERDC/GRL TR-22-6	Nov 2022	<i>Tutorial: The DEM Breakline and Differencing Analysis Tool—Step-by-Step Workflows and Procedures for Effective Gridded DEM Analysis</i> , by S. B. Blundell <a href="http://dx.doi.org/10.21079/11681/46085">http://dx.doi.org/10.21079/11681/46085</a>	AD1186130
ERDC/GRL TR-22-7 <sup>25</sup>	Dec 2022	<i>Quantitative Analysis of the GRL Variable Focal Length GmAPD Lidar System: System Overview and Various Quantitative Metrics</i> , by R. W. Kirkpatrick, C. C. Marchant, D. B. Ober, C. A. Sturm, J. M. Parker, R. Chapurin, J. Kuczynski, L. Skelly, and A. Vasile	AD1189169
ERDC/GRL TR-23-1	Jan 2023	<i>Three-Dimensional Geospatial Product Generation from Tactical Sources, Co-Registration Assessment, and Considerations</i> , by J. G. Ruby, R. D. Massaro, J. E. Anderson, and R. L. Fischer <a href="http://dx.doi.org/10.21079/11681/46442">http://dx.doi.org/10.21079/11681/46442</a>	AD1192639
ERDC/GRL TR-23-2	Jun 2023	<i>3D Mapping and Navigation Using MOVEit</i> , by B. Mekonnen, B. Christie, M. Paquette, and G. Glaspell <a href="http://dx.doi.org/10.21079/11681/47179">http://dx.doi.org/10.21079/11681/47179</a>	AD1203873
ERDC/GRL TR-23-3	Sep 2023	<i>UGV SLAM Payload for Low-Visibility Environments</i> , by O. Ennasr, M. Paquette, and G. Glaspell <a href="http://dx.doi.org/10.21079/11681/47589">http://dx.doi.org/10.21079/11681/47589</a>	AD1210344

24. Limited distribution; see Preface.

25. Limited distribution; see Preface.

## 7 Geotechnical and Structures Laboratory (GSL)

### 7.1 Special Reports

Report Number	Date	Title	AD Number
ERDC/GSL SR-23-1	Mar 2023	<i>Suggested Updates for the Inclusion of Guidance on Ultra-High Performance Concrete to USACE Engineering Manual 1110-2-2000, Standard Practice for Concrete for Civil Works Structures</i> , by D. A. Scott, S. G. Wood, B. H. Green, and B. P. Songer <a href="http://dx.doi.org/10.21079/11681/46597">http://dx.doi.org/10.21079/11681/46597</a>	AD1195971
ERDC/GSL SR-23-2	Mar 2023	<i>Old River Control Complex (ORCC) Low Sill: A Literature Synthesis</i> , by B. R. Breland, L. A. Walshire, M. K. Corcoran, J. R. Kelley, J. E. Simms, D. W. Harrelson, and M. Zakikhani <a href="http://dx.doi.org/10.21079/11681/46630">http://dx.doi.org/10.21079/11681/46630</a>	AD1196286

### 7.2 Technical Notes

Report Number	Date	Title	AD Number
ERDC/GSL TN-23-1	Apr 2023	<i>Low-Logistic Erosion Control Methodologies</i> , by J. D. Shannon <a href="http://dx.doi.org/10.21079/11681/46914">http://dx.doi.org/10.21079/11681/46914</a>	AD1199192
ERDC/GSL TN-23-2	Sep 2023	<i>Evaluation of Venturi Pump Blower Attachment Prototype</i> , by W. D. Carruth <a href="http://dx.doi.org/10.21079/11681/47580">http://dx.doi.org/10.21079/11681/47580</a>	AD1214220

### 7.3 Technical Reports

Report Number	Date	Title	AD Number
ERDC/GSL TR-22-28 <sup>26</sup>	Oct 2022	<i>Soft-Soil Vehicle Cone Index Testing with the Medium Tactical Vehicle Replacement (MTVR)</i> , by B. W. Towne, J. A. Everett, and B. S. Newell	AD1182897
ERDC/GSL TR-23-1 <sup>27</sup>	Jan 2023	<i>Validation of Numerical Modeling and Analysis of Steel Bridge Towers Subjected to Blast Loadings: Executive Summary: Transportation Pooled Fund Study TPF 5(110)</i> , by J. C. Ray and R. E. Walker	AD1190514

26. Limited distribution; see Preface.

27. Limited distribution; see Preface.

Report Number	Date	Title	AD Number
ERDC/GSL TR-23-2	Jan 2023	<i>State-of-Practice on the Mechanical Properties of Metals for Armor-Plating</i> , by W. R. Long, Z. B. McClelland, D. A. Scott, and C. K. Crane <a href="http://dx.doi.org/10.21079/11681/46382">http://dx.doi.org/10.21079/11681/46382</a>	AD1190527
ERDC/GSL TR-23-3 <sup>28</sup>	Jan 2023	<i>Modeling Gas Flow in BlastX</i> , by G. C. Bessette	AD1190550
ERDC/GSL TR-23-4	Mar 2023	<i>Naval Expeditionary Runway Construction Criteria: P-8 Poseidon Pavement Requirements</i> , by W. J. Robinson, J. M. Stache, J. S. Tingle, C. R. Gonzalez, A. M. Ioannides, and J. T. Rushing <a href="http://dx.doi.org/10.21079/11681/46857">http://dx.doi.org/10.21079/11681/46857</a>	AD1198480
ERDC/GSL TR-23-5 <sup>29</sup>	Mar 2023	<i>Saltwater Concrete for Airfield Pavements</i> , by B. P. Songer, D. A. Scott, T. Looney, D. Wedgeworth, A. Tillotson, D. Hall, R. Bufkin, B. H. Green, and R. Turner	AD1197658
ERDC/GSL TR-23-6	Apr 2023	<i>Advanced Cementitious Materials for Blast Protection</i> , by A. B. Groeneveld and C. K. Crane <a href="http://dx.doi.org/10.21079/11681/46893">http://dx.doi.org/10.21079/11681/46893</a>	AD1199012
ERDC/GSL TR-23-7 <sup>30</sup>	Apr 2023	<i>Laboratory Characterization of Paste-only Cementitious Materials: Paste-only Constituent of OHPC, Cor Tuf, HSPLC, SAM21, and PAC5 Concretes</i> , by M. J. Grotke, S. S. Graham, K. J. Ratliff, A. J. Tillotson, and J. A. Morson	AD1199029
ERDC/GSL TR-23-8 <sup>31</sup>	Apr 2023	<i>Resistance of Commercial Ballistic-Resistant Glazing against Fragmentation Threats—Arena Tests</i> , by J. B. Jordan, D. V. Senior, and C. R. Ackerman	AD1199382
ERDC/GSL TR-23-9 <sup>32</sup>	Aug 2023	<i>Bridge Retrofit for Blast Mitigation Using Fiber Reinforced Polymer (FRP) Materials</i> , by D. A. Scott, C. K. Crane, A. B. Groeneveld, H. A. Hanna, and T. L. Thornell	AD1207708
ERDC/GSL TR-23-10 <sup>33</sup>	Aug 2023	<i>Analysis of Combination Mitigation Methods Effective against Kinetic Energy Penetrator and Diamond Charge Attack</i> , by C. K. Crane, A. B. Groeneveld, M. Barsotti, C. A. Jones, and D. J. Stevens	AD1209405

---

28. Limited distribution; see Preface.

29. Limited distribution; see Preface.

30. Limited distribution; see Preface.

31. Limited distribution; see Preface.

32. Limited distribution; see Preface.

33. Limited distribution; see Preface.

Report Number	Date	Title	AD Number
ERDC/GSL TR-23-11 <sup>34</sup>	Aug 2023	<i>Optimization of 3MR Ultra-High-Performance Concrete for Precast Production</i> , by B. P. Songer, B. A. Williams, G. H. Vankirk, and W. F. Heard	AD1209932
ERDC/GSL TR-23-12 <sup>35</sup>	Aug 2023	<i>Rock Fracture, Cratering, and Breaching from Small Explosive Charges: High Rate Geomaterial–Rock (HRG-R) Model Development and Evaluation with Field Experiments</i> , by A. O. Frank, J. L. Brown, L. A. Walker, and M. J. Roth	AD1209684
ERDC/GSL TR-23-13 <sup>36</sup>	Aug 2023	<i>A High Rate Geomaterial–Concrete (HRG-C) Model Fit to Type III Multiscale Reinforced (3MR) Concrete for Penetration boundary Value Problems: 3MR Material Characterization, HRG-C Model Fitting, Penetration Experiments, and EPIC Hydrocode Simulations</i> , by A. O. Frank, K. Crosby, S. S. Graham, and M. J. Roth	AD1209928
ERDC/GSL TR-23-14 <sup>37</sup>	Aug 2023	<i>Evaluating Residual Structural Capacity: Effects of Micro- Versus Macrocracking: Part 1: Fundamental Mechanics, Laboratory Data, and Hydrocode Models</i> , by A. O. Frank and M. J. Roth	AD1209930
ERDC/GSL TR-23-15 <sup>38</sup>	Aug 2023	<i>Multihit Perforation Experiments against Ultra-High Performance Concrete and Prediction Calculations</i> , by J. A. Sherburn, Z. K. Crosby, R. S. Browning IV, A. O. Frank, A. B. Groeneveld, W. B. Lawrimore, D. N. Lichlyter, P. T. Mead, S. R. Wade, and T. N. Williams	AD1209937
ERDC/GSL TR-23-16	Sep 2023	<i>Development and Characterization of Ultra-High-Performance Concrete for the Rehabilitation of Navigation Lock Structures</i> , by D. A. Scott, S. G. Wood, B. P. Songer, T. Mack, B. H. Green, E. Hackbarth, K. E. Walker, and A. J. Tillotson <a href="http://dx.doi.org/10.21079/11681/47684">http://dx.doi.org/10.21079/11681/47684</a>	AD1213605

---

34. Limited distribution; see Preface.

35. Limited distribution; see Preface.

36. Limited distribution; see Preface.

37. Limited distribution; see Preface.

38. Limited distribution; see Preface.

## 8 Information Technology Laboratory (ITL)

### 8.1 Miscellaneous Papers

Report Number	Date	Title	AD Number
ERDC/ITL MP-22-6	Nov 2022	<i>In Situ and Time</i> , by A. C. Bauer <a href="http://dx.doi.org/10.21079/11681/46162">http://dx.doi.org/10.21079/11681/46162</a>	AD1186600

### 8.2 Special Reports

Report Number	Date	Title	AD Number
ERDC/ITL SR-22-5	Nov 2022	<i>Risk-Based Prioritization of Operational Condition Assessments: Methodology and Case Study Results</i> , by J. K. Alt, W. H. Brown, J. P. Richards, G. E. Gallarno, J. M. Olszewski, and T. L. Rice <a href="http://dx.doi.org/10.21079/11681/46123">http://dx.doi.org/10.21079/11681/46123</a>	AD1186404
ERDC/ITL SR-17-1; Appendix G	Dec 2022	<i>Publications of the U.S. Army Engineer Research and Development Center: Appendix G: FY22 (October 2021-September 2022)</i> , compiled by J. A. Dolan <a href="http://dx.doi.org/10.21079/11681/46182">http://dx.doi.org/10.21079/11681/46182</a>	AD1186915
ERDC/ITL SR-22-6	Dec 2022	<i>2021 Guided Wave Inspection of California Department of Water Resources Tainter Gate Post-Tensioned Trunnion Anchor Rods: Oroville Dam</i> , by J. D. Ray and C. R. Thurmer <a href="http://dx.doi.org/10.21079/11681/46282">http://dx.doi.org/10.21079/11681/46282</a>	AD1188856
ERDC/ITL SR-23-1	Aug 2023	<i>A/E/C Graphics Standard: Release 2.2</i> , by S. C. Spangler, R. Fujan, G. Piotrowski, and B. Baker <a href="http://dx.doi.org/10.21079/11681/47452">http://dx.doi.org/10.21079/11681/47452</a>	AD1208384

### 8.3 Technical Reports

Report Number	Date	Title	AD Number
ERDC/ITL TR-22-1	Dec 2022	<i>Early Life-Cycle Prediction of Reliability</i> , by R. K. Buchanan, C. H. Rinaudo, G. E. Gallarno, and M. L. Lagarde <a href="http://dx.doi.org/10.21079/11681/46919">http://dx.doi.org/10.21079/11681/46919</a>	AD1199584
ERDC/ITL TR-23-1	Mar 2023	<i>Experimental Fatigue Evaluation of Underwater Steel Panels Retrofitted with Fiber Polymers</i> , by H. N. Mahmoud, G. Riveros, L. Hudak, and E. M. Hassan <a href="http://dx.doi.org/10.21079/11681/46647">http://dx.doi.org/10.21079/11681/46647</a>	AD1196536

---

Report Number	Date	Title	AD Number
ERDC/ITL TR-23-2	Jul 2023	<i>A General-Purpose Multiplatform GPU-Accelerated Ray Tracing API</i> , by R. H. Hunter, S. R. Glandon, and J.-R. C. Cheng <a href="http://dx.doi.org/10.21079/11681/47260">http://dx.doi.org/10.21079/11681/47260</a>	AD1205111
ERDC/ITL TR-23-3	Aug 2023	<i>Repair of Corroded Steel Girders of Hydraulic Steel Structures (HSS) Using Fiber-Reinforced Polymers (FRP)</i> , by F. J. Acosta and G. A. Riveros <a href="http://dx.doi.org/10.21079/11681/47404">http://dx.doi.org/10.21079/11681/47404</a>	AD1207712
ERDC/ITL TR-23-4	Aug 2023	<i>Scaling and Sensitivity Analysis of Machine Learning Regression on Periodic Functions</i> , by C. J. Trahan and P. G. Rivera <a href="http://dx.doi.org/10.21079/11681/47523">http://dx.doi.org/10.21079/11681/47523</a>	AD1209163

## 9 Aquatic Plant Control Research Program (APCRP)

### 9.1 Technical Notes

#### 9.1.1 Chemical Control

Report Number	Date	Title	AD Number
ERDC/TN APCRP-CC-25	Jun 2023	<i>Investigating Minimum Exposure Time Requirements of Diquat for Flowering Rush (Butomus umbellatus) Control</i> , by B. T. Sartain and K. D. Getsinger <a href="http://dx.doi.org/10.21079/11681/47141">http://dx.doi.org/10.21079/11681/47141</a>	AD1203058
ERDC/TN APCRP-CC-26	Sep 2023	<i>Unmanned Aircraft Systems and Tracer Dyes Potential for Monitoring Herbicide Spray Distribution</i> , by C. R. Mudge, G. M. Suir, and B. P. Sperry <a href="http://dx.doi.org/10.21079/11681/47705">http://dx.doi.org/10.21079/11681/47705</a>	AD1214142

## 10 Dredging Operations Technical Support Program (DOTS)

### 10.1 Technical Notes

Report Number	Date	Title	AD Number
ERDC/TN DOTS-22-1	Dec 2022	<i>Demonstration of an Autonomous Sailing Vessel for Monitoring Nearshore and Offshore Marine Environments</i> , by J. Wilkens, A. McQueen, G. Lotufo, B. Suedel, J. Miksis-Olds, C. Verlinden, M. Jones, and G. Rosen <a href="http://dx.doi.org/10.21079/11681/46201">http://dx.doi.org/10.21079/11681/46201</a>	AD1187310
ERDC/TN DOTS-23-1	Mar 2023	<i>Automatic Identification System (AIS) Data Case Study: Vessel Traffic through the Yaquina Bay Breakwater at Newport, Oregon</i> , by M. M. Kress <a href="http://dx.doi.org/10.21079/11681/46549">http://dx.doi.org/10.21079/11681/46549</a>	AD1195203
ERDC/TN DOTS-23-2	May 2023	<i>Automatic Identification System (AIS) Data Case Study: Identifying Unofficial Mooring Areas along the Upper Mississippi River</i> , by M. M. Kress <a href="http://dx.doi.org/10.21079/11681/47081">http://dx.doi.org/10.21079/11681/47081</a>	AD1201947
ERDC/TN DOTS-23-3	Sep 2023	<i>Beneficial Use of Dredged Material: A Workshop to Explore Engineered Drainage Soils for Stormwater Management</i> , by C. Theiling and R. Lees <a href="http://dx.doi.org/10.21079/11681/47708">http://dx.doi.org/10.21079/11681/47708</a>	AD1214159

# 11 Ecosystem Management and Restoration Research Program (EMRRP)

## 11.1 Technical Notes

### 11.1.1 Ecosystem Management and Support Systems (EM)

Report Number	Date	Title	AD Number
ERDC/TN EMRRP-EM-11	Sep 2023	<i>Defining Levels of Effort for Ecological Models</i> , by A. Harris, N. Richards, and S. K. McKay <a href="http://dx.doi.org/10.21079/11681/47642">http://dx.doi.org/10.21079/11681/47642</a>	AD1213394

### 11.1.2 Ecosystem Restoration (ER)

Report Number	Date	Title	AD Number
ERDC/TN EMRRP-ER-25	Sep 2023	<i>Selection of a Time Series of Beneficial Use Wetland Creation Sites in the Sabine National Wildlife Refuge for Use in Restoration Trajectory Development</i> , by B. D. Harris, K. E. Harris, N. H. Jafari, J. Bekkaye, E. O. Murray, and S. Altman <a href="http://dx.doi.org/10.21079/11681/47579">http://dx.doi.org/10.21079/11681/47579</a>	AD1210112
ERDC/TN EMRRP-ER-26	Sep 2023	<i>Review of Riparian Models for Assessing Ecological Impacts and Benefits</i> , by S. Wiest, D. Hernandez-Abrams, and S. K. McKay <a href="http://dx.doi.org/10.21079/11681/47706">http://dx.doi.org/10.21079/11681/47706</a>	AD1214143

## 12 Engineering with Nature (EWN)

### 12.1 Technical Notes

Report Number	Date	Title	AD Number
ERDC/TN EWN-23-1	Aug 2023	<i>Dredged Material Can Benefit Submerged Aquatic Vegetation (SAV) Habitats</i> , by E. R. Russ, A. H. Yarnall, and S. Altman <a href="http://dx.doi.org/10.21079/11681/47423">http://dx.doi.org/10.21079/11681/47423</a>	AD1207835
ERDC/TN EWN-23-2	Sep 2023	<i>The Use of Native Vegetation and Natural Materials in Shoreline Stabilization: A Case Study of Bubble Gum Beach, Rehoboth Beach, Delaware</i> , by T. Sekoni, M. Eberle, M. Balazik, M. Chasten, B. Collins, B. Durham, D. Evans, and K. Philley <a href="http://dx.doi.org/10.21079/11681/47581">http://dx.doi.org/10.21079/11681/47581</a>	AD1210163

## **13 Regional Sediment Management Demonstration Program (RSM)**

### **13.1 Technical Note**

Report Number	Date	Title	AD Number
ERDC/TN RSM-23-1	Jun 2023	<i>Testing the Compatibility of the Sediment Budget Analysis System 2020 with Various Data Sources</i> , by S. P. McGill and A. J. Elkins <a href="http://dx.doi.org/10.21079/11681/47130">http://dx.doi.org/10.21079/11681/47130</a>	AD1202915

## 14 Water Quality Research Program (WQRP)

### 14.1 Technical Note

Report Number	Date	Title	AD Number
ERDC WQTN-23-1	Sep 2023	Microseira wollei (M. wollei) Blooms in Freshwater Ecosystems in Lake St. Clair (Michigan, USA)–Impacts and Possible Management Approaches, by A. Butler, C. Thomas, A. Calomeni, A. McQueen, and W. Slack <a href="http://dx.doi.org/10.21079/11681/47648">http://dx.doi.org/10.21079/11681/47648</a>	AD1213532

# 15 Wetlands Regulatory Assistance Program (WRAP)

## 15.1 Technical Notes

Report Number	Date	Title	AD Number
ERDC/TN WRAP-23-1	Feb 2023	<i>Remote Sensing Tools to Support Ordinary High Water Mark Delineation</i> , by C. Haring, K. Gordon, and T. Darby <a href="http://dx.doi.org/10.21079/11681/46448">http://dx.doi.org/10.21079/11681/46448</a>	AD1192781
ERDC/TN WRAP-23-2	Jun 2023	<i>Antecedent Precipitation Tool (APT) Version 2.0: Technical and User Guide</i> , by J. L. Gutenson, C. O. Hamilton, and J. C. Deters <a href="http://dx.doi.org/10.21079/11681/47189">http://dx.doi.org/10.21079/11681/47189</a>	AD1204341
ERDC/TN WRAP-23-3	Aug 2023	<i>Sustainable Bank and Channel Stabilization Techniques in Arid Southwest Streams</i> , by C. Haring, A. Murray, and F. Luna <a href="http://dx.doi.org/10.21079/11681/47380">http://dx.doi.org/10.21079/11681/47380</a>	AD1207165

## 16 Miscellaneous Publications

### 16.1 Technical Note

Report Number	Date	Title	AD Number
MRG&P Tech Note No. 10	April 2023	<i>Comparing Methods for Estimating Water Surface Elevation between Gages in the Lower Mississippi River</i> , by A. J. M. Oliver, C. E. Murphy, E. Howe, and J. Vest II <a href="http://dx.doi.org/10.21079/11681/46915">http://dx.doi.org/10.21079/11681/46915</a>	AD1199385

### 16.2 Technical Reports

Report Number	Date	Title	AD Number
MRG&P Report No. 44	Nov 2022	<i>Numerical Analysis of Dike Effects on the Mississippi River Using a Two-Dimensional Adaptive Hydraulics Model (AdH)</i> , by C. J. McKnight, D. P. May, and K. Jones <a href="http://dx.doi.org/10.21079/11681/46120">http://dx.doi.org/10.21079/11681/46120</a>	AD1186371
MRG&P Report No. 45	Aug 2023	<i>Acoustic Doppler Current Profiler Study of Water and Sediment Movement through a Deep Scour Hole in the Lower Mississippi River</i> , by M. T. Ramirez, T. A. Dahl, and G. L. Brown <a href="http://dx.doi.org/10.21079/11681/47400">http://dx.doi.org/10.21079/11681/47400</a>	AD1207490

## REPORT DOCUMENTATION PAGE

<b>1. REPORT DATE</b> May 2024		<b>2. REPORT TYPE</b> Final Special Report (SR)		<b>3. DATES COVERED</b>	
				<b>START DATE</b> FY23	<b>END DATE</b> FY23
<b>4. TITLE AND SUBTITLE</b> Publications of the US Army Engineer Research and Development Center: Appendix H: FY23 (October 2022–September 2023)					
<b>5a. CONTRACT NUMBER</b>		<b>5b. GRANT NUMBER</b>		<b>5c. PROGRAM ELEMENT</b>	
<b>5d. PROJECT NUMBER</b>		<b>5e. TASK NUMBER</b>		<b>5f. WORK UNIT NUMBER</b>	
<b>6. AUTHOR(S)</b> Compiled by Emily B. Moynihan					
<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b> US Army Engineer Research and Development Center (ERDC) Information Technology Laboratory (ITL) 3909 Halls Ferry Road Vicksburg, MS 39180-6199				<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b> ERDC/ITL SR-17-1	
<b>9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b> US Army Engineer Research and Development Center 3909 Halls Ferry Road Vicksburg, MS 39180-6199			<b>10. SPONSOR/MONITOR'S ACRONYM(S)</b> ERDC		<b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b>
<b>12. DISTRIBUTION/AVAILABILITY STATEMENT</b> Distribution Statement A. Approved for public release: distribution is unlimited.					
<b>13. SUPPLEMENTARY NOTES</b> Funded by Information Technology Laboratory labor charge code					
<b>14. ABSTRACT</b> Each year, the US Army Engineer Research and Development Center (ERDC) publishes more than 200 reports through the Information Technology Laboratory's Information Science and Knowledge Management (ISKM) Branch, the publishing authority for ERDC. Annually since 2017, ISKM has compiled a list of the last fiscal year's publications. This Appendix H to the original collection includes ERDC publications issued October 2022 through September 2023. The publications are grouped according to the technical laboratories or technical program for which they were prepared, and the preface includes procedures for obtaining ERDC reports. Through this compilation, online distribution, and physical collections, ISKM continues to support ERDC, the Army, and the nation.					
<b>15. SUBJECT TERMS</b> Civil engineering--Bibliography; Civil engineering--Cold weather conditions--Bibliography; Civil engineering--Design and construction--Bibliography; Coastal engineering--Bibliography; Engineer Research and Development Center (U.S.)--Bibliography; Environmental engineering--Bibliography; Geotechnical engineering--Bibliography; Government publications--United States; Hydraulic engineering--Bibliography; Information technology--Bibliography; Military engineering--Bibliography					
<b>16. SECURITY CLASSIFICATION OF:</b>			<b>17. LIMITATION OF ABSTRACT</b>		<b>18. NUMBER OF PAGES</b> 46
<b>a. REPORT</b> Unclassified	<b>b. ABSTRACT</b> Unclassified	<b>c. THIS PAGE</b> Unclassified	SAR		
<b>19a. NAME OF RESPONSIBLE PERSON</b> Emily B. Moynihan			<b>19b. TELEPHONE NUMBER (include area code)</b> (603) 646-4404		