SERDP & ESTCP Efforts on Installation Infrastructure and Energy Resilience

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DoD's Environmental Technology Programs



Strategic Environmental Research and Development Program

Science and Technology

- Fundamental research to impact DoD environmental management
- Advanced technology development to address near-term needs



Demonstration/Validation

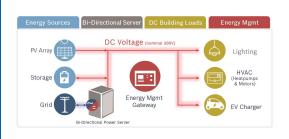
- Innovative cost-effective environmental and energy technology demonstrations
- Promote technology implementation by direct insertion and partnering with end users and regulators



Program Area Management Structure

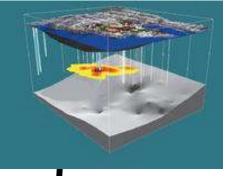
Weapons Systems & Platforms





Installation Energy & Water (ESTCP only)

Environmental Restoration





Resource Conservation & Resiliency



Munitions Response

FRTR Fall 2021



Program Managers

Installation Energy and Water – Mr. Tim Tetreault timothy.j.tetreault.civ@mail.mil 571-372-6397

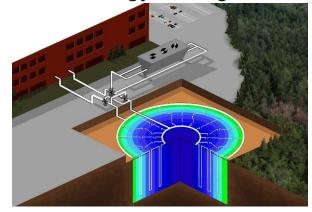
Resource Conservation & Resiliency – Dr. Kurt Preston kurt.t.preston@usace.army.mil 571-372-6401



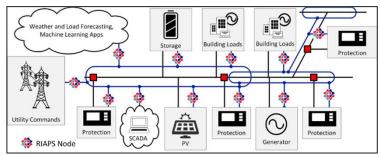
Installation Energy and Water Program Area

- Energy Efficiency
 - HVAC
 - Building envelope
 - Lighting
 - Energy management, controls and planning
- Energy Resilience
 - Microgrids
 - Energy storage
 - On-site energy generation
- Water Conservation and Resilience
 - Water efficiency and waste reduction
 - Water resource management

Geothermal Heat Pump with Energy Storage



Integrated Microgrid Control Platform

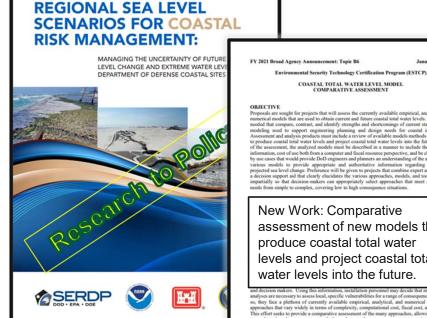




Resource Conservation and Resiliency Program Area

- Key Focus: Installation **Resilience to Climate** Change
- Vulnerability is the sum of three elements **exposure**, sensitivity, and adaptive capacity.
- RC develops systems to better understand each element and thereby reduces DoD vulnerability to climate change.

Recent Work: Defense **Regional Sea Level Rise** Database (DRSL)



COASTAL TOTAL WATER LEVEL MODEL

January 7, 2020

Proposals are sought for projects that will assess the currently available empirical, serical models that are used to obtain current and future coastal total water levels. Projects are ded that compare, contrast, and identify strengths and shortcomings of current state of the art odeling used to support engineering planning and design needs for coastal installat seesment and analysis products must include a review of available models methods that pu roduce coastal total water levels and project coastal total water levels into the futur o produce coastal ioial wate levels and project coastal total water levels into the finture. As par fit he assessment, the analyzed models must be described in a manner to include the sources or shormation, cost of sue both from a computer and fitcal resource perspective, and be characterize avisous models to provide appropriate and anthrotative information regarding forexceedure decisions support a provide appropriate and anthrotative information regarding forexceedure decisions under to provide appropriate and anthrotative information regarding forexceedure decisions under a bit of early cluckers the various approaches, models, and load availab mpartially so that decision-makers can appropriately select approaches that meet a variety or eafly formation in the structure of the source of the sou

New Work: Comparative assessment of new models that produce coastal total water levels and project coastal total water levels into the future.

alyses are necessary to assess local, specific vulnerabilities for a range of conso, they face a plethora of currently available empirical, analytical, and numer approaches that vary widely in terms of complexity, computational cost, fiscal co This effort seeks to provide a comparative assessment of the many approaches, a tional cost, fiscal cost, and efficac



Relevant FY22 SERDP & ESTCP Topics

Resource Conservation and Resiliency

- (S) Saltwater Intrusion Impacts on DoD Installation Infrastructure
- (E) Climate Model Comparative Assessment for DoD Infrastructure Applications

Installation Energy and Water

- (E) Effective Planning for Electric Vehicle Infrastructure and Management
- (E) Technology Demonstrations to Accelerate Deployment of Energy Efficiency and Energy Resilience Solutions
- (E) Improved Energy Resilience
- (E) Affordable Energy Assurance at National Guard Installations



Upcoming Topics

SERDP released October 28th

Innovative Approaches to Resolving Sea-Level Related Data and Datum Gaps Worldwide

ESTCP will be released early January 2022





- Dec 1 Dec 3, 2021, via Cvent and Zoom
- Plenary session the first afternoon then three days of technical sessions and one day of short courses
- Expected Attendance: 1000
- Annual event



https://www.serdp-estcp.org/

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and sustainable solutions to meet DoD's environmental challenges.			an an		Impacts of Species Loss on Ecosystem Resilience	
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