



HEADLINES

SPRING 2018

DoD's Environmental Research Programs

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ANNOUNCEMENTS

SERDP and ESTCP Continue Webinar Series - [View Schedule](#)

CALENDAR

[November 27-29](#)

SERDP-ESTCP Symposium 2018

RELATED EVENTS

[August 5-10](#)

ESA Conference 2018
New Orleans, LA

[August 21-23](#)

ASETSDefense Workshop
Denver, CO

[August 21-23](#)

Energy Exchange 2018
Cleveland, OH

[December 10-14](#)

AGU Fall Meeting 2018
Washington, DC

2018 SERDP AND ESTCP SYMPOSIUM

The 2018 SERDP and ESTCP Symposium will be held from November 27 - 29, 2018, at the Washington Hilton Hotel in Washington, D.C. Planning for the 2018 Symposium has begun and this year's meeting is shaping up to be an excellent event. As in years' past, the 2018 Symposium will be centered on technical sessions that span the wide spectrum of SERDP and ESTCP investments. The technical sessions will be complemented by two poster sessions that highlight SERDP- and ESTCP-funded efforts along with the relevant work of others in the community. As in previous years, a number of short courses will be offered that provide attendees the opportunity to dive deeper into different topics and earn continuing education credits.

The Symposium attracts members of the end-user and research communities along with Department of Defense (DoD) leadership and regulators. As such, there will be many opportunities for networking and collaboration. As in previous years, a reduced rate will be offered for students. Additional details are being added to the [Symposium website](#) as the technical program is developed. [MORE](#)



CONTINUING EFFORTS ON PFASs UNDER THE ENVIRONMENTAL RESTORATION PROGRAM AREA

SERDP and ESTCP are continuing research and demonstrations to address issues associated with per- and polyfluoroalkyl substances (PFASs). A recent substantial effort was the SERDP and ESTCP workshop "Research and Demonstration Needs for Management of AFFF-Impacted Sites" held in May 2017. The objectives of the workshop were to (1) review the current state of the science regarding sources of PFAS contamination, particularly aqueous film forming foam (AFFF), (2) evaluate currently available and developing technologies for characterization and remediation of AFFF sites, and (3) identify research and demonstration needs to improve remediation performance, efficiency, and ultimately reduce the cost of managing AFFF sites. Approximately 65 invited personnel representing DoD Remedial Project Managers, federal and state regulators, engineers, researchers, industry representatives, and consultants participated and helped to identify critical research and demonstration

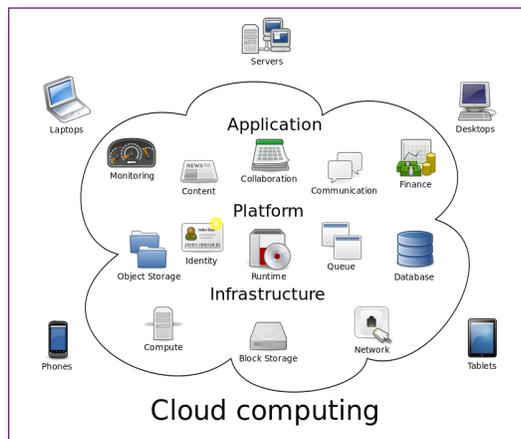


needs in this area. Results have been published in the [Workshop Report](#) and will be used to structure SERDP and ESTCP investments in PFAS contamination over the next few years. [MORE](#)

DOD'S ACCELERATED ADOPTION OF CLOUD SERVICES

A cloud service offers flexible, fast, right-sized, and cost-effective on-demand service with broad network access without the large upfront investment and ongoing maintenance cost of hardware ownership. While the private sector has been quick to adopt and move to cloud services, the transition has been slow at the DoD. With military's legacy information technology/ operational technology (IT/OT) assets spread out across the country and with each individual base often having its own computing structure, the cloud service adoption across agencies has not been smooth or uniform so far. While some agencies are leading in the adoption of cloud services, others are caught-up in concerns about cybersecurity and disagreements around deployment models and are yet to adopt.

Acknowledging the critical need for DoD to adopt cloud computing technologies to maintain military's technological advantage, DoD established a new steering group, the Cloud Executive Steering Group (CESG), to develop and execute a strategy to accelerate the adoption of cloud architectures and cloud services with a focus on commercial solutions. [MORE](#)



NONSTATIONARY WEATHER PATTERNS AND EXTREME EVENTS WORKSHOP REPORT

The DoD relies on a large number of installations with extensive supporting infrastructure to prepare for and execute missions. In fact, the DoD is responsible for over 7,000 sites worldwide. Many installations, and their supporting infrastructure systems (e.g., energy, transportation, water resources, and medical services) are located in areas prone to natural hazards such as floods, coastal storm surge, droughts, extreme temperatures, fires, winds, and other events.

While there is high confidence within the scientific community about long-



term climate trends at broad scale, there is uncertainty about the statistical properties of climate that now and will in the future impact installation planning and design. In fact, there is a gap between climate science and planning/design practice that needs to be bridged. To explore research and development needs and potential opportunities for improving the management in a nonstationary climate, SERDP and ESTCP convened a workshop that brought together (1) planning, engineering, and architectural communities; (2) relevant science practitioners; and (3) operations and real property managers.

The resultant [workshop report](#) explores information and research needs for planning resilient infrastructure and installations when statistical patterns of extreme events or average conditions are changing and historical data no longer provides a reliable guide to planning for the future. [MORE](#)

HIGHLIGHTS FROM MUNITIONS RESPONSE WINTER IN-PROGRESS REVIEW

The SERDP and ESTCP Munitions Response (MR) Program held an In-Progress Review in late February 2018. The MR Program Manager, technical committee, and fellow project leaders heard presentations from both FY17 new starts and projects from earlier funding cycles that are completing soon. This included a presentation by Dr. Dean Keiswetter from Acorn SI on his project [“Cloud Computing for UXO Classification.”](#) The goal of this project is to bring the capabilities of the ESTCP-supported UX-Analyze package to a cloud computing environment.

Arnis Mangolds of C-2 Innovations, Inc. presented his project [“Man-portable Bottom mobility Platform for UXO Investigations.”](#) This team is working to demonstrate a modular man-portable, autonomous, or command-controlled tractor designed to tow an Electro-Magnetic Induction (EMI) array in energetic environments near shore.



To close the day, Stanley Tomich of Pacific Northwest National Laboratory (PNNL) reported on his project [“Preliminary Design Study for Munitions Response Underwater Test Site.”](#) This project examined the prospects for using Sequim Bay, WA, the site of the PNNL Marine Science Laboratory, for an underwater unexploded ordnance (UXO) test site analogous to the terrestrial sites established by SERDP and ESTCP at Aberdeen and Yuma years ago. [MORE](#)

ENVIRONMENTALLY-FRIENDLY EROSION RESISTANT COATINGS

Erosion-resistant protective coatings used on military aircraft and shipboard surfaces have stringent performance requirements. These coatings are frequently applied on-site and under ambient conditions as multi-coat systems on metal alloys and composite substrates.



**STRATEGIC ENVIRONMENTAL
RESEARCH AND DEVELOPMENT
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Currently, solvent-borne two-component polyurethane coatings are the systems of choice to meet on-site application, curing, and performance requirements. Important environmental issues are associated with these erosion-resistant coatings, including a significant environmental burden due to their high volatile organic compounds (VOCs) and hazardous air pollutant (HAP) emissions and the use of hazardous and toxic isocyanate compounds.

Contemporary water-borne polyurethane coatings that promise significant lowering of VOCs and HAPs are not suitable for some DoD applications due to inefficient film formation and longer drying times when compared to solvent-borne coatings that render them unacceptable for multi-coat on-site applications and ambient cure conditions. The present commercial polyurethane coatings technology is based on isocyanate compounds as primary building blocks. The use of isocyanate compounds, both at manufacturing and application sites, and their related environmental, health, and safety costs are enormous burdens to the DoD. SERDP is investing in an effort to design, develop, and evaluate innovative non-isocyanate polyurethane (NIPU) coating systems for environmentally sustainable rain erosion coatings that meet or exceed performance requirements. [MORE](#)