

Space Systems Command

Space Weather Analysis and Forecast System (SWAFS) v2.0 Research to Operations (R2O) to Space Weather Roundtable



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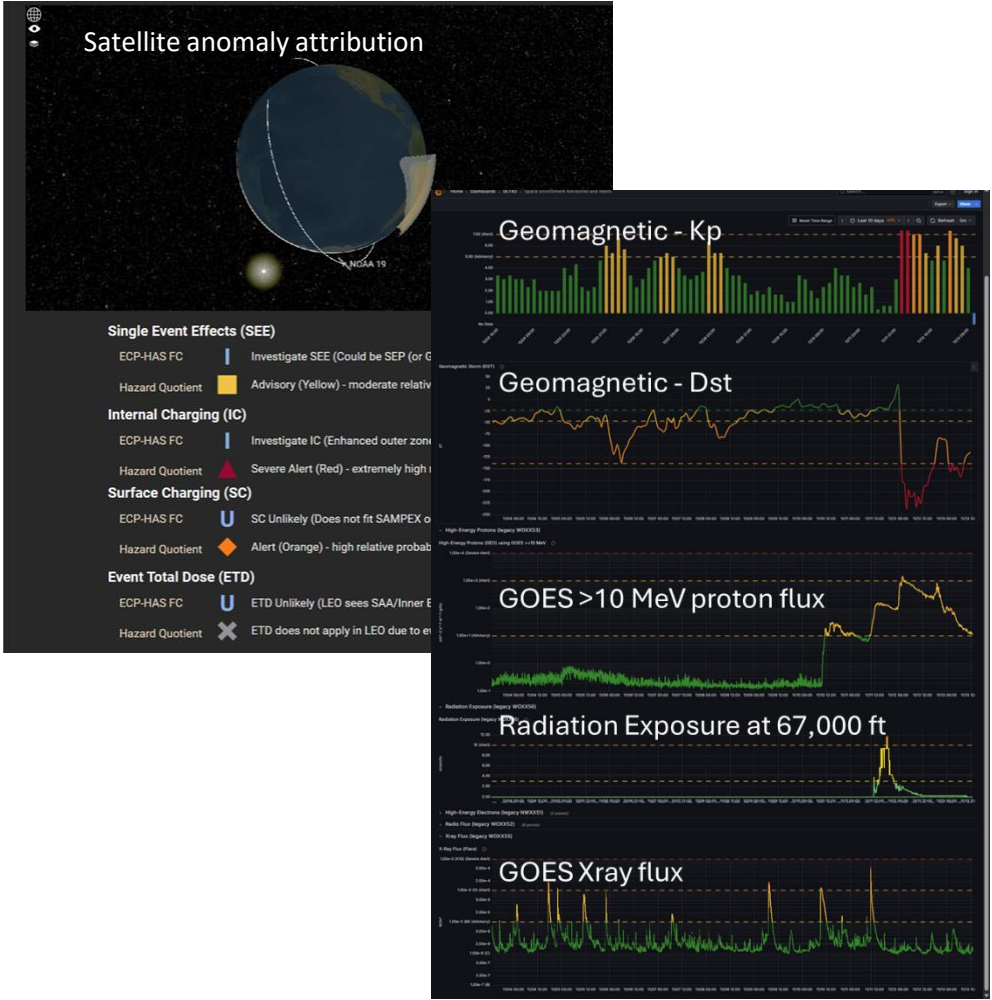
USSF/SSC/SYD 810/ETS (Odyssey Systems)

4 Dec 2025



SWAFS v2.0 Overview

- Space Weather Analysis & Forecast System (SWAFS) v2.0 Program’s Space Domain Awareness Environmental Toolkit for Defense (SET4D) is a successful USSF agile software acquisition development and sustainment effort following the Adaptive Acquisition Framework Software Acquisition Pathway (SWP)
 - Provides operators (satellite ops, ground radar ops, MILCOM and GPS ops, high alt A/C ops, etc.) with ability to understand impacts of the space environment on their systems and operations and enables them to distinguish between space weather and adversary actions.
 - Hosted in AWS Government Cloud; enables unlimited expansion of capabilities
 - SWAFS v2.0 is now operational on NIPRnet, and it is projected to be operational on SIPRnet and JWICS in Jan 2026



SWAFS/SET4D Research to Operations (R2O)

Legacy SWAFS v1.0
(2001-2025)

Capability Focus

Monitoring of Space Environment

SWAFS v2.0/SET4D
Contract with Peraton
(2021-2026)

Attribution of Space Environment Impacts

SWAFS v2.X/SET4D
Contract with Peraton
(2026-2033)

Forecasting of Space Environment Impacts

- Create and sustain SET4D on Gov't cloud platform (NIPR, SIPR, JWICS enclaves)
 - Migrate legacy capabilities (Monitoring)
 - Incorporate improved and new capabilities (Attribution & Forecasting)
 - Continuous upgrades in agile software environment

Peraton converts models to cloud-compatible operational code

Implement SWAFS Technology Sandbox for developer model code development inside SET4D architecture

- Enables faster integration by Peraton

SWAFS Program RDT&E Investments: Advanced Prototypes & Integration Attribution and Forecasting Models from Academia, Gov't Labs, FFRDC, others

- SWAFS PMO selects from best mature models ready to be integrated to meet priority operational needs
- Testbeds can inform PMO decisions on model selection for integration

SWAFS CNS and Operational Priorities drive Investment Decisions

SWAFS Program Focus

Agile Software Program following the Software Acquisition Pathway – Speed to Operations is Key Transformation from Scientifically Interesting SpWx to Operationally Relevant Information