Headquarters U.S. Air Force

Integrity - Service - Excellence

Space Weather Modernization



U.S. AIR FORCE

Lt Col Omar Nava, PhD Chief, Space Weather Integration HQ Air Force, Directorate of Weather 9 September 2020



Space Wx Modernization Working Group

- Provide a collaborative forum across Air Force Weather Operations echelons to unify efforts of modernizing space weather capabilities and functions
- Provide a *structured*, *repeatable mechanism* to corporately discuss and coordinate space weather modernization activities
- Deliver prioritized recommendations on future plans for space weather modernization
- Align with and inform the AF corporate process for acquisition and operations



Space Wx Modernization Working Group

- Participation from key space weather stakeholders
 - Focused on prioritizing and aligning efforts
 - Appropriate organizations take action to accomplish those efforts

- AF Space Weather Enterprise Modernization Concept
- ACC Space Weather Capabilities Based Assessment
- AFRL Space Weather Blueprint 2028
- SWORM & Other Interagency Working Group Tasks



Space Weather Enterprise Vision

The USAF Space Weather Enterprise will provide space environment effects and impacts knowledge to enhance lethality and win the fight across all domains (land, sea, air, space, and cyberspace).

The Enterprise will integrate actionable space weather effects and impacts information into operational weapons systems, mission planning and decision processes, and provide expert space weather reachback support.



Air Force Weather Operations Strategic Vision



AF Weather Operations Strategic Vision is based on National Defense Strategy Lines of Effort

- Lethality and Readiness
 - Improve Integration
 - Enhance Resiliency
 - Realign Our Force
- Alliances and Partnering
 - DoD and Government Agencies
 - Allies and Trusted Coalition Partners
 - Industry and Academia
- Reform for Performance and Affordability
 - Rapidly Modernize
 - Attack our inefficiencies
 - Redesign our Force



Alliances and Partnering

- DOD and Government Agencies
 - Leverage partners to help solve our challenges
 - Improve DOD-wide R&D-to-Ops (R2O) with Joint partners
 - Refocus interagency partnerships
- Alliances and Trusted Coalition Partners
 - Expand information and data sharing
- Industry and Academia
 - Improve R2O and O2R with academic and industry partners



Reform for Performance and Affordability

Rapidly Modernize

- Optimize/prioritize product delivery and usage
- Embrace machine learning and artificial intelligence

Attack our Inefficiencies

- Space Weather Modernization and Modeling
- Exploit new and emerging technologies

Redesign our Force

- Optimize the force alignment, development, and distribution
- Realign education and training
- Optimize force mix (Officer / Enlisted / Civilian) for integration-first paradigm
- Evaluate accession of new scientists beyond meteorology



Prioritization of Objectives

- Leverage partners to help solve our challenges
- Optimize/prioritize product delivery and usage
- Space Weather Modernization and Modeling
- Exploit new and emerging technologies
- Realign education/training





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