

TESTIMONY
OF
COL BRYAN D. MUNDHENK, PhD
CHIEF, WEATHER OPERATIONS DIVISION
HEADQUARTERS, UNITED STATES AIR FORCE

BEFORE
THE

HOUSE SPACE, SCIENCE, AND TECHNOLOGY COMMITTEE
ENVIRONMENT SUBCOMMITTEE

“From Orbit to Operations: How Weather Satellites Support the National Security Mission”

January 13, 2026

Good morning, Chairman Babin, Ranking Member Lofgren, Subcommittee Chairman Franklin, Subcommittee Ranking Member Amo, and distinguished members of this subcommittee. On behalf of Secretary Meink and General Wilsbach, thank you for this opportunity to testify before you. I am Colonel Bryan Mundhenk. I serve as the Chief, Weather Operations Division, Non-Kinetic Operations Directorate for the Air Force Deputy Chief of Staff for Operations. In this position, I lead a team charged with developing strategic plans and integration efforts on behalf of the 4,100-member Air Force weather functional community. I am honored to join my National Oceanic and Atmospheric Administration (NOAA) and U.S. Navy colleagues this morning and to provide an Air Force service perspective on the critical roles NOAA plays in supporting and enabling the security of our nation.

The Air Force weather functional community does not have the public service mandate that NOAA's National Weather Service does. Rather, Air Force weather provides full spectrum environmental support to Air Force, Space Force, Army, and Intelligence Community missions and equities stateside and abroad in accordance with public law and at classification levels necessary to safeguard national security information. This support enables warfighters to exploit environmental effects to create dilemmas for our adversaries while optimizing freedom of action for friendly forces and, ultimately, hones the military instrument of power.

Our ability to sense and make sense of the current and future states of the operating environment relies on data received from and through NOAA. As a World Meteorological Organization Global Information System Center, NOAA operates the hub through which vital data flow via the Global Telecommunication System. This is our primary connection to a vast array of global observations, and these observations comprise the majority of environmental information necessary for American Airmen to deliver tailored support ranging from resource protection to anticipating adversary actions and reactions.

NOAA's operation of space-based environmental monitoring satellites provides data essential to near-real time decision making and to our ability to predict conditions via numerical weather modeling. On behalf of the Department, NOAA operates the aging Defense Meteorological Satellite Program constellation and adjusts scan strategies for the Electro-Optical/Infrared Weather System satellite to support Combatant Commander priorities. NOAA's own satellites contribute to our understanding of data sparse areas like the high latitudes and upper atmosphere, both increasingly important for homeland defense. Moreover, NOAA serves as the fundamental connection to international providers, facilitating the receipt of partner satellite data, including imagery from the Japanese Meteorological Agency which is key to operations in the Indo-Pacific.

NOAA's national security linkages extend beyond providing crucial foundational data and operating environmental observing satellites. For example, NOAA operates the National Hurricane and Central Pacific Hurricane Centers that provide timely, relevant information to empower installation-level decision making and force protection when tropical weather threatens. NOAA contributes to the operations and sustainment of WSR-88D weather radars and launches weather balloons, both sensing weather conditions on which Airmen rely to understand and mitigate risks to mission and to force. NOAA operates the Space Weather Prediction Center, which provides data and models enabling Airmen's understanding of electro-magnetic interference, communication disruptions, and positioning errors. NOAA also produces flood and fire danger assessments for U.S. locations, which shape the risk management and response of installation emergency managers. And as the lead federal agency for the National Hurricane and National Winter Season Operations Plans, NOAA is linked to the Department to best employ the Air Force Reserve's high demand aerial reconnaissance capability.

These interdependencies are not new. Both Air Force weather and the National Weather Service, a NOAA subordinate line office, trace organizational history back to the U.S. Army Signal Service circa 1870. Over the decades, the organizations have evolved into key components of an interagency meteorological enterprise that is a national asset for mitigating risk and ensuring national security. These linkages represent significant cost avoidance through sensing and data handling without duplicative systems. And while we maintain the capacity to ensure continuity of critical capabilities, vital functions performed by NOAA bodies are neither duplicated nor replicable at scale.

Given the wide-ranging data, product, and process dependencies between the organizations, the Air Force considers NOAA's contributions to be critical and foundational to successful Air Force operations and safety not just stateside, but worldwide. Beyond current operations, the research, development, test, and evaluation stewarded by NOAA ultimately enable warfighter decision advantage. The Air Force values collaborative opportunities and open communication, such as that which is made possible by the Interagency Council for Advancing Meteorological Services.

Again, thank you for the opportunity to testify, and I look forward to your questions.



BIOGRAPHY

UNITED STATES AIR FORCE

COLONEL BRYAN D. MUNDHENK

Col Bryan D. Mundhenk is Chief, Weather Operations Division, Non-Kinetic Operations Directorate within Headquarters, U.S. Air Force. He leads a 14-member team spanning six duty locations in the development of strategic plans for the employment and advancement of environmental monitoring, analysis, prediction, and integration capabilities to boost Air Force, Army, Space Force, and Intelligence Community operations and priorities. His team provides scientific perspective for environmental issues and opportunities across the meteorological, terrestrial, space, and solar geophysical environments and collaborates with interservice, interagency, and international partners to align efforts and boost capacity. Prior to the Air Force Deputy Chief of Staff, Operations' reorganization, Col Mundhenk was the Chief, Weather Strategic Plans and Integration Division, Directorate of Air Force Weather performing the same duties.

Col Mundhenk was commissioned in 2003 through the Air Force Reserve Officer Training Corps program at the University of Missouri-Columbia. A master meteorologist and Weather and Environmental Sciences Officer, Col Mundhenk has diverse operational, technical, and academic experience including a deployment to Afghanistan in support of Operation ENDURING FREEDOM. As career broadening, he commanded Air Force Reserve Officer Training Corps Detachment 520 hosted by Cornell University, Ithaca, New York, during which time he supervised all aspects of the geographically separated unit's officer accession operations, recruiting, and education functions, while overseeing cadre training and professional development.



Prior to his current position, Col Mundhenk was the Director, Global Weather Operations Directorate within the 618th Air Operations Center (Tanker Airlift Control Center), a tenant organization on Scott Air Force Base, Illinois. In that capacity, he led a 42-member organization to fuse timely, accurate, and relevant environmental information into all phases of global airlift, aerial refueling, and aeromedical evacuation planning and around-the-clock execution for the Department of Defense's largest air operations center.

EDUCATION

2003 Bachelor of Science, Atmospheric Science, University of Missouri, Columbia
2003 Air and Space Basic Course, Maxwell Air Force Base, Ala.
2009 Master of Science, Meteorology, Naval Postgraduate School, Monterey, Calif.
2009 Squadron Officer School, Maxwell AFB, Ala., by correspondence
2009 Squadron Officer School, Maxwell AFB, Ala.
2013 Air Command and Staff College, Maxwell AFB, Ala., by correspondence
2017 Doctor of Philosophy, Atmospheric Science, Colorado State University, Fort Collins
2021 Air War College, Maxwell AFB, Ala., by correspondence

ASSIGNMENTS

1. June 2003 - August 2006, Lead Meteorologist, 11th Operational Weather Squadron, Elmendorf Air Force Base, Alaska
2. September 2006 - July 2007, Officer in Charge, Tactical Operations, Detachment 2, 607th Weather Squadron, Camp Humphreys, Republic of Korea

3. July 2007 - April 2009, Air Force Institute of Technology Graduate Student, Naval Postgraduate School, Cali.
4. April 2009 - July 2011, Chief, Intelligence Support, 14th Weather Squadron, Asheville, N.C.
5. August 2011 - July 2014, Commander, Detachment 3, 1st Weather Squadron, Fort Wainwright, Alaska (March 2013 - October 2013, Officer in Charge, Operating Location Bravo, 19th Expeditionary Weather Squadron, Kandahar Air Field, Afghanistan)
6. August 2014 - July 2017, AFIT Graduate Student, Colorado State University, Colo.
7. July 2017 - July 2019, Director of Operations, 14th Weather Squadron, Asheville, N.C.
8. August 2019 - July 2022, Commander, AFROTC Detachment 520, Cornell University, Ithaca, N.Y.
9. July 2022 - June 2024, Director, Global Weather Operations Directorate, 618th Air Operations Center (Tanker Airlift Control Center), Scott AFB, Ill.
10. June 2024 - present, Chief, Weather Operations Division, Headquarters U.S. Air Force, Washington D.C.

MAJOR AWARDS AND DECORATIONS

Bronze Star Medal
Meritorious Service Medal with three oak leaf clusters
Air Force Commendation Medal with oak leaf cluster
Army Commendation Medal
Air Force Achievement Medal

EFFECTIVE DATES OF PROMOTION

Second Lieutenant May 28, 2003
First Lieutenant May 28, 2005
Captain May 28, 2007
Major Oct. 1, 2013
Lieutenant Colonel June 1, 2018
Colonel Jan. 1, 2025

(Current as of October 2025)

Truth in Testimony Disclosure Form

In accordance with Rule XI, clause 2(g)(5)* of the *Rules of the House of Representatives*, witnesses are asked to disclose the following information. Please complete this form electronically by filling in the provided blanks.

Committee: _____

Subcommittee: _____

Hearing Date: _____

Hearing :

Witness Name: _____

Position/Title: _____

Witness Type: Governmental Non-governmental

Are you representing yourself or an organization? Self Organization

If you are representing an organization, please list what entity or entities you are representing:

FOR WITNESSES APPEARING IN A NON-GOVERNMENTAL CAPACITY

Please complete the following fields. If necessary, attach additional sheet(s) to provide more information.

Are you a fiduciary—including, but not limited to, a director, officer, advisor, or resident agent—of any organization or entity that has an interest in the subject matter of the hearing? If so, please list the name of the organization(s) or entities.

Please list any federal grants or contracts (including subgrants or subcontracts) related to the hearing's subject matter that you or the organization(s) you represent have received in the past thirty-six months from the date of the hearing. Include the source and amount of each grant or contract.

Please list any contracts, grants, or payments originating with a foreign government and related to the hearing's subject that you or the organization(s) you represent have received in the past thirty-six months from the date of the hearing. Include the amount and country of origin of each contract or payment.

Please complete the following fields. If necessary, attach additional sheet(s) to provide more information.

- I have attached a written statement of proposed testimony.
- I have attached my curriculum vitae or biography.

* Rule XI, clause 2(g)(5), of the U.S. House of Representatives provides:

(5)(A) Each committee shall, to the greatest extent practicable, require witnesses who appear before it to submit in advance written statements of proposed testimony and to limit their initial presentations to the committee to brief summaries thereof.

(B) In the case of a witness appearing in a non-governmental capacity, a written statement of proposed testimony shall include— (i) a curriculum vitae; (ii) a disclosure of any Federal grants or contracts, or contracts, grants, or payments originating with a foreign government, received during the past 36 months by the witness or by an entity represented by the witness and related to the subject matter of the hearing; and (iii) a disclosure of whether the witness is a fiduciary (including, but not limited to, a director, officer, advisor, or resident agent) of any organization or entity that has an interest in the subject matter of the hearing.

(C) The disclosure referred to in subdivision (B)(ii) shall include— (i) the amount and source of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) related to the subject matter of the hearing; and (ii) the amount and country of origin of any payment or contract related to the subject matter of the hearing originating with a foreign government.

(D) Such statements, with appropriate redactions to protect the privacy or security of the witness, shall be made publicly available in electronic form 24 hours before the witness appears to the extent practicable, but not later than one day after the witness appears.

False Statements Certification

Knowingly providing material false information to this committee/subcommittee, or knowingly concealing material information from this committee/subcommittee, is a crime (18 U.S.C. § 1001). This form will be made part of the hearing record.

Witness signature

Date