# Annual Update:
# AMS Committee on RF Allocations

AMS
American Meteorological Society

CORF @ Space Science Week
25 March 2026

Prepared by:

NARAYAN STRATEGY

Renee A. Leduc
Founder & Principal
Narayan Strategy
Renee@narayanstrategy.com

# Committee on RF Allocations

- Membership:
  - Academic, government, industry and non-profit members
  - Experts in remote sensing, radar meteorology, satellite meteorology, systems engineering, telecoms, and policy
  - Currently 21 members + 1 ex-officio
  - Jordan Gerth, NOAA (and U of WI), current chair
  - Chandra Venkatachalam, CO State, incoming vice chair
- Reviews and coordinates on all matters of RF spectrum management pertinent to the weather/water/climate enterprise
- Reviews and revises the policy statement on radio frequency allocations for the Society

ametsoc.org/radio

# Committee Goals

- **Increase membership awareness of spectrum management matters and their potential impacts** on the weather, water, and climate enterprise,

- **Develop alliances with other entities** to inform the public and policymakers on radio frequency interference and its consequences, and

- **Provide subject-matter expertise** on how changes in spectrum policy and allocations could affect the collection or delivery of meteorological, hydrological, and oceanographical data

# Committee Activities

Encouraging ex parte briefings at FCC

Filings in FCC dockets

Informational meetings with legislative staff

Op-eds and media interviews

Outreach to interested groups, especially users

Planning scientific sessions at AMS meetings

# Key Spectrum Partnerships

AGU
ADVANCING EARTH AND SPACE SCIENCE

IEEE GRSS
Geoscience and Remote Sensing Society

NATIONAL WEATHER ASSOCIATION

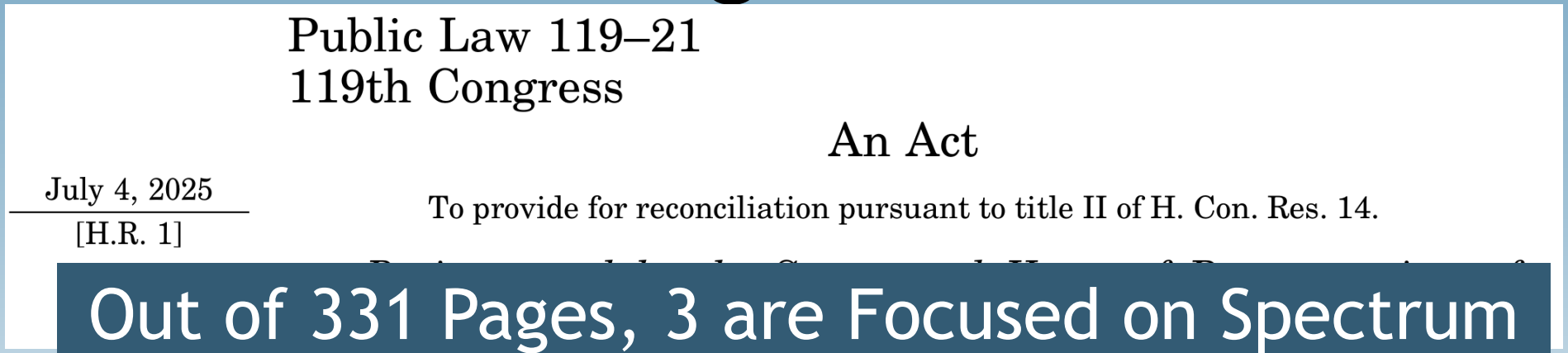
UCAR

AAS
AMERICAN ASTRONOMICAL SOCIETY

# Agenda

- One Big Beautiful Bill Act (OBBBA)
- L-Band: NOAA GOES data services
- EESS Passive Amidst Recent FCC Proceedings (and a Senate bill)

# H.R. 1 – One Big Beautiful Bill Act



Public Law 119–21
119th Congress

An Act

July 4, 2025
[H.R. 1]

To provide for reconciliation pursuant to title II of H. Con. Res. 14.

**Out of 331 Pages, 3 are Focused on Spectrum**

- ✓ Directs the FCC and NTIA to establish a Spectrum Pipeline of at least 800 MHz for commercial use (500 GHz from Federal government spectrum)
  - ➢ Multiple impacts to meteorological and other science-related spectrum

# Implications of Spectrum Pipeline Provisions

**Radars for Weather and Aviation**
**Esp. NEXRAD radars across the U.S.**

**Passive Bands at 7.3 GHz**
**Used now and in the future on JAXA's GCOM-W and GOSAT-GW missions**

**Adjacent to GOES-R series**
**Rebroadcast E to S Channel**
**(7.126 GHz)**

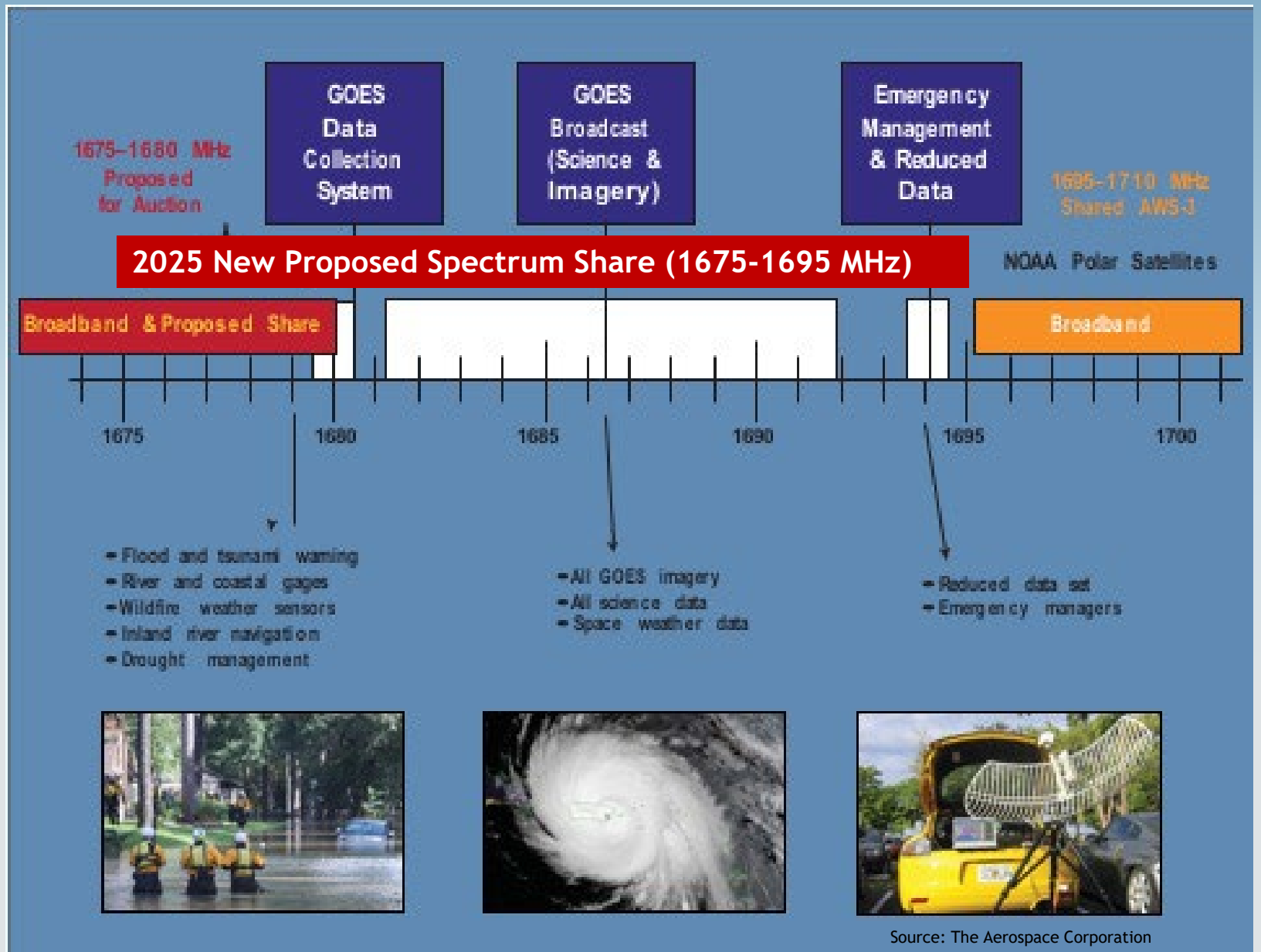
(1) conduct a timely spectrum analysis of the bands of frequencies—

(A) between 2.7 gigahertz and 2.9 gigahertz;
(B) between 4.4 gigahertz and 4.9 gigahertz; and
(C) between 7.25 gigahertz and 7.4 gigahertz; and

# Agenda

- One Big Beautiful Bill Act (OBBBA)
- L-Band: NOAA GOES data services
- EESS Passive Amidst Recent FCC Proceedings (and a Senate bill)

# GOES-R Downlinks for Data Distribution/Relay




Source: The Aerospace Corporation

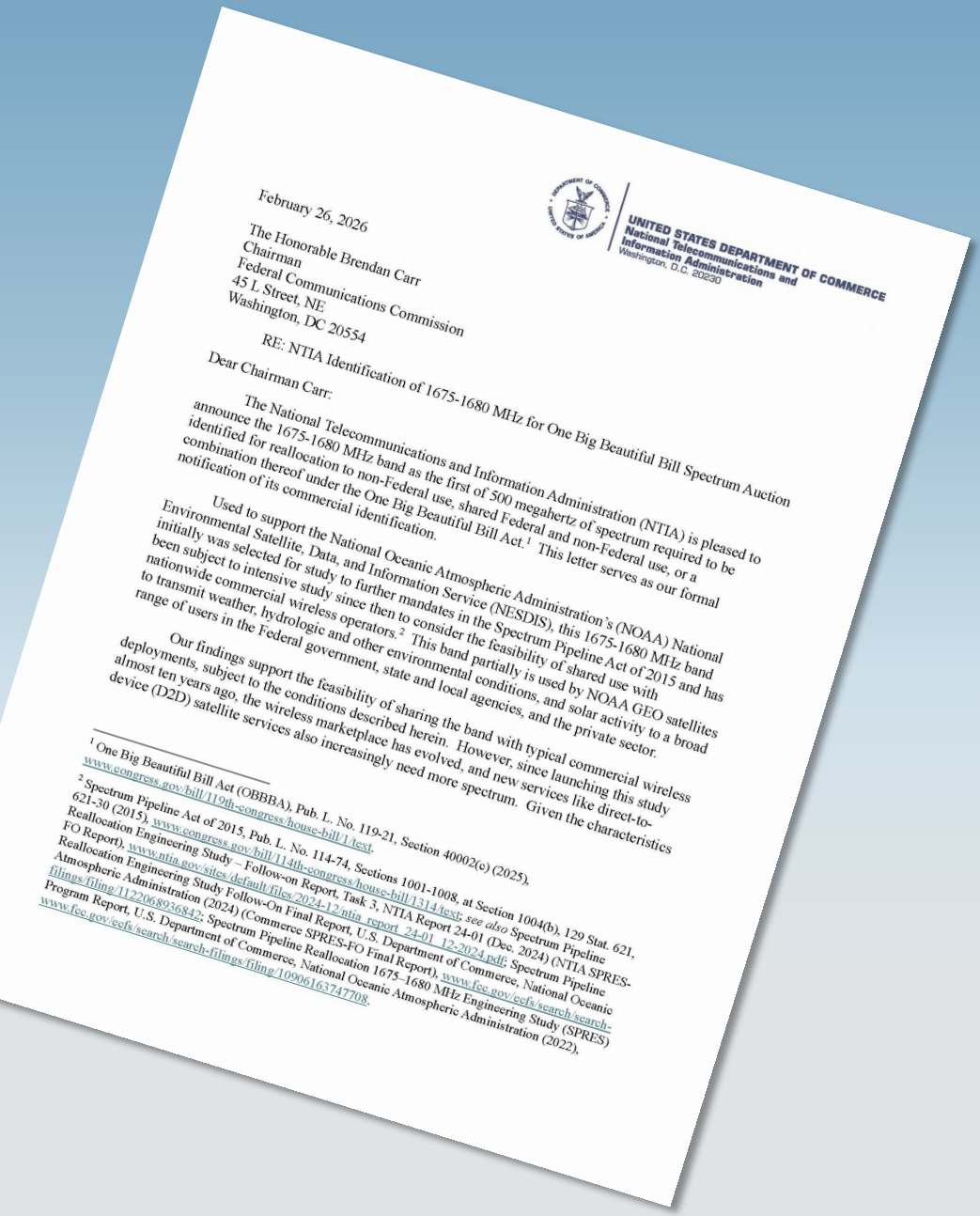
# Expansion to 1675-1695 MHz

**Arielle Roth**
Assistant Secretary of Commerce for Communications and Information
Administrator, National Telecommunications and Information Administration (NTIA)

**September 2025: NTIA Spectrum Policy Symposium**

- Roth announced 1675-1680 MHz would be the first identified Federal bands to be auctioned under the spectrum pipeline established in the OBBBA bill (HR 1)

- In addition, NTIA and NOAA will conduct research on 1680-1695 MHz for possible sharing and/or reallocation during the coming year



February 26, 2026

The Honorable Brendan Carr
Chairman
Federal Communications Commission
45 L Street, NE
Washington, DC 20554

UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration
Washington, D.C. 20230

RE: NTIA Identification of 1675-1680 MHz for One Big Beautiful Bill Spectrum Auction

Dear Chairman Carr:

The National Telecommunications and Information Administration (NTIA) is pleased to announce the 1675-1680 MHz band as the first of 500 megahertz of spectrum required to be identified for reallocation to non-Federal use, shared Federal and non-Federal use, or a combination thereof under the One Big Beautiful Bill Act.[1] This letter serves as our formal notification of its commercial identification.

Used to support the National Oceanic Atmospheric Administration's (NOAA) National Environmental Satellite, Data, and Information Service (NESDIS), this 1675-1680 MHz band initially was selected for study to further mandates in the Spectrum Pipeline Act of 2015 and has been subject to intensive study since then to consider the feasibility of shared use with nationwide commercial wireless operators.[2] This band partially is used by NOAA GEO satellites to transmit weather, hydrologic and other environmental conditions, and solar activity to a broad range of users in the Federal government, state and local agencies, and the private sector.

Our findings support the feasibility of sharing the band with typical commercial wireless deployments, subject to the conditions described herein. However, since launching this study almost ten years ago, the wireless marketplace has evolved, and new services like direct-to-device (D2D) satellite services also increasingly need more spectrum. Given the characteristics

[1] One Big Beautiful Bill Act (OBBBA), Pub. L. No. 119-21, Section 40002(c) (2025), www.congress.gov/bill/119th-congress/house-bill/1/text.

[2] Spectrum Pipeline Act of 2015, Pub. L. No. 114-74, Sections 1001-1008, at Section 1004(b), 129 Stat. 621, 621-30 (2015), www.congress.gov/bill/114th-congress/house-bill/1/text. *see also* Spectrum Pipeline Reallocation Engineering Study – Follow-on Report, Task 3, NTIA Report 24-01 (Dec. 2024) (NTIA SPRES-FO Report), www.ntia.gov/sites/default/files/2024-12/ntia_report_24-01_12-2024.pdf; Spectrum Pipeline Reallocation Engineering Study Follow-On Final Report, U.S. Department of Commerce, National Oceanic Atmospheric Administration (2024) (Commerce SPRES-FO Final Report), www.fcc.gov/eefs/search/search-filings/filing/12220689368842; Spectrum Pipeline Reallocation 1675–1680 MHz Engineering Study (SPRES) Program Report, U.S. Department of Commerce, National Oceanic Atmospheric Administration (2022), www.fcc.gov/eefs/search/search-filings/filing/10906163747708.

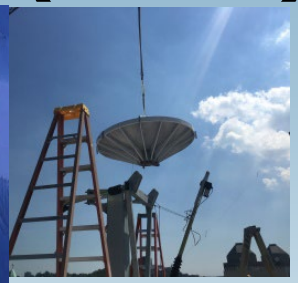
**NTIA identified to FCC 1675-1680 MHz as the first of 500 MHz of Federal spectrum required to be identified for reallocation to non-Federal use.**
(2 March 2026)

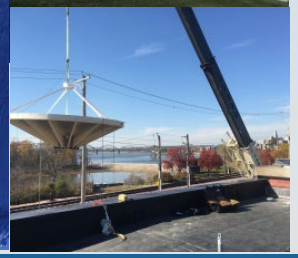
*"NTIA is collaborating with Federal agencies to conduct a feasibility study for repurposing opportunities in the adjacent spectrum from 1680-1695 MHz, …[with] the potential for identifying the full 1675-1695 MHz band for auction."*

AMS
American Meteorological Society

MICROCOM ENVIRONMENTAL

# Sampling of North American Direct Readout Ground Stations (DRGS)



**NTIA Letter to FCC: Only Protects Four NOAA Sites for DCS Info Delivery at Fairmont, WV; Sioux Falls, WV; Suitland, MD; and Wallops, VA**

# New DCS Application: Ionospheric Scintillation (IS)

- Boston College and Microcom Environmental received a NASA Step 2 invitation to propose a project titled: ***Operational Scintillation Nowcasts Using GOES Data Collection System (DCS) Signals of Opportunity***
- The Project will study and implement an IS monitoring and nowcasting system using NOAA's Data Collection System essentially as a large-scale passive sensor network, if awarded.
  - The existing DCS signals from over 33,000 active transmitters spread across the western hemisphere will be used to detect this highly localized atmospheric space weather phenomenon that is caused by solar heating and coronal mass ejections.

# Agenda

- One Big Beautiful Bill Act (OBBBA)
- L-Band: NOAA GOES data services
- EESS Passive Amidst Recent FCC Proceedings (and a Senate bill)

# FCC Proceeding: Satellite Spectrum Abundance (SSA)

**Full Title:** FCC Kickstarts a Proceeding that Could Unlock More than 20,000 Megahertz of Spectrum for High-Speed Internet Delivered from Space

**Document Type:** Notice of Proposed Rulemaking

**Bureau(s):** Space

The FCC sought comment on expanding satellite broadband connectivity across 4 spectrum bands:

- ❑ 12.7-13.25 GHz,
- ❑ 42.0-42.5 GHz,
- ❑ 51.4-52.4 GHz,
- ❑ the so-called "W-band" at 92.0-94.0 GHz, 94.1-100 GHz, 102.0-109.5 GHz, & 111.8-114.25 GHz.

# SSA Impacts: 50 GHz band

Greatest U.S. Operational Impact Now:

**Advanced Technology Microwave Sounder (ATMS)** on U.S. operational Joint Polar Satellite System (JPSS)

- Has multiple channels between 50 and 58 GHz for temperature soundings
- Two JPSS satellites are on orbit now, two more to be launched by 2031 for operation through the 2030s.

Future U.S. Operational Impact:

**Sounder for Microwave-Based Applications (SMBA)** for future NOAA Near Earth Orbit Network (NEON) satellites

- NASA and NOAA planning for its procurement

# Defining The Threat near 50 GHz

The threat near 50 GHz is both **same-band and adjacent-band interference**

- FCC's SSA seeks to establish allocation for satellite broadband (NGSO) providers at **51.4-52.4 GHz**
  - This is channel 4 on ATMS sensor, which has no allocation for EESS passive **(!!)**
- This proposed use of 51.4-52.4 GHz for NGSO is also adjacent to:
  - ATMS channel 3, centered at 50.3,
  - ATMS channel 5, centered at 52.8 GHz,
  - Potentially any other ATMS channel between 50-58 GHz that shares front end electronics with channel 4

# W-Band: Current US Mission Impacts

Impacts on Current Missions:

- **Microwave Imager/Radiometer (MWI) on DoD Weather System Follow-on Microwave (WSF-M)**
  - Launched April 2024
  - Operates near 89 GHz (and other bands)

- **NASA TROPICS mission**, a constellation of four CubeSats to study tropical cyclones
  - Launched May 2023 **– NO LONGER ON ORBIT**
  - Operates near 90 GHz and 114.5 GHz (and other bands)

- **Tomorrow S1-10 operated by Tomorrow.io**
  - A constellation building on the technologies first deployed on NASA TROPICS.
  - Tomorrow S1-10 operate and/or plan to operate near 92 GHz.

# Recommendations & Next Steps

Closing Recommendation from Weather Org Comment:

**"It is critical for comprehensive studies to be conducted that consider the modeling and weather forecasting impacts to any such adjacent or shared band operations, before further regulatory actions are taken to change allocations in these spectral areas."**

- AMS and other orgs intend to continue to engage with FCC, Congress and other stakeholders.

# FCC Proceeding: Facilitating More Intensive Use of Microwave Spectrum (UMFUS)

*This NPRM seeks comment on proposals to facilitate more intensive use of spectrum bands at and above 24 GHz that are shared between the terrestrial Upper Microwave Flexible Use Service (UMFUS) and the Fixed-Satellite Service (FSS).*

**Why did AMS respond?**

- Proceeding addressed UMFUS bands in the upper 37 GHz and lower 50 GHz bands directly adjacent to EESS passive bands
  - Especially given the ATMS engineering concerns highlighted within SSA re: 50 GHz bands
- Proceeding also addressed FCC efforts to develop "light licensing" regime

# FCC Proceeding: Space Modernization for the 21st Century

*This Notice proposes to modernize the Commission's licensing process to allow US space companies to more freely compete in the marketplace. This Notice proposes to develop a "licensing assembly line" designed to route applications for efficient review.*

**Why did AMS respond?**

- The atmospheric science community relies heavily on Federal spectrum allocations.
- If science agencies (NOAA, NASA, NSF) cannot provide appropriate, relevant and in-depth technical analysis in the Federal process in the timeline proposed, we are concerned that key science spectrum will be at risk.

# S.3639 Satellite and Telecommunications Streamlining Bill

To expedite processing of satellite and space licenses, and for other purposes.

- 10Feb2026: AMS/AGU/NWA/IEEE GRSS sent letter to cosponsoring Sens. Cruz (R-TX) and Welch (D-VT) to express concerns with its licensing provisions
  - AAS and Union of Concerned Scientists (UCS)also submitted a letter
- 12Feb2026: Cruz and Cantwell (D-WA) released a negotiated new version of the bill that better accounts for science concerns re: spectrum licensing changes

Cantwell Press Statement to Law 360:

**"The FCC cannot ignore real interference issues. The FCC must tell the numerous partners who care about interference — in aviation, weather, and defense — what they are doing."**

# Considerations Moving Forward

- ✓ EESS Passive is not well understood by regulators

# Repeated Key Messages in AMS Comments

"These passive observations are not communications signals and are orders of magnitude weaker than typical communications links.

"The properties of the atmosphere are defined by the laws of physics and chemistry and cannot be changed to optimize spectrum allocation."

"Information used from these bands to inform weather models and improve forecasts provide extensive value beyond the Federal government, including the American public and many weather-dependent industries, such as aviation, stadium event management and maritime shipping."

**Passive Use ≠ Underutilized Spectrum**

# Considerations Moving Forward

- ✓ EESS Passive is not well understood by regulators
- ✓ Creating a "Fix" for Radio Astronomy does not mean EESS Passive is "Fixed"
- ✓ Communicating importance of Calibration

# Calibration is Key

- ATMS measurements between 50 and 60 GHz are used to calibrate other microwave sounding instruments on other satellites
  - including S1-S10 operated by Tomorrow.io at 91.6 GHz.

*EESS (passive) observations act as a system. No one band provides unique information on an Earth system variable. Rather, the various bands provide complementary information on different combinations of geophysical parameters. Only when measurements in multiple bands are considered in concert can sufficiently unambiguous geophysical information be obtained. Thus, interference into a single band undermines the value of the complete observing system.*

*– Views of the U.S. National Academies of Sciences, Engineering, and Medicine on Agenda Items at Issue at the World Radiocommunication Conference 2027*

# Considerations Moving Forward

- ✓ EESS Passive is not well understood by regulators
- ✓ Creating a "Fix" for Radio Astronomy does not mean EESS Passive is "Fixed"
- ✓ Communicating importance of Calibration
- ✓ Federal Allocations are Critical to non-Federal Users
  - ✓ Federal missions cannot be fulfilled without non-Federal partners

# AMS Committee on RF Allocations

American Meteorological Society

## AMS Position Letters

From time to time, AMS signs letters of support with other organizations in an effort to reach policy and thought leaders on critically important topics across the greater scientific community.

March 4, 2024

**Multi-organization letter to the FCC on modifying emissions limits for the 24.25-24.45 GHz and 24.75-25.25 GHz bands ›**

April 17, 2023

**AMS Inputs to National Spectrum Strategy ›**

October 28, 2022

**Letter to Senate Committee on Commerce, Science and Transportation on Radiofrequency Spectra Vital to Earth System Observation and Emergency Management ›**

**https://bit.ly/AMSletters**

# Annual Update:
# AMS Committee on RF Allocations

AMS
American Meteorological Society

CORF @ Space Science Week
25 March 2026

Prepared by:

NARAYAN STRATEGY

Renee A. Leduc
Founder & Principal
Narayan Strategy
Renee@narayanstrategy.com


Comment to FCC from weather and aviation industry in response to **SPRES** report :

**"As stated in the SPRES report, our organizations know the proposed sharing of the 1675-1680 MHz band carries substantial risks."**


***SPECTRUM PIPELINE REALLOCATION ENGINEERING STUDY FOLLOW-ON (SPRES-FO)***

***FINAL REPORT***

Version *1.6*

Comment to FCC from weather and aviation industry in response to **Further NPRM** on 1675-1680 MHz:

**"It is critical the FCC recognize that sharing is only "potentially feasible" (with addl considerations and mitigations) with commercial wireless carriers operating in uplink mode.."**