
Interdepartmental Committee for Meteorological Services and Supporting Research (ICMSSR)

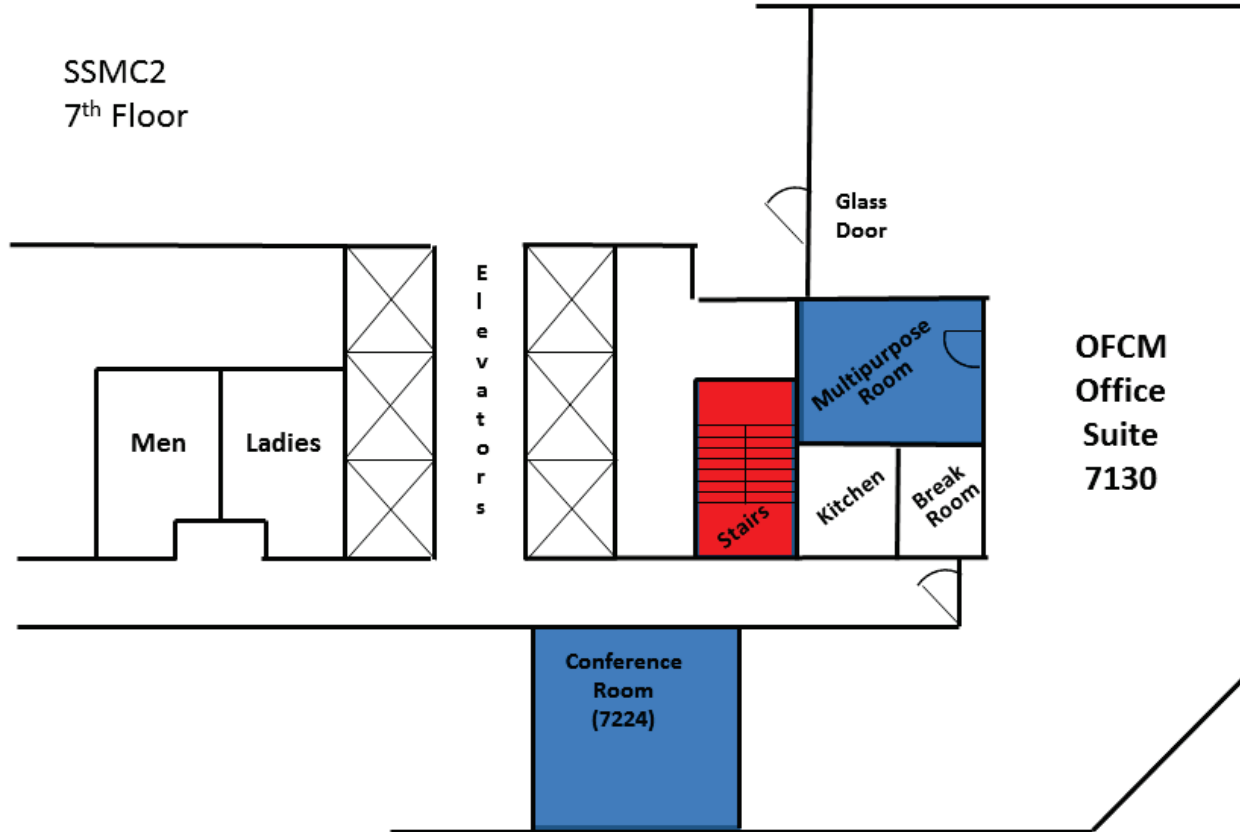
Meeting 2017-2

June 22, 2017

Administrative Info

- **Meeting will be recorded**
- **Facilities**
- **Telecon / GoToMeeting**
 - Dial-in 1-888-680-9581, passcode 535430#
- **GoToMeeting:** <https://global.gotomeeting.com/join/293418653>
- **Slides posted at:** <http://www.ofcm.gov/icmssr/meetings.htm>
 - Please advise us of any sensitivities

OFCM Floor Plan



Opening Remarks

Interdepartmental Committee for Meteorological Services and Supporting Research (ICMSSR)

Dr. William Schulz (OFCM)

For

Mr. Craig McLean (NOAA)

Chair, ICMSSR

- **Welcome**
- **Roll Call**
- **Approve Agenda**

Today's Agenda

- **OPENING REMARKS**

Dr. William Schulz (OFCM)

- **FEDERAL COORDINATOR'S UPDATE**

Dr. William Schulz (OFCM)

- **FEDERAL MSSR STRATEGIC AND ANNUAL PLAN.**

Dr. William Schulz (OFCM)

- **GOES-16 STATUS UPDATE**

Dr. Steve Goodman and Mr. Tim Walsh (NESDIS-GOES-R)

- **IMPLEMENTING THE WEATHER RESEARCH AND FORECASTING INNOVATION ACT: SECTION 402.**

Dr. William Schulz (OFCM)

- **THE INTERAGENCY COORDINATING COMMITTEE FOR AIRBORNE GEOSCIENCE RESEARCH AND APPLICATIONS (ICCAGRA).**

Dr. Linnea Avallone (NSF)

- **OPEN DISCUSSION**

- **ACTION ITEM REVIEW**

Mr. Michael Bonadonna (OFCM)

- **CLOSING COMMENTS / ADJOURN**

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FEDERAL COORDINATOR'S UPDATE

Bill Schulz
Federal Coordinator

Federal Weather Enterprise Infrastructure

	Current	Active
FCMSSR	1	1
ICSSR & Councils	3	3
Committees	4	4
WGs	14	12
JAGs	4	4
TOTAL	26	24

Federal Committee for Meteorological Services and Supporting Research (FCMSSR)

Federal Coordinator for Meteorology

NEXRAD Program Council

Interdepartmental Committee for Meteorological Services and Supporting Research (ICMSSR)

Earth System Prediction Capability (ESPC) Executive Steering Group

Committee on Operational Processing Centers

Committee on Operational Environmental Satellites

Committee on Climate Analysis, Monitoring, and Services

Interagency Weather Research Coordinating Committee

Working Groups (enduring)

Joint Action Groups (short-term)

Federal Coordinator's Update

- IWRCC Terms of Reference Approval
- MPAR (Multifunction Phased Array Radar) working group roster updated, meeting scheduled
- `17 Space Weather Enterprise Forum: Tuesday June 27, NTSB Conference Center at L'Enfant Plaza.
- `18 Space Weather Enterprise Forum: **Seeking a Federal Sponsor** (USAF sponsored SWEF17, ~\$6K)
- COES met 20 June 2017, to brief ICMSSR at September meeting
- COPC met 2-3 May 2017:
 - Seeking closer coordination w/COES, will brief at September COES
 - Implementing new fiber connection between NSOF and NMIC at Suitland, MD (supports NOAA-DoD data stream)

2nd National Operational Processing Centers Observational Data Workshop

PURPOSE:

Request ICMSSR approval to convene the 2nd Observational Data Workshop (ODW)

BACKGROUND:

In Sep 2011, OFCM hosted an Observational Data Workshop (ODW). Participants established key data focus areas and recommendations related to data needs.

Preliminary Framework for the 2nd ODW:

Organized by the Working Group for Observational Data.

Dates: 11-13 September 2017

Location: SSMC 2, 7th Floor Conference Room, Silver Spring, MD

Proposed 2nd ODW

Envisioned participation:

- **DoD** (FNMOC, NRL Monterey, NAVO, NRL Stennis, AF 557th WW and 14th WS),
- **NOAA** (NESDIS, NCEI, NWS/NCEP/Offices of International Affairs/Observations/Dissemination/NDBC)
- **NASA** (w/JCSDA), European and Canadian Centers (remote participation proposed)
- **FAA**
- All other agencies welcomed – potential interest for **DoI**, **DoS**.

Structure includes:

- WMO – International -- U.S. Focal Points
- Interagency OPCs: NCEP, NESDIS, FNMOC, NAVO, AF/557th WW
 - Office structure/roles/responsibilities, key points of contact
 - Status and future challenges in data acquisition, quality control, management, dissemination/communications, and meteorological codes
 - Conventional Data
 - Satellite Data
 - Ocean Data
 - Space Wx Data
 - Classified Data (TBD)

Proposed 2nd ODW

Expected Outcomes:

- Awareness and clarification of agency office structure/roles/responsibilities, key points of contact for interagency collaboration
- Next steps toward the WMO migration to BUFR and implementation of new data management standards and procedures
- Identification of gaps in international data coverage -- follow-up actions
- Prioritized plans for acquisition and timely use/sharing of new data sources
- Recommendations to resolve problems with existing data types
- Sharing of best practices, code, data sources, and findings
- Recommendations to expand interagency collaborative activities and leverage new/future capabilities

Workshop Deliverables:

- A workshop summary report: shared challenges, best practices, current and planned collaboration, key takeaways, recommendations and actions needed
- An online repository of conference presentations.

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Strategic Plan for Federal Weather Coordination

Revising the annual Federal Plan for Meteorological Services

1. **ICMSSR agency approvals for Strategic Plan** (ongoing)
2. **FCMSSR Approve Strategic Plan** (October)
3. **OFCM collect FY18 budget data from agencies** (30 June 2017)
4. **Publish (inaugural) FY18 Fed Report version – *budget tables and discussions only***- (Summer 2017)
5. **OFCM collect FY19 budget data from agencies** (28 Feb 2018, dep. on PBR released)
6. **Publish (robust) FY19 Fed Report version** (March 2018)

New Federal “Plan”

Old:



- Single publication
- Produced annually
- 200+ pages
- Multiple detailed spreadsheets
- Released in October
- No formal review

New (proposed):



First publication:

- **Strategic Plan for Coordination**
- Published every four years
- Composed by interagency group
- Approved by FCMSSR



Second publication:

- **Annual Federal Report**
- Smaller (~40 pages)
- Few spreadsheets (satisfies PL 87-843)
- Progress towards Strategic Goals and Objectives by Agencies & Committees (not in FY18 version)
- Released in March (normally, but not FY18 version)
- OMB Review

New Annual Federal Report

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Example Agency Input (preliminary Draft)

NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) request for funding related to meteorological supporting research in the FY 2018 President's Budget is \$120.6 million, a 10% decrease from FY 2017 levels. Requested FY 2018 funds would allow NSF to continue to fund research related to basic meteorology, climate, and space weather. NSF proposal requests are community-driven, which allows funding to move to emerging areas of interest. In addition, the funding would ensure that facilities, both observational and computational, are made available for community use. NSF awards grants to single investigators or small collaborative groups working on specific topics, as well as larger interdisciplinary groups and the National Center for Atmospheric Research.

- NSF funds research on processes related to physical and mesoscale meteorology at a projected level of \$54.6M in FY 2018. This level of funding will allow NSF to support basic research on observational systems, analysis techniques and understanding of phenomena that will help to improve weather forecasts and public safety. Recent major investments include the study of the initiation and upscale growth of convection into organized systems and the characteristics of boundary layer flow over terrain. NSF has also started a program called PREEVENTS (Prediction of and Resilience against Extreme Events) which has high relevance to basic meteorological processes.
- (Two additional similar bullets)

AGENCY	Total		
	FY16	FY17	FY18
NSF	134.1	134.0	120.6

Agency Inputs Status

		FY2018 Federal Plan Agency Input Matrix																										
		USDA	DOC/NOAA					DOD				DHS		DOI			DOT		EPA	NASA	NRC	DOE				DOS	SI	NSF
		NESDIS	NOS	NWS	OAR	OMAO	AF	AR	NV	MC	FEM A	USCG	USGS	NPS	BLM	FAA	FHWA				SpWx	EmRsp	WFIP	Sci				
Section 1 Budget																												
Budget Narrative		X	X	X	X	X	X	X	X	X	na	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Table 1 top line numbers		X	X	X	X	X	X	X	X	X	na	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Table 2 interagency transfers		X	X	X	X	X	X	X	X	X	na	X	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X
	KEY		X	Input Received																								

Next: Strategic Plan for Coordination

Strategic Plan for Coordination

Received substantive feedback from USAF and NWS:

- Emphasize purpose is to “coordinate,” not to direct actions
- Stress that cooperation with the plan is based on agency’s available resources and compatibility with mission
- Need OFCM to have clear authority to operate/coordinate
- Remove/change Objective 1.2

“**Conduct** (suggested: ‘Provide forums for discussion of’) development, deployment, and sustainment of common-use systems through formalized interagency processes.”

Proposed Plan:

- OFCM revise and re-submit to ICMSSR members (~2 weeks)
- ICMSSR members review, provide concurrence/non-concurrence by **15 August**
- ICMSSR formal approval at September meeting
- Present to FCMSSR in October

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GOES-R Series Program Status and GOES-16 Early On- Orbit Results

Mike Stringer

GOES-R Series Program Acting System
Program Director

Steve Goodman

GOES-R Series Program Senior Scientist

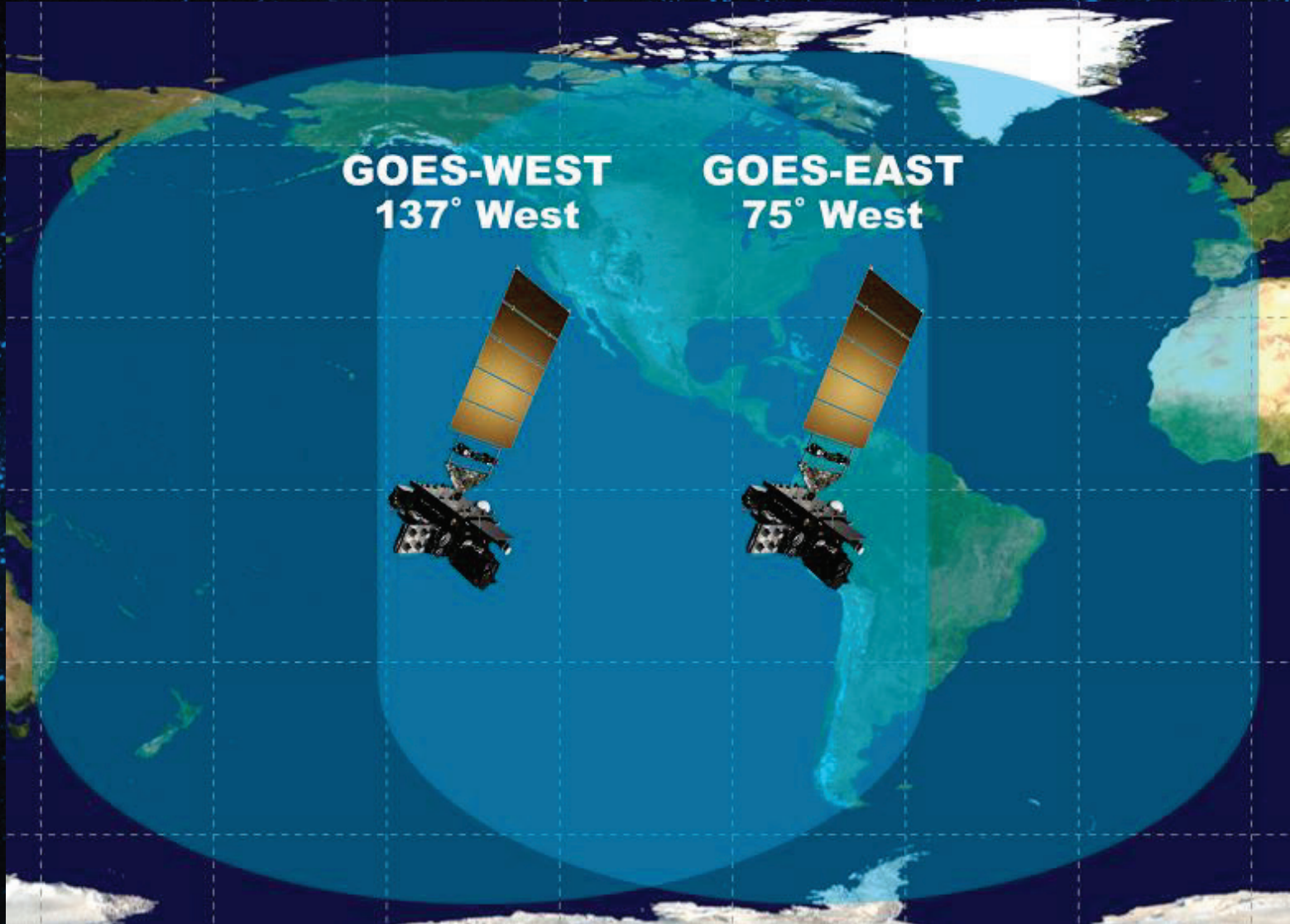
**Office of the Federal Coordinator for
Meteorology**

**Interdepartmental Committee for
Meteorological Services and
Supporting Research meeting**

June 22, 2017



GOES-16 Will Go East in November

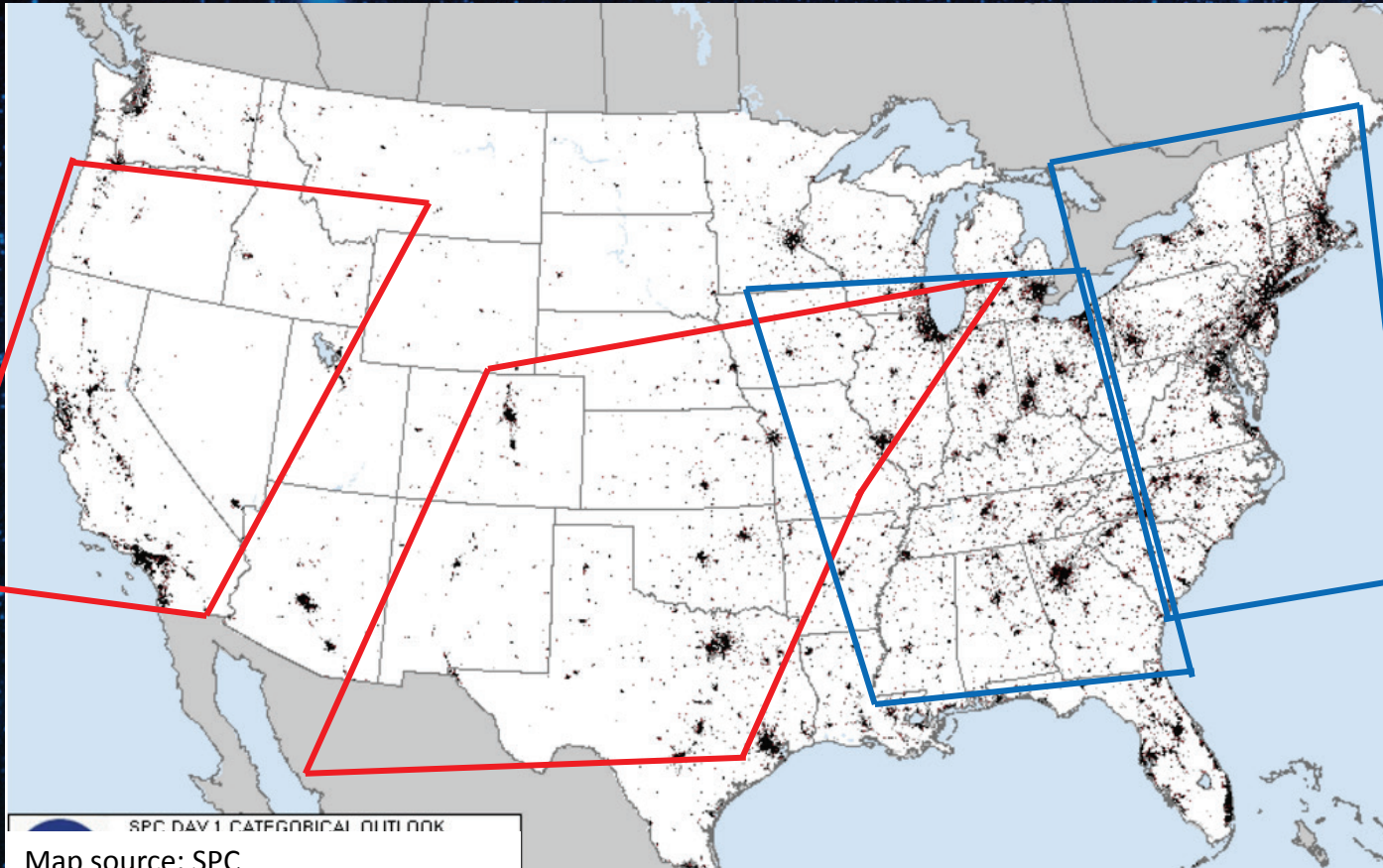




Default Mesoscale Image Locations



GOES-West

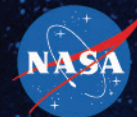


GOES-East

GOES-16 will not image while relocating



GOES-16 Post-Launch Test Status



Component	Initial Power-On	Door Open	1 st Light	Public Release (Actual)	Broadcast via GRB	Last Active Test Complete	Tables Updated	Last Passive Test Complete
ABI	12/9/16	1/7/17	VNIR 1/7/17 IR 1/14/17	1/23/17	3/1/17	2/15/17 (Spatial)	5/22/17 (GPA LUT in DE)	Routine Cal Ops Started
EXIS	12/9/16	1/10/17	XRS 12/9/16 EUVS 1/20/17	2/3/17	3/23/17	3/22/17 (Off point/darks)	5/31/17 (GPA LUT)	Routine Cal Ops Started
GLM	12/9/16	1/4/17	1/4/17	3/6/17	7/5/17	4/23/17 (Solar Intr)	6/23/17 (GPA LUT)	Routine Cal Ops Started
Mag	12/7/16	N/A	12/7/16	1/4/17	6/1/17	3/17/17 (FSW upload)	3/3/17 (GPA LUT)	Routine Cal Ops Started
SEISS	DPU 12/21/16 Sensors 1/8/17	N/A	1/8/17	2/10/17	2/13/17	4/12/17 (EHIS Cal Repeat)	6/20/17 (EHIS Coeff U/L)	Routine Cal Ops Started
SUVI	12/9/16	1/9/17	1/26/17	2/27/17	4/20/17	5/25/17 (Flat Field Rep)	6/22/17 (GPA LUT)	Routine Cal Ops Started
Spacecraft	At Launch	N/A	SPP Sun Point 1/20/17	N/A	N/A	5/4/17 (IMU align)	N/A	Routine Cal Ops Started
Mission Milestones	Launch					PLAR 5/9/17	HRR 6/20/17	Handover 6/23/17

Complete
In Progress
ECD

As of June 13, 2017



L1b



As of 10:13 AM, 2017

Science Product Validation Status

ABI L1b Product	Beta	Provisional	Full
Radiances	2/28/17	6/1/17	6/5/18
GLM L2 Product			
Lightning: Events, Groups, Flashes	7/5/17	11/1/17	6/5/18
SEISS L1b Products			
Energetic Heavy Ions	2/10/17	11/1/17	6/1/18
Magnetospheric e ⁻ /p ⁺ : Low Energy	2/10/17	11/1/17	6/1/18
Magnetospheric e ⁻ /p ⁺ : High Energy	2/10/17	11/1/17	6/1/18
Solar & Galactic Protons	2/10/17	11/1/17	6/1/18
EXIS L1b Product			
Solar Flux: EUV	3/23/17	11/2/17	6/1/18
Solar Flux: X-ray Irradiance	3/23/17	11/2/17	6/1/18
SUVI L1b Product			
Solar EUV Imagery	4/19/17	11/2/17	6/1/18
MAG L1b Product			
Geomagnetic Field	5/25/17	11/2/17	10/9/18

Bold Dates = New since last month

Validation Maturity Levels:

Not Validated	Beta Maturity	Provisional Maturity	Full Maturity
---------------	---------------	----------------------	---------------



L2



Science Product Validation Status

ABI L2+ Products	Beta	Prov	Full
Cloud and Moisture Imagery (CMI) and Sectorized CMI (KPP)	2/28/17	6/1/17	9/3/18
Aerosol Detection (Smoke & Dust)	5/24/17	12/15/17	9/3/18
Aerosol Optical Depth (AOD)	5/24/17	12/15/17	9/3/18
Clear Sky Mask	4/19/17	12/15/17	9/3/18
Cloud Optical Depth	6/8/17	12/15/17	9/3/18
Cloud Particle Size Distribution	6/8/17	12/15/17	9/3/18
Cloud Top Height	5/16/17	12/15/17	9/3/18
Cloud Top Phase	5/16/17	12/15/17	9/3/18
Cloud Top Pressure	5/16/17	12/15/17	9/3/18
Cloud Top Temperature	5/16/17	12/15/17	9/3/18
Derived Motion Winds	6/8/17	12/15/17	9/3/18
Derived Stability Indices	5/16/17	12/15/17	9/3/18

ABI L2+ Products	Beta	Prov	Full
Downward S/W Radiation: Surface	6/23/17	12/15/17	9/3/18
Fire/Hot Spot Characterization	5/24/17	12/15/17	9/3/18
Hurricane Intensity Estimation	9/8/17	12/15/17	9/3/18
Land Surface Temperature	5/24/17	12/15/17	9/3/18
Legacy Vertical Moisture Profile	5/16/17	12/15/17	9/3/18
Legacy Vertical Temperature Profile	5/16/17	12/15/17	9/3/18
Rainfall Rate/QPE	8/1/17	12/15/17	9/3/18
Reflected S/W Radiation: TOA	6/23/17	12/15/17	9/3/18
Sea Surface Temperature	6/14/17	12/15/17	9/3/18
Snow Cover	12/30/17*	3/30/18*	9/3/18*
Total Precipitable Water	5/16/17	12/15/17	9/3/18
Volcanic Ash: Detection and Height	7/5/17	12/15/17	9/3/18

As of June 15, 2017.

Current as of June 12, 2017. Bold Dates = New since last month.

Validation Maturity Levels:

Not Validated

Beta Maturity

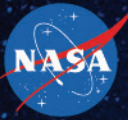
Provisional Maturity

Full Maturity

*Snow Cover has a waiver. It is dependent upon a non-baseline Albedo Product which is in development.



GOES-16/13 East Transition Planning



- Preliminary plans developed to relocate GOES-16 to East operational location in November 2017
 - Drift start on 11/1; Drift stop on 11/14 at 75.2W (1.17 deg/day)
 - **** No GOES-16 imaging during the drift period! ****
- Planning for approx. two-week overlap in G-16/G-13 operation at 75W to accommodate Magnetometer assessment and ABI image product comparison with G-13.
 - Cannot radiate GRB/GVAR simultaneously at same longitude due to radio frequency overlap
 - Plan to relay GOES-13 GVAR through GOES-14 during the overlap period
- No maneuvers/special operations during Thanksgiving and Christmas holidays
- No GOES-East transition/interruption during designated critical weather days



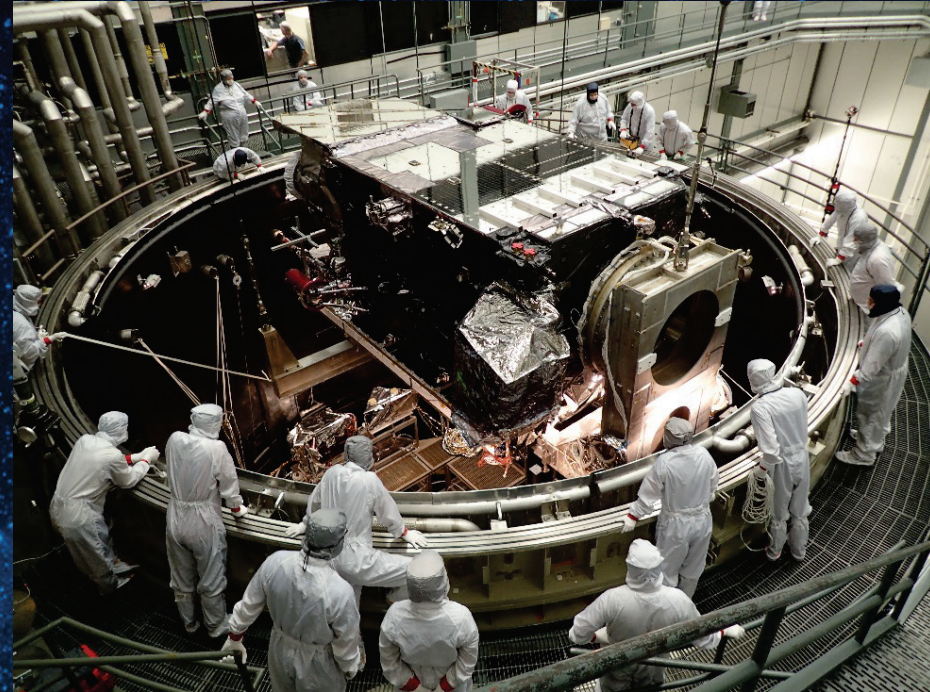
GOES-S Status



- Thermal vacuum testing complete
- Completed third GOES-S end-to-end test with the ground system
- Launch vehicle completed Critical Design Review

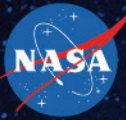
Upcoming GOES-S milestones:

- Operational Readiness Review: Dec. 2017
- Pre-Shipment Review: ~Nov. 2017
- Mission Readiness Review: Jan. 2018
- Launch planned for spring 2018



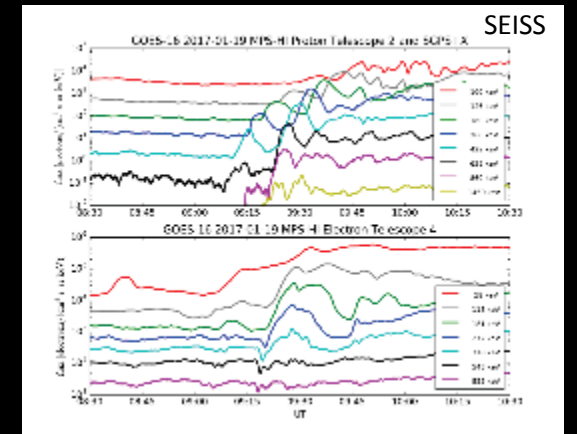
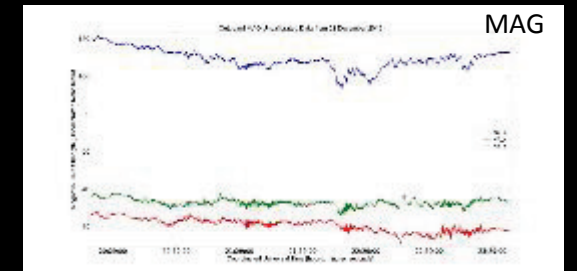
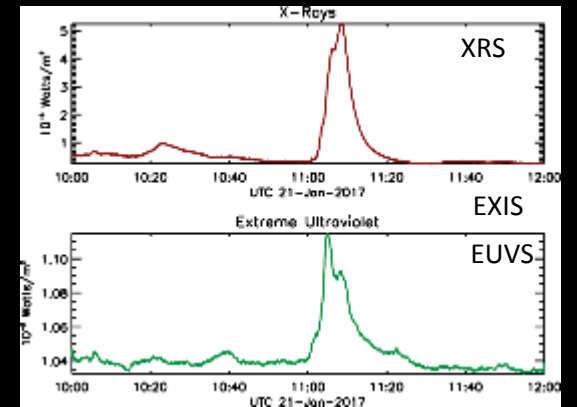
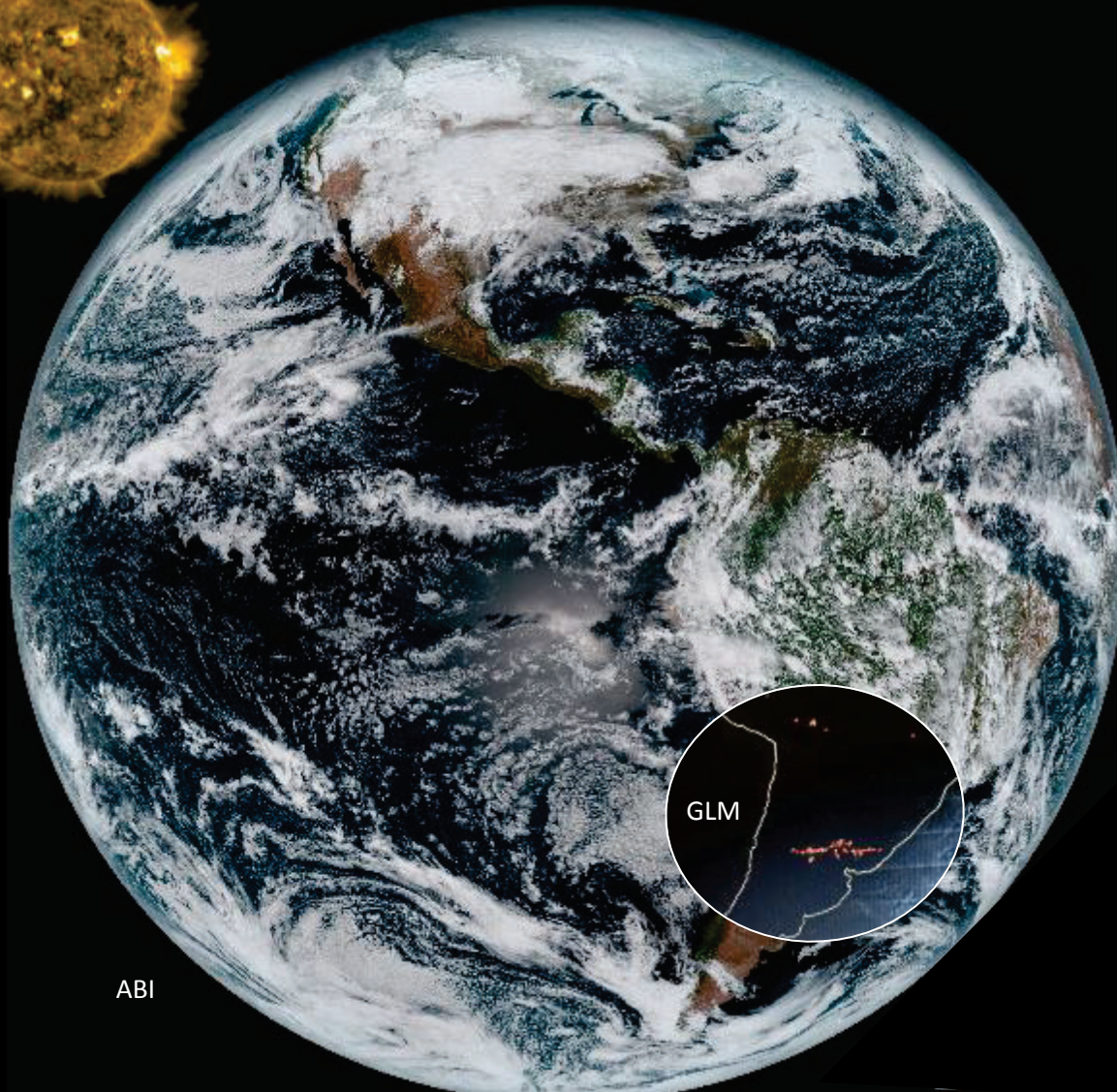
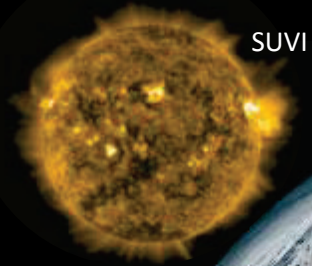


GOES-T and GOES-U Status



- GOES-T:
 - EXIS and SUVI integrated with Solar-Pointing Platform (SPP)
 - ABI and SEISS integration underway
 - Completed Test Readiness Review
 - Initiated acceptance test of propulsion module
 - Upcoming milestones:
 - System Integration Review: July 2017
- GOES-U:
 - All structure hardware shipped
 - All solar-pointing subsystem detail parts complete

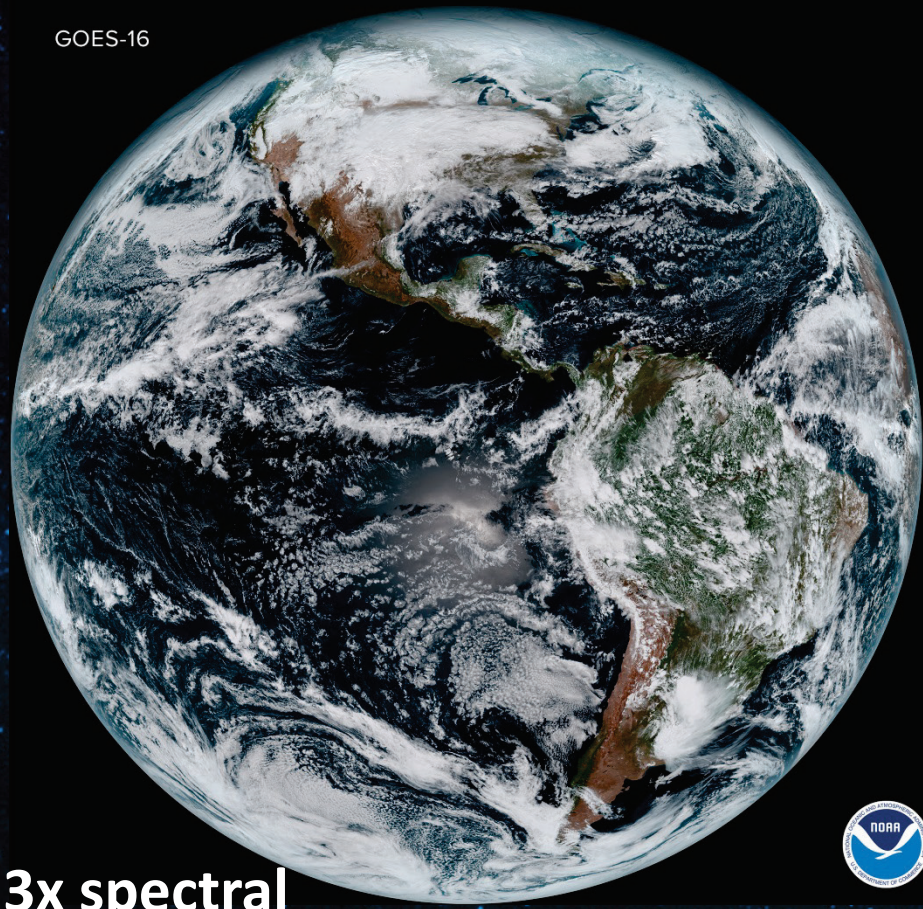
All Instruments Generating Science Data



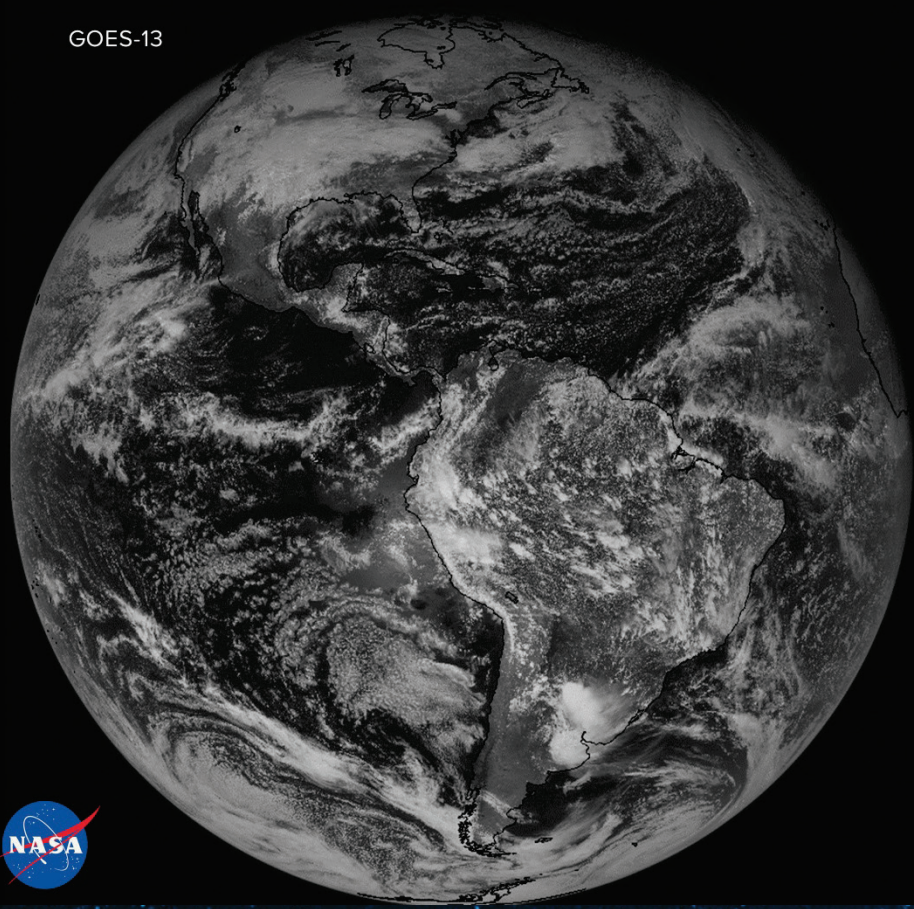


First ABI Imagery January 23

GOES-16



GOES-13

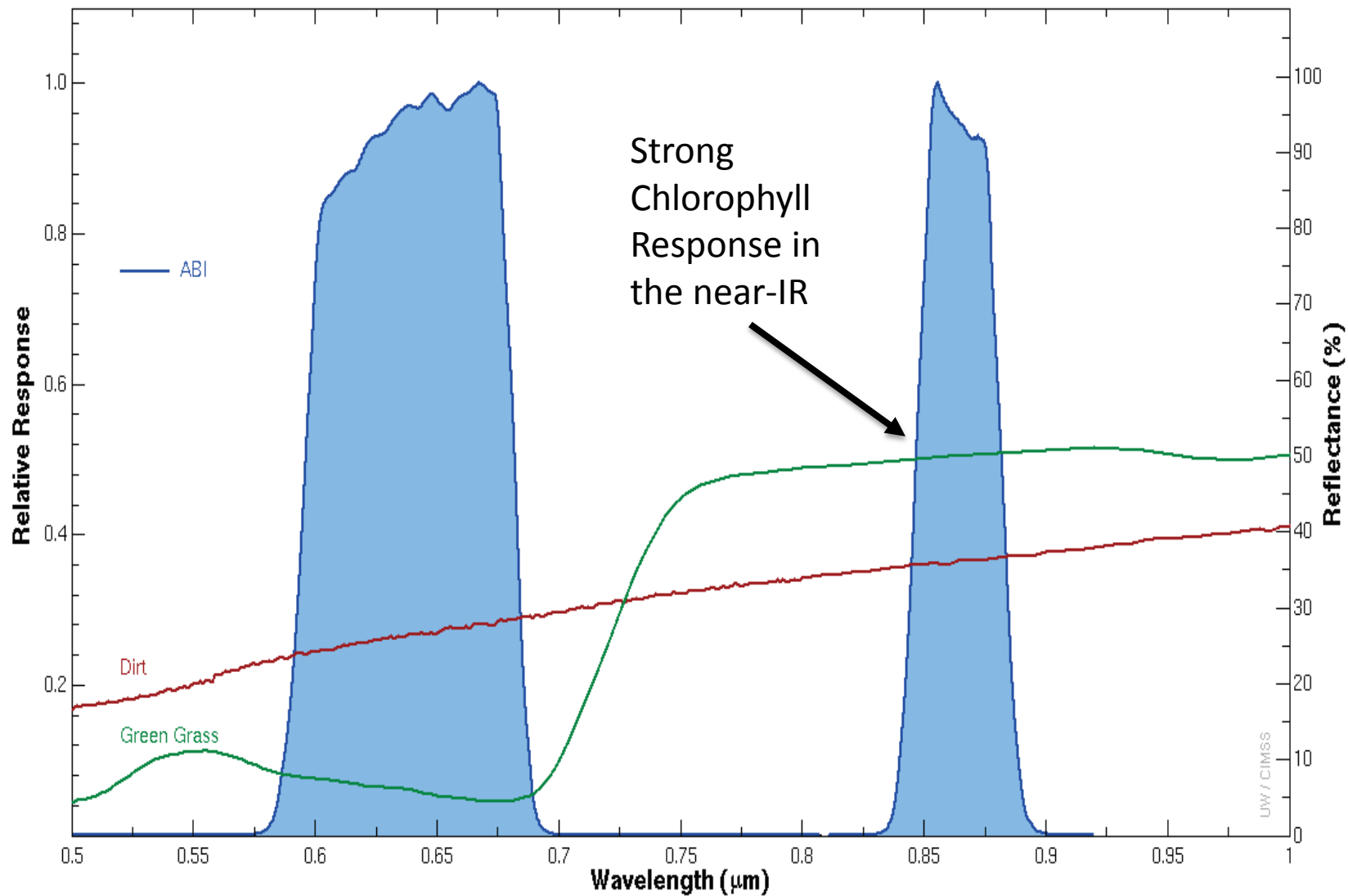


3x spectral
4x spatial
5x temporal

GOES-16 vs GOES-13 on January 15, 2017

Recipe for GOES-16 RGB

ABI Flight Model 1 v2 SRFs

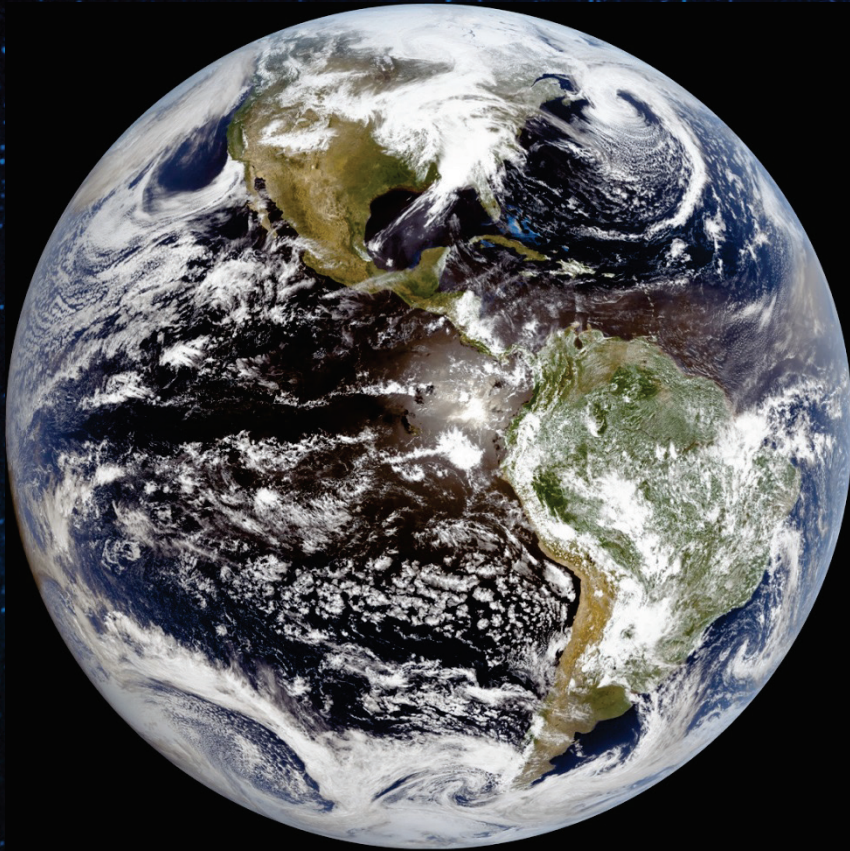




True Color

04-03, 17:15Z

04-03, 18:18Z

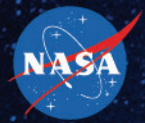


GOES-R Imagery Team

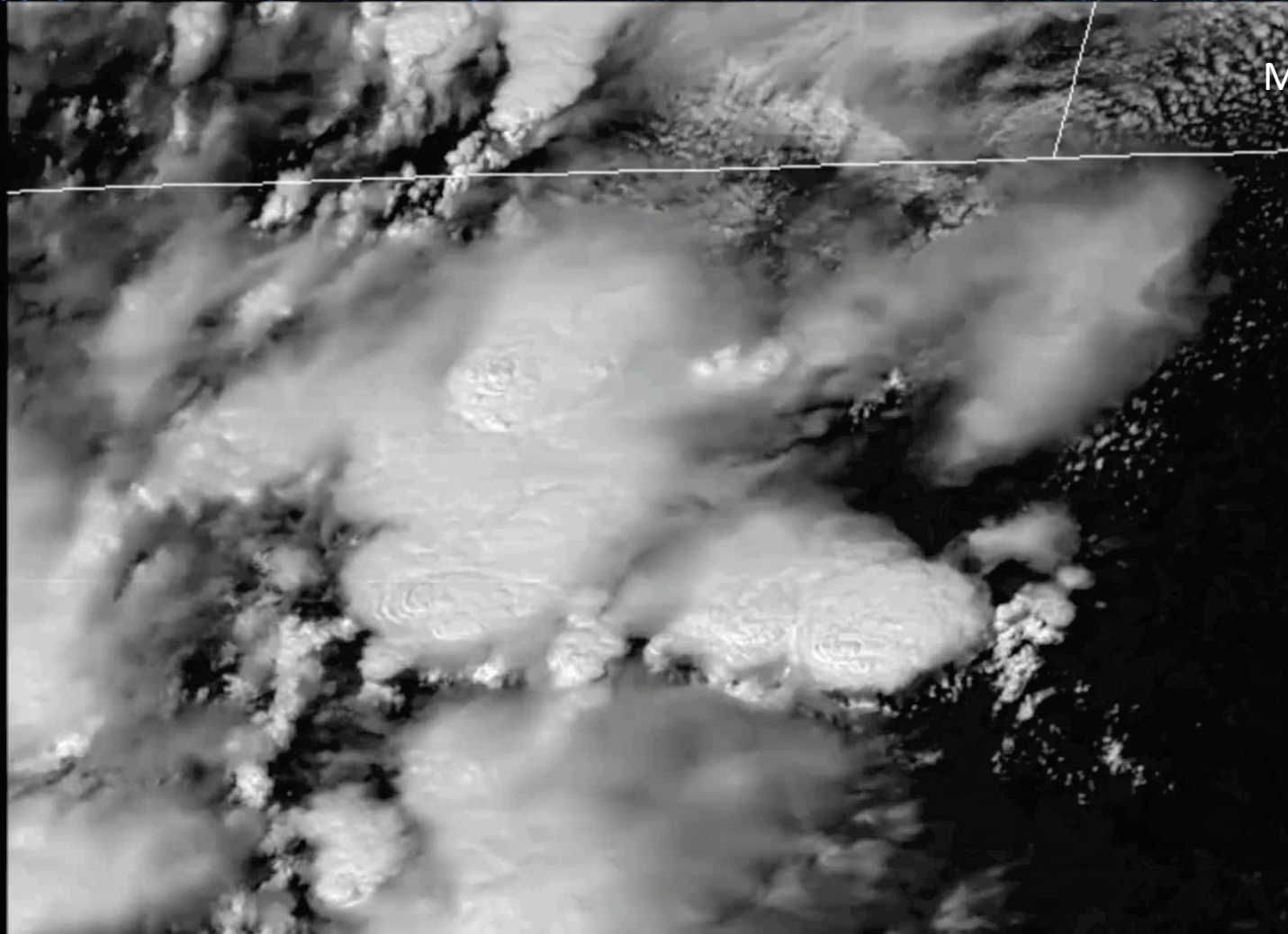
EPIC (on DSCVR)



30-second Imagery of Severe Storms in Colorado



Denver, CO Hailstorm



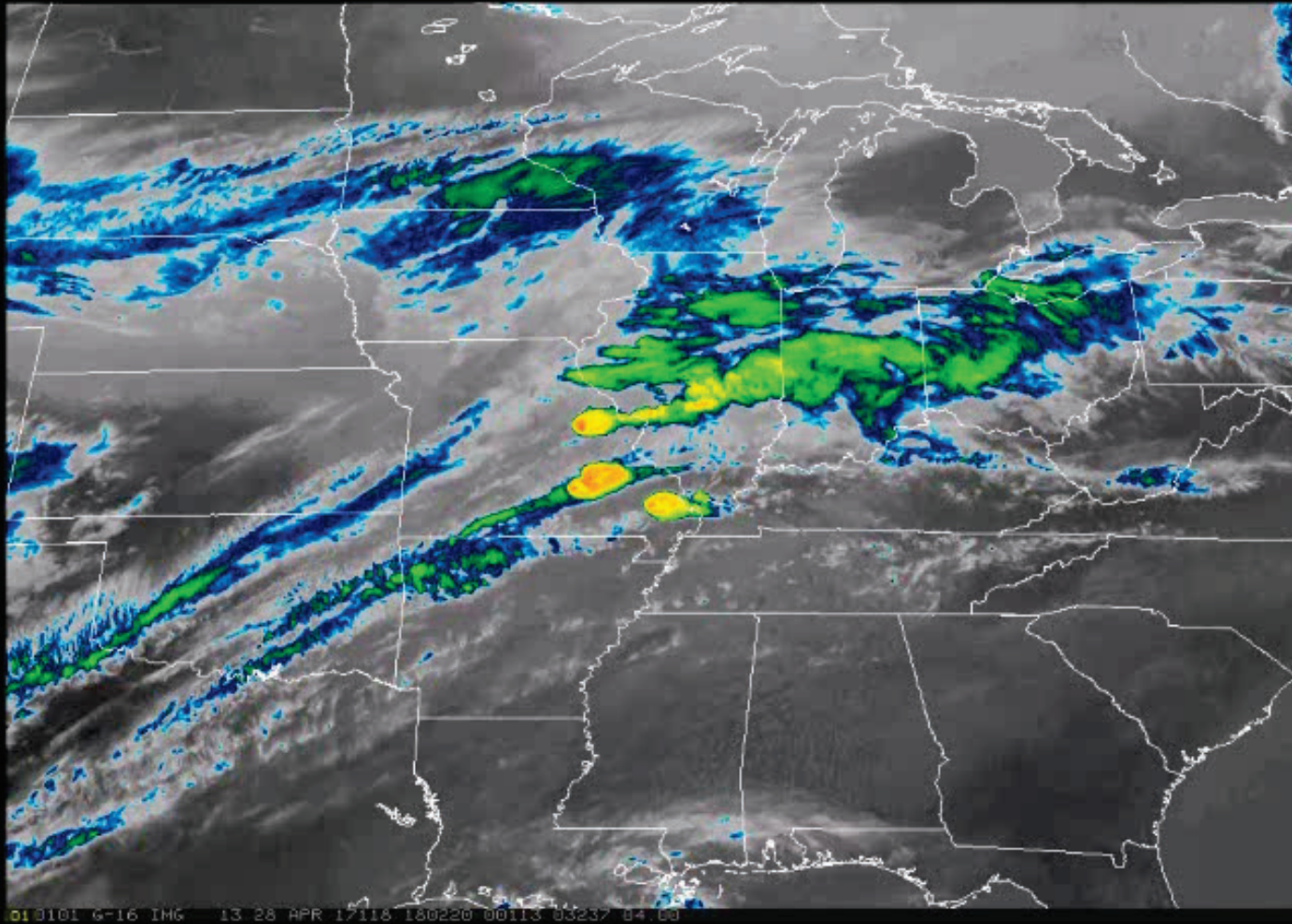
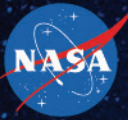
May 8 2017

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Infrared Imagery of Severe Storms

April 28-30, 2017

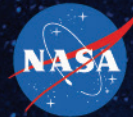


Note: This is preliminary, non-operational data as GOES-16 undergoes on-orbit testing



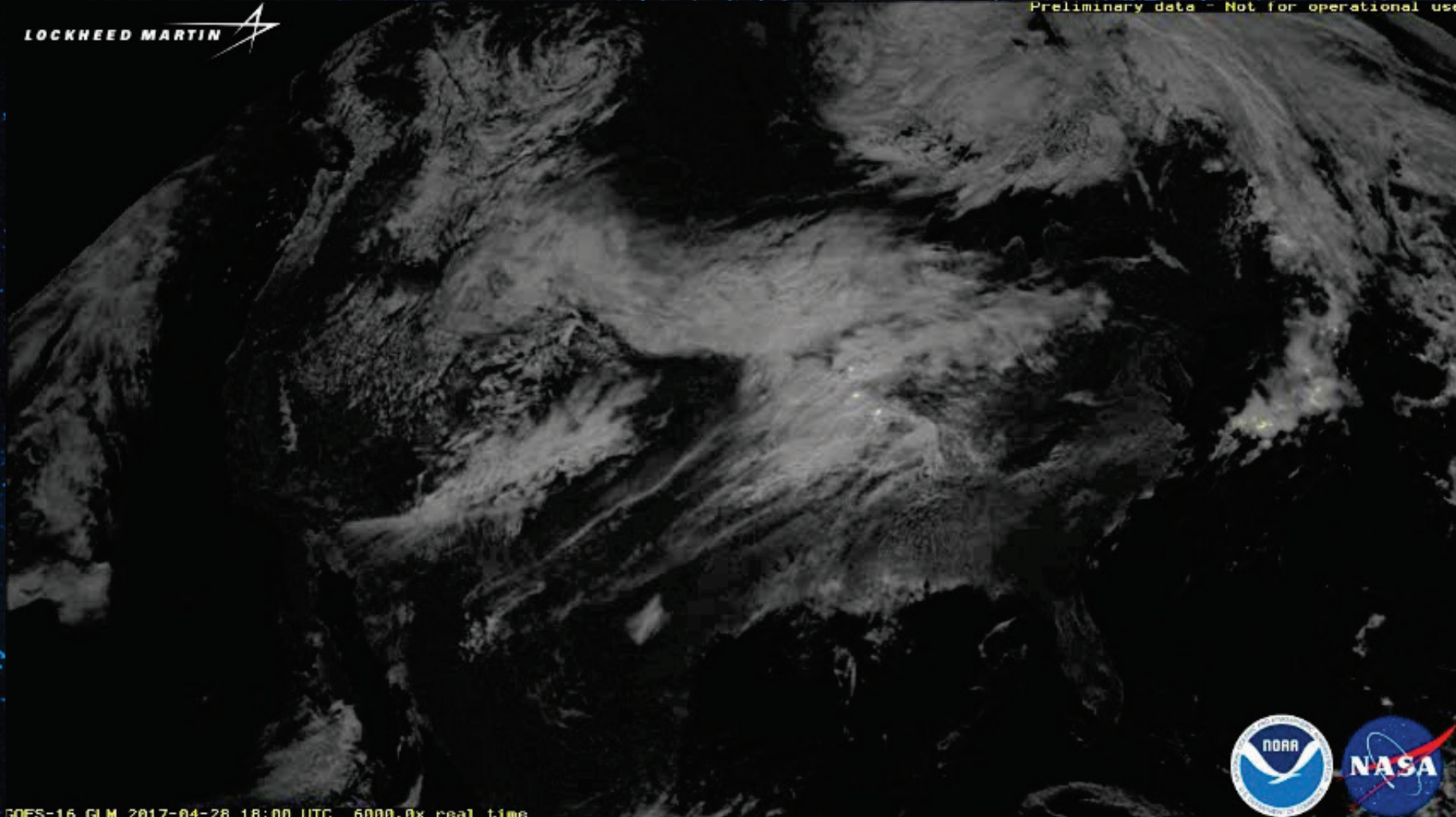
GLM Imagery of Severe Storms

April 28-29, 2017



LOCKHEED MARTIN 

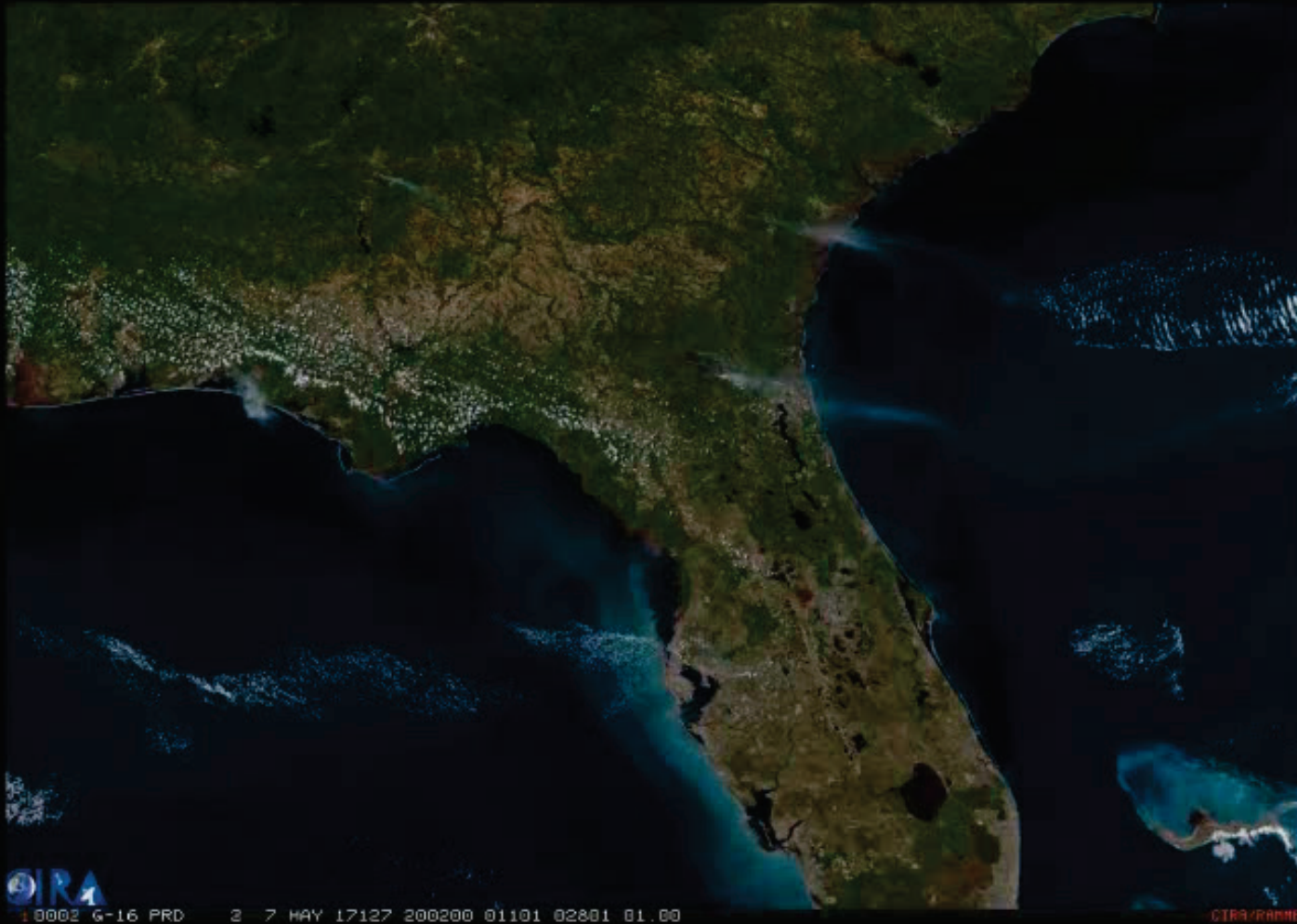
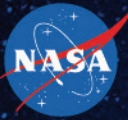
Preliminary data - Not for operational use



GOES-16 GLM 2017-04-28 18:00 UTC 6000.0x real time



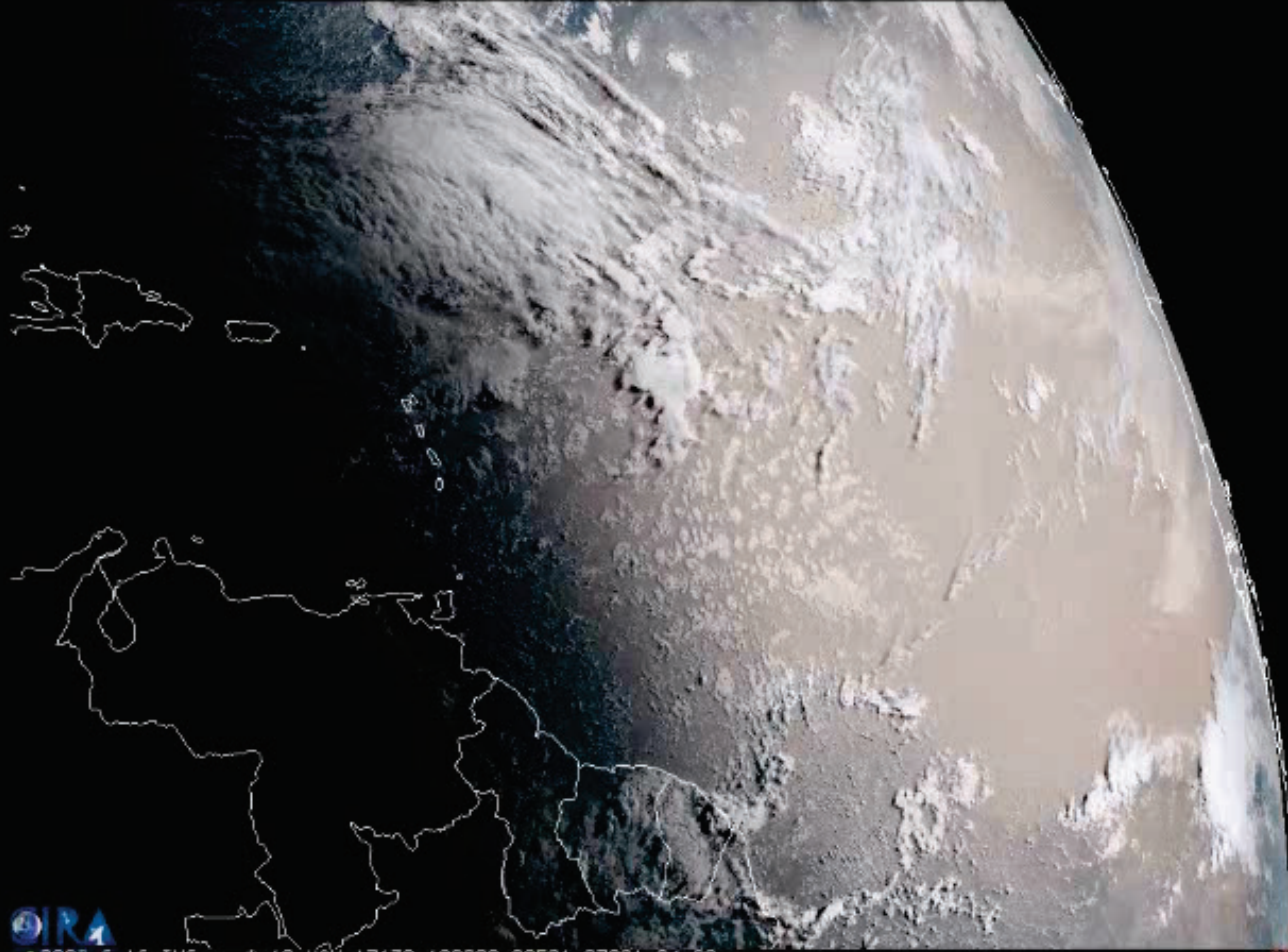
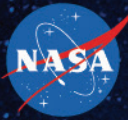
GOES-16 Imagery of West Mims Fire





Saharan Dust

May 19, 2017



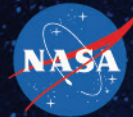
CIARA

20002 G-16 IMG 1 19 MAY 17139 100000 02501 07001 04.00

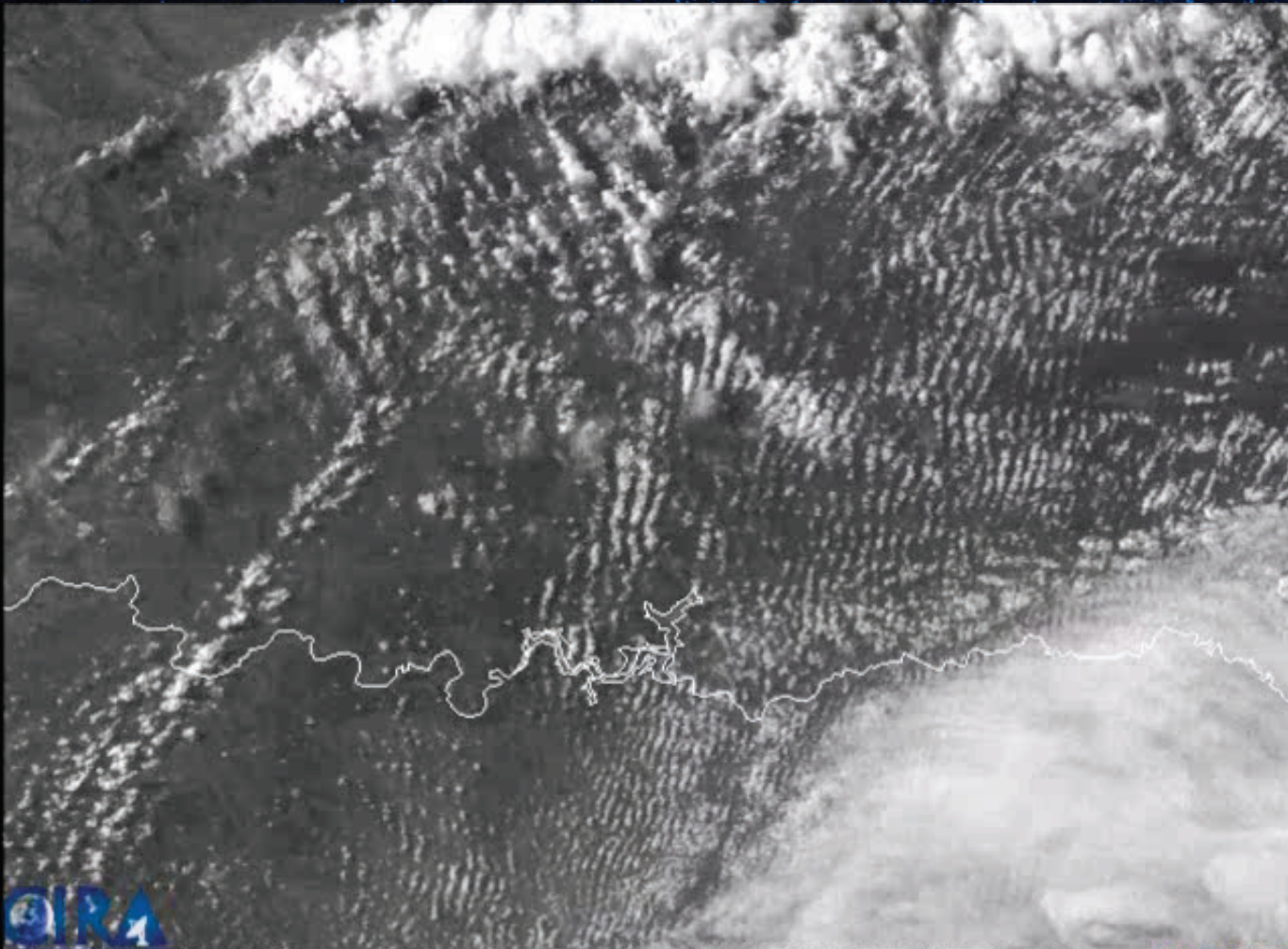
CIARA/RAMNB



Visible Imagery of Supercells in Oklahoma



May 27, 2017



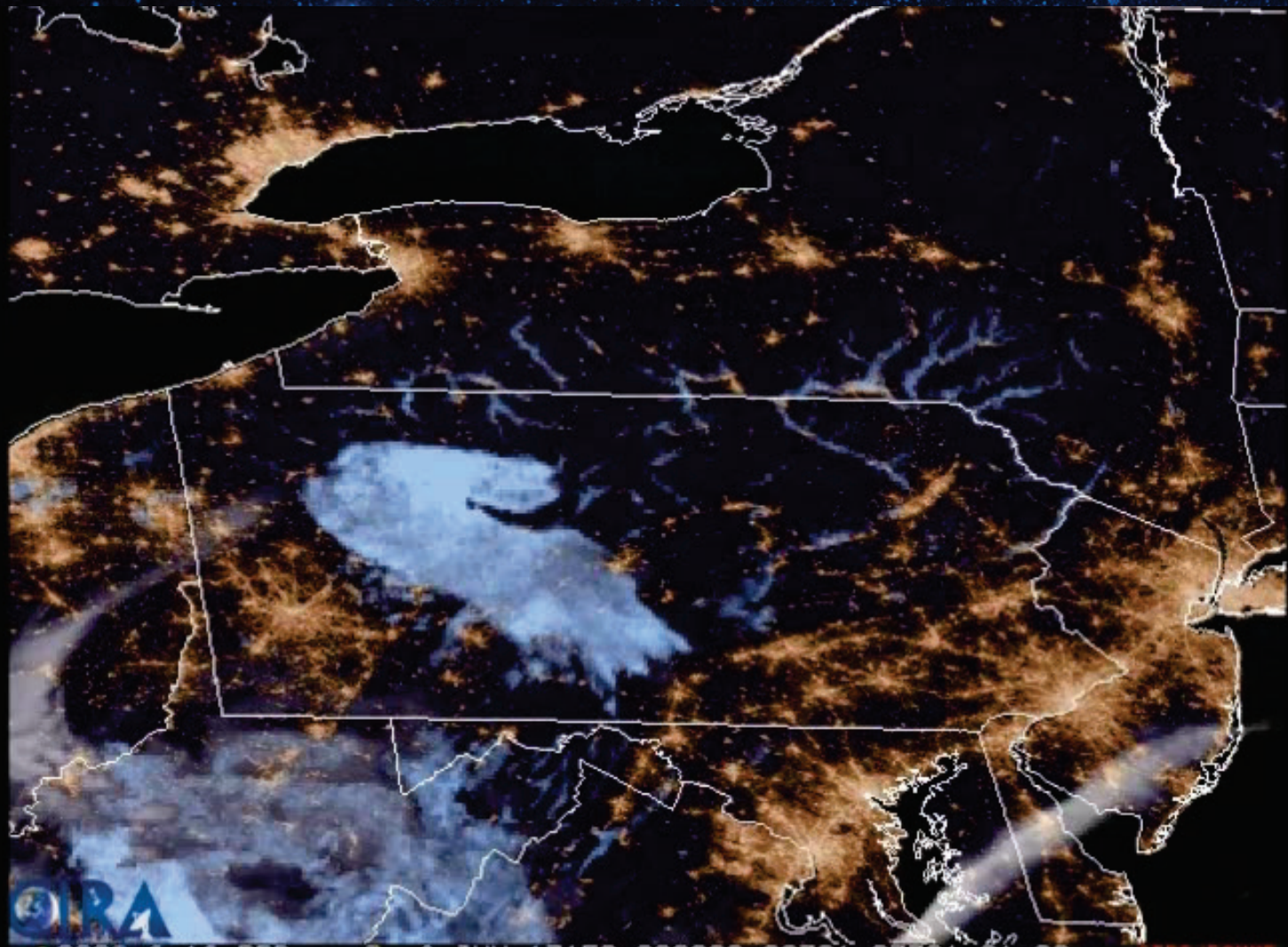
CIRA

1 0001 G-16 IMG 2 27 MAY 17147 220222 01893 03770 01 00 CIRA/RAMMB



GOES-16 Geocolor Fog Dissipation

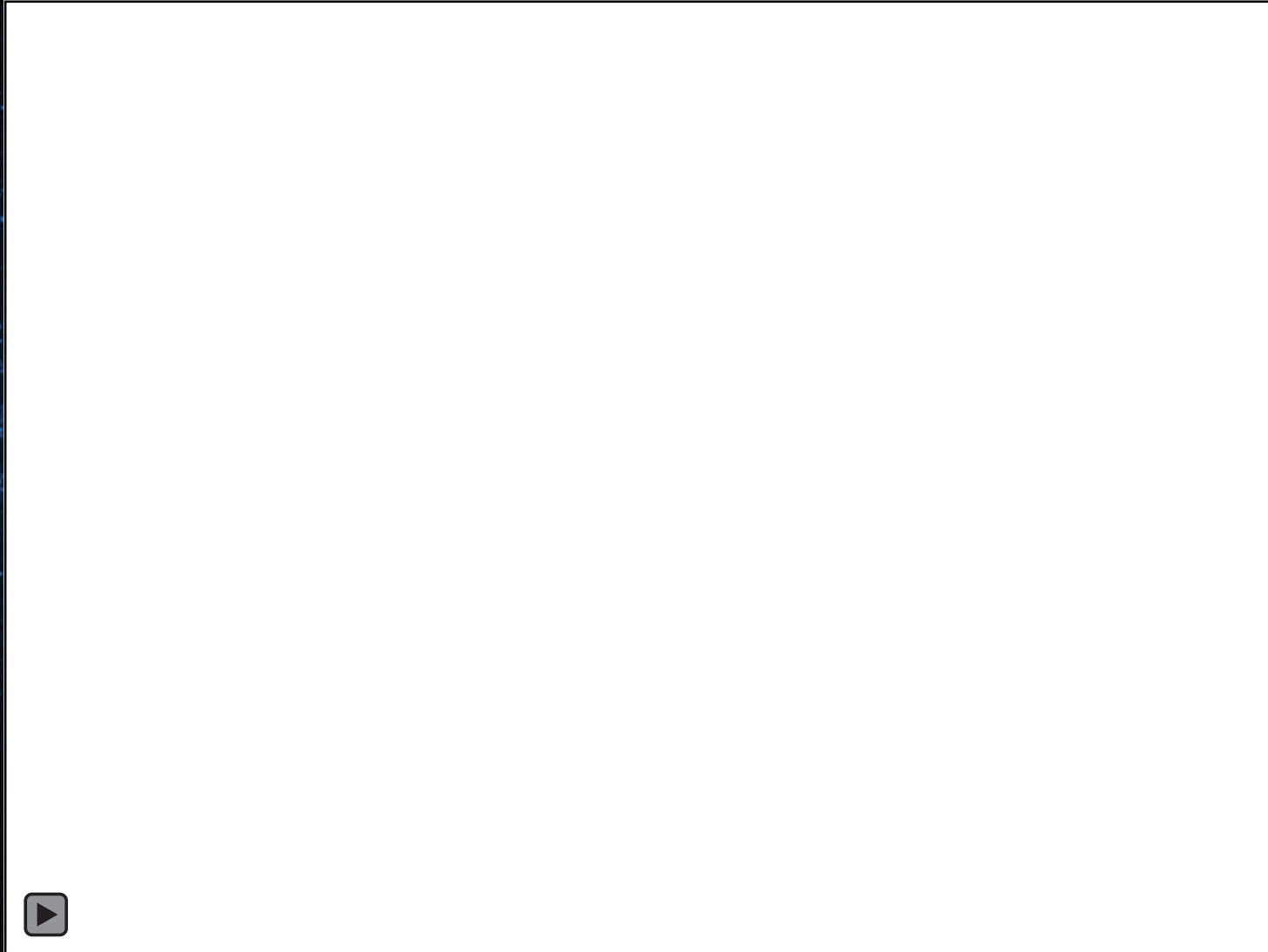
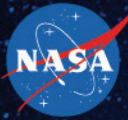
June 8, 2017



2 0002 G-16 PRD 2 8 JUN 17159 090200 00301 03301 01.00 CIRA/RAMMB



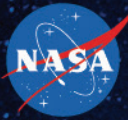
Geocolor of Potential Tropical Cyclone Three (PTC3) June 20, 2017



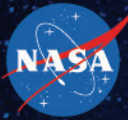


SUVI Sees a Solar Flare

April 1, 2017

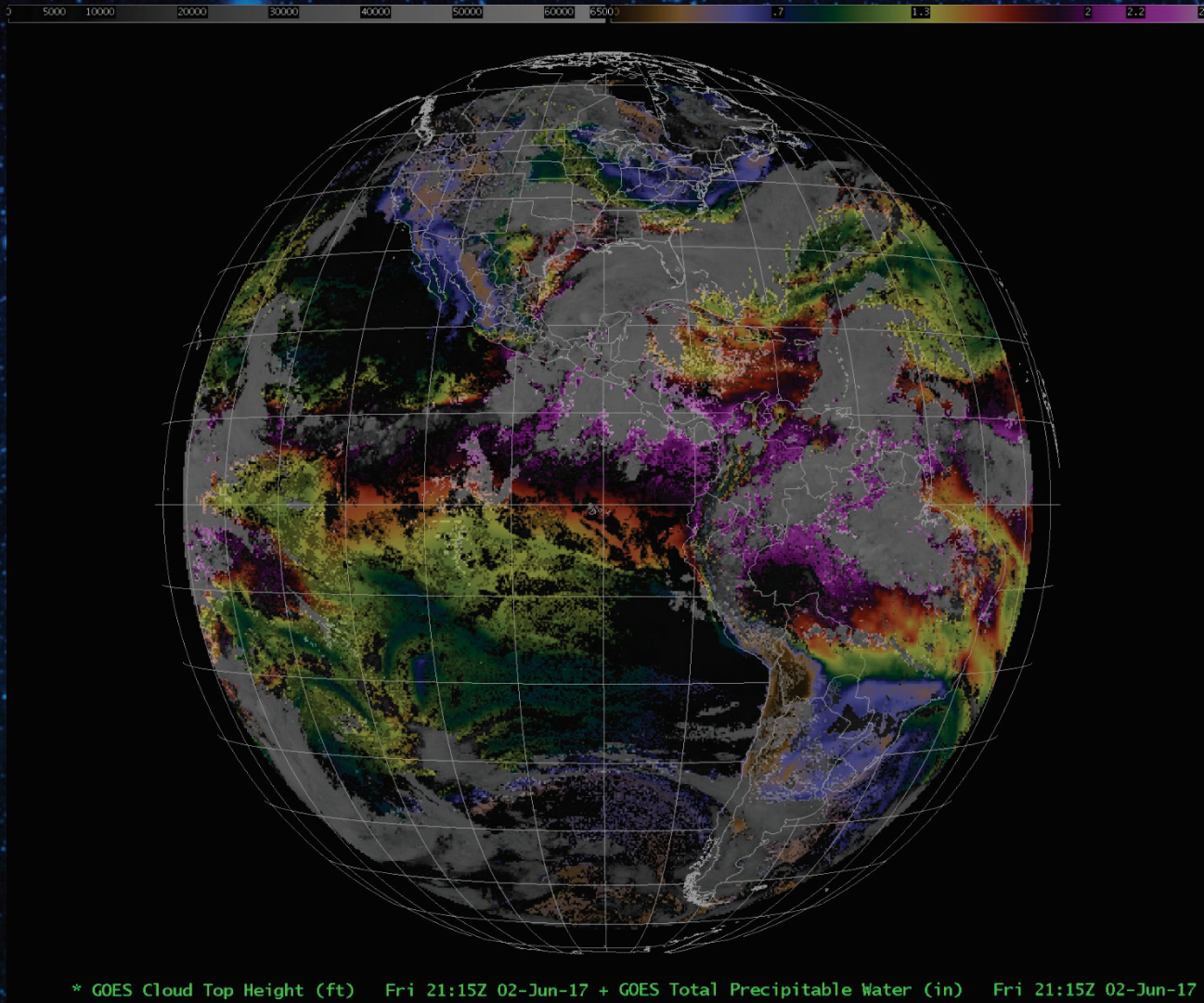


Note: This is preliminary, non-operational data as GOES-16 undergoes on-orbit testing



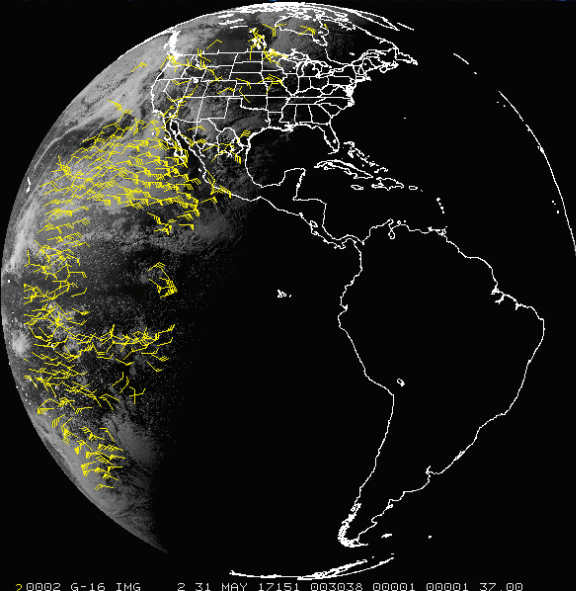
GOES-16 Derived Products

Total Precipitable Water and Cloud Top Height (Beta Status)



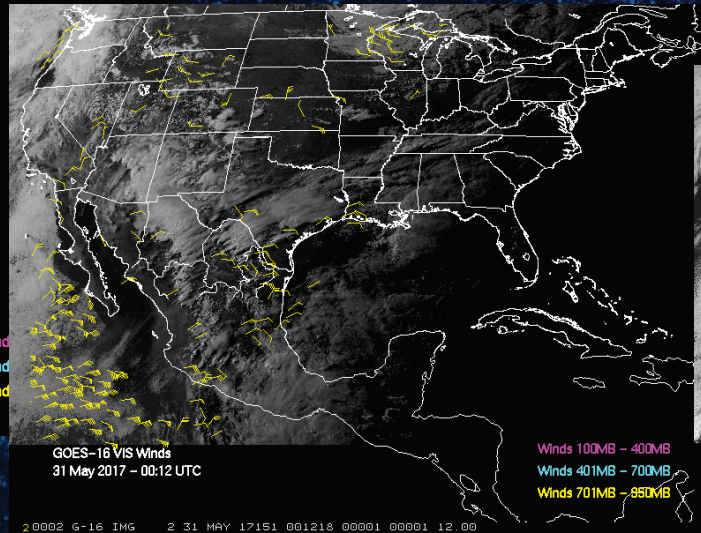


GOES-16 Derived Products Winds (Beta Status)



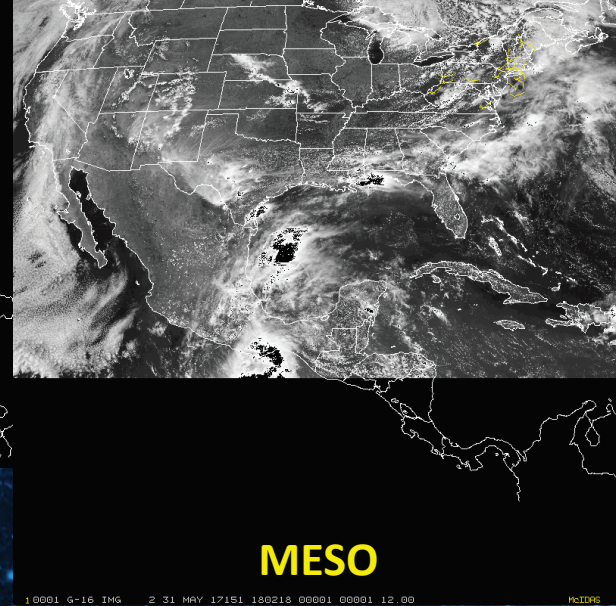
GOES-16 VIS Winds
31 May 2017 - 00:30 UTC

High-Level 100-400 mb Mid-Level 400-700 mb Low-Level >700 mb



GOES-16 VIS Winds
31 May 2017 - 00:12 UTC

Winds 100MB - 400MB
Winds 401MB - 700MB
Winds 701MB - 850MB



Full Disk

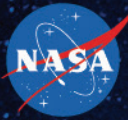
CONUS

MESO

Band 2 Winds **Mode 3:**
May 31 (0030 UTC) – June 1 (2215 UTC), 2017

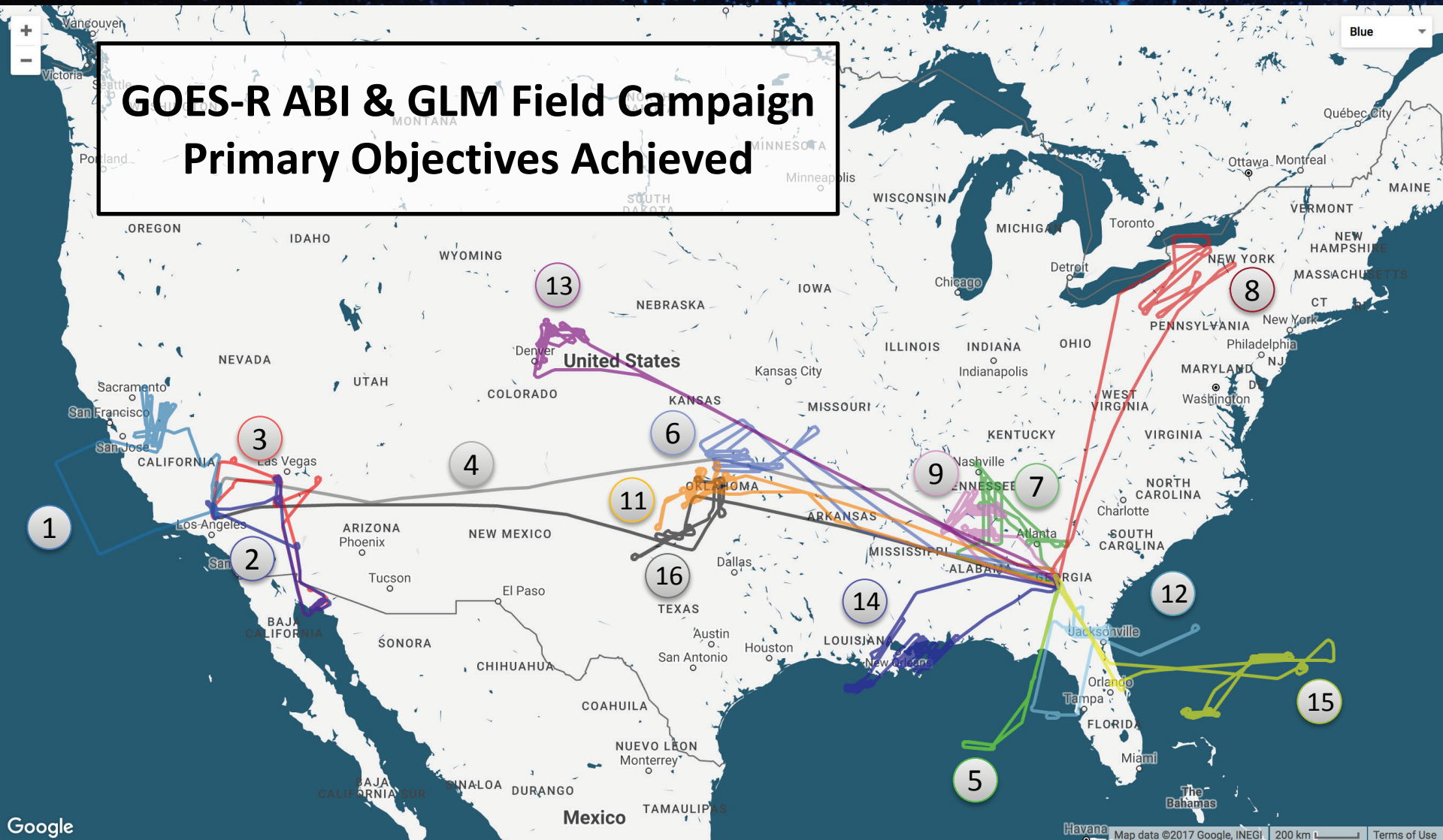


GOES-16 Field Campaign Complete



GOES-R Post Launch Airborne Science Cal/Val Field Campaign (March 21 to May 17, 2017)

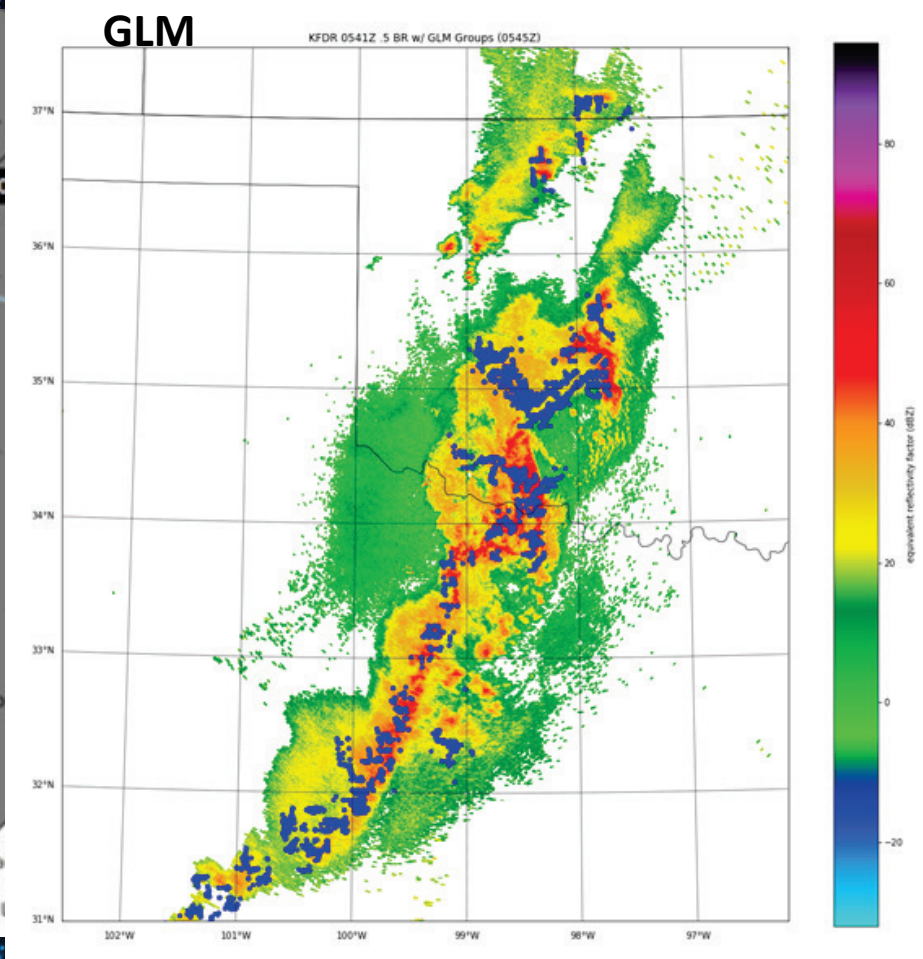
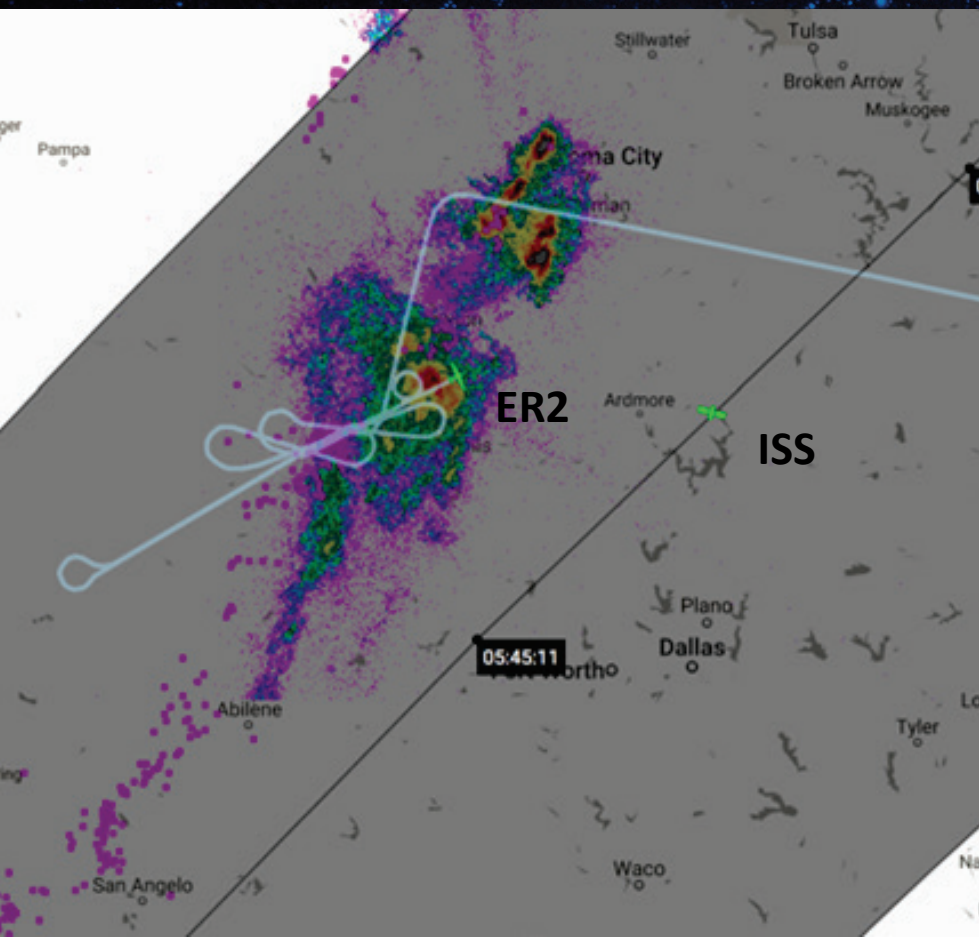
**GOES-R ABI & GLM Field Campaign
Primary Objectives Achieved**



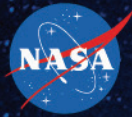
Google

Havana Map data ©2017 Google, INEGI 200 km Terms of Use

*Flight #10 - April 27, 2017 - Huntsville, AL not shown due to aircraft navigation not reporting



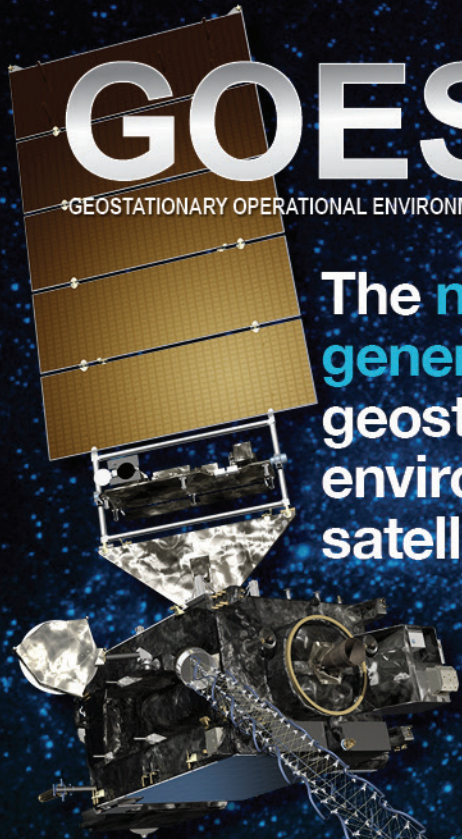
0541 Z Lightning, May 17, 2017



GOES R

#GEOSTATIONARY OPERATIONAL ENVIRONMENTAL SATELLITE R-SERIES

The next generation of geostationary environmental satellites



Thank you

For more information visit www.goes-r.gov

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Today's Agenda

- **OPENING REMARKS**
Dr. William Schulz (OFCM)
- **FEDERAL COORDINATOR'S UPDATE**
Dr. William Schulz (OFCM)
- **FEDERAL MSSR STRATEGIC AND ANNUAL PLAN.**
Dr. William Schulz (OFCM)
- **GOES-16 STATUS UPDATE**
Dr. Steve Goodman and Mr. Tim Walsh (NESDIS-GOES-R)
- **IMPLEMENTING THE WEATHER RESEARCH AND FORECASTING INNOVATION ACT: SECTION 402.**
Dr. William Schulz (OFCM)
- **THE INTERAGENCY COORDINATING COMMITTEE FOR AIRBORNE GEOSCIENCE RESEARCH AND APPLICATIONS (ICCAGRA).**
Dr. Linnea Avallone (NSF)
- **OPEN DISCUSSION**
- **ACTION ITEM REVIEW**
Mr. Michael Bonadonna (OFCM)
- **CLOSING COMMENTS / ADJOURN**

Weather Research and Forecasting Innovation Act

Title IV: New Directives on Coordination

402. Interagency weather research and forecast innovation coordination

(a) Establishment

The **Director of the Office of Science and Technology Policy** shall establish an **Interagency Committee for Advancing Weather Services (ICAWS)** to improve **coordination** of relevant weather research and forecast innovation activities across the Federal Government. The Interagency Committee shall—

- (1) include participation by the *National Aeronautics and Space Administration*, the *Federal Aviation Administration*, *National Oceanic and Atmospheric Administration* and its constituent elements, the *National Science Foundation*, and *such other agencies* involved in weather forecasting research as the President determines are appropriate;
- (2) **identify and prioritize top forecast needs and coordinate those needs against budget requests and program initiatives across participating offices and agencies**; and
- (3) share information regarding operational needs and forecasting improvements across relevant agencies.

Weather Research and Forecasting Innovation Act

Title IV: New Directives on Coordination

(b) Co-Chair

The Federal Coordinator for Meteorology shall serve as a co-chair of this panel.

(c) Further coordination

The Director of the Office of Science and Technology Policy shall take such other steps as are necessary to coordinate the activities of the Federal Government with those of the United States weather industry, State governments, emergency managers, and academic researchers.

Issues

- Some overlap with FCMSSR/ICMSSR missions
- Opportunity to streamline or encumber weather coordination bureaucracy
- Potential for a mandate/“official encouragement” for agencies to coordinate

Weather Research and Forecasting Innovation Act

Title IV: New Directives on Coordination

Actions/Proposed Path

- Form Joint Action Group to draft an implementation plan.
- Create initial draft – JAG member comments due 23 June 2017
 - **DRAFT PLAN:**
 - OSTP issues formal guidance delegating FCMSSR to carry out ICAWS - assigned duties (re-charter FCMSSR)
 - Include section 402(a)(2) status as part of annual Federal Report (drafted by new Working Group)
- Seek legal guidance from several agencies' OGCs.
- Brief recommendations to ICMSSR, seek approval. (September)
- Brief recommendations to FCMSSR, seek approval. (October)
- Present recommendations to OSTP. (TBD)

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The United States Interagency Coordinating Committee for Airborne Geosciences Research and Applications (ICCAGRA)

Improving coordination and efficiency for US airborne geospatial,
environmental and climate research programs

Briefing to Interdepartmental Committee for Meteorological Services and Supporting Research
22 June 2017

ICCAGRA

United States Interagency Coordinating Committee for Airborne Geoscience Research and Applications

Enhancing airborne geoscience services through interagency cooperation and collaboration

Interagency collaboration develops new capabilities

- NOAA Requirement and funding
- NCAR/NSF designed and built
- NASA integrated and operated

ICCAGRA Science Research Aircraft

NASA	CIRPAS	NRL
NOAA	DOE	NCAR/NSF

For more information:
<https://wiki.atm.gov/bin/view/ICCAGRA/WebHome>
 "Coming together is a beginning; keeping together is progress; working together is success." -Henry Ford

“Coming together is a beginning; keeping together is progress; working together is success.”
 -Henry Ford

Chair
Linnea Avallone
 NSF, Lower Atmosphere
 Facilities Manager

Vice Chair
CDR Kristie Twining
 NOAA, G-IV pilot and
 Maintenance Officer

Executive Secretary
LT Tanner Sims
 NOAA, G-IV pilot

ICCAGRA

United States Interagency Coordinating Committee for Airborne Geoscience Research and Applications

Enhancing airborne geoscience services through interagency cooperation and collaboration

Interagency mission collaboration brings more capability to bear observing complex weather and climate phenomena

DOE, NASA & NOAA team in CARES mission

NCAR/NSF, NASA & DLR contribute to DC3 mission

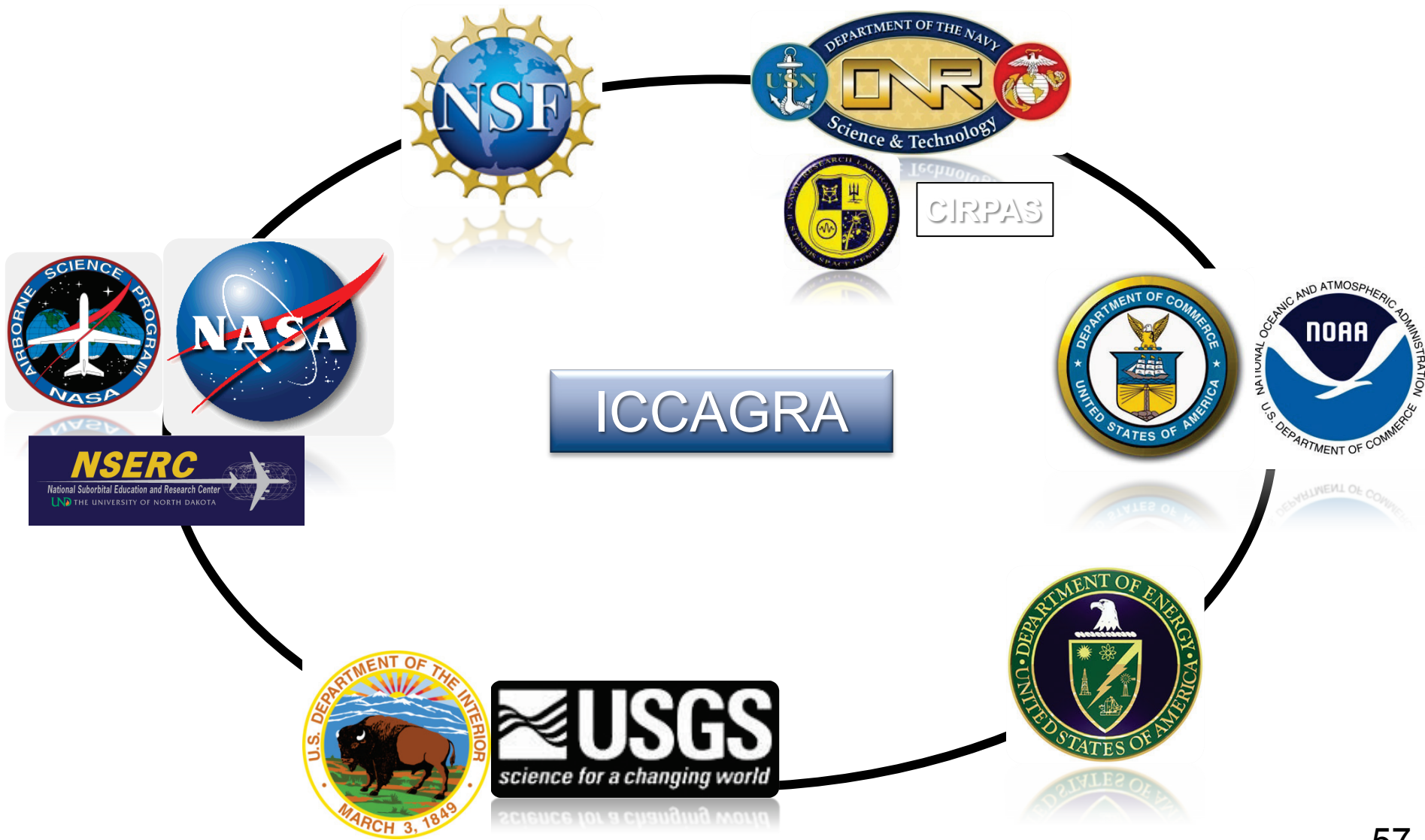
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ICCAGRA Overview

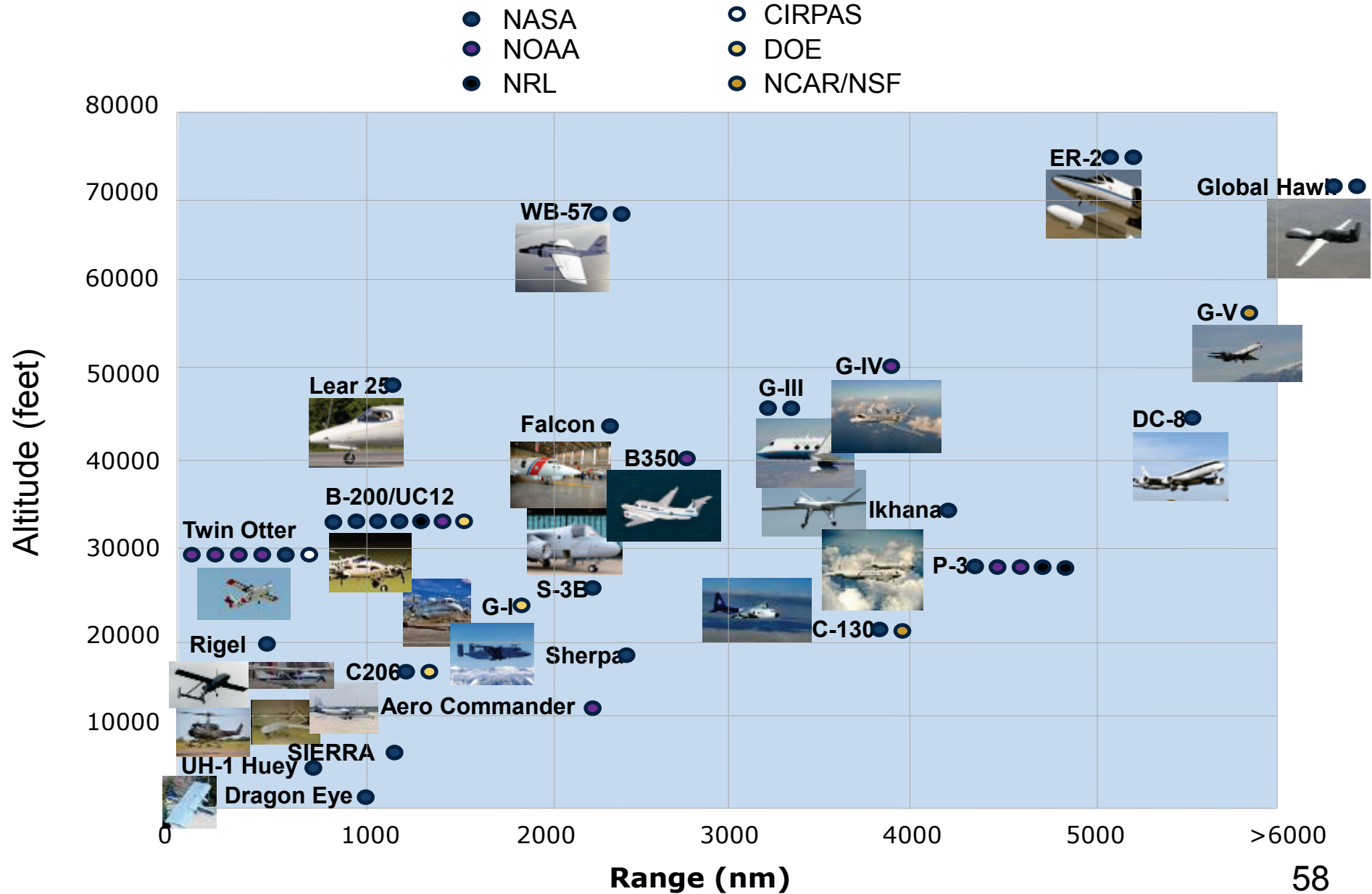
- Founded in early 1990s
- Goals of ICCAGRA
 - Improve cooperation amongst US Agencies
 - Foster awareness
 - Facilitate communication
 - Serve as resource for senior level management
- Has no binding authority
 - Agencies voluntarily participate
- Members actively involved in standardizing US and international airborne datasets and instrumentation



ICCAGRA Membership



ICCAGRA Aircraft

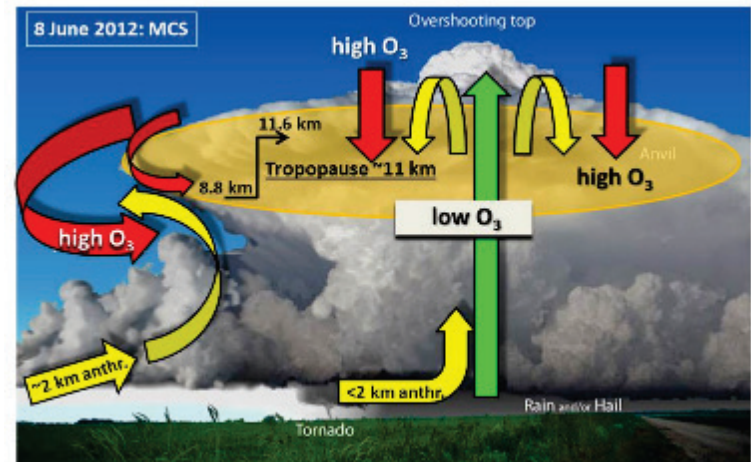
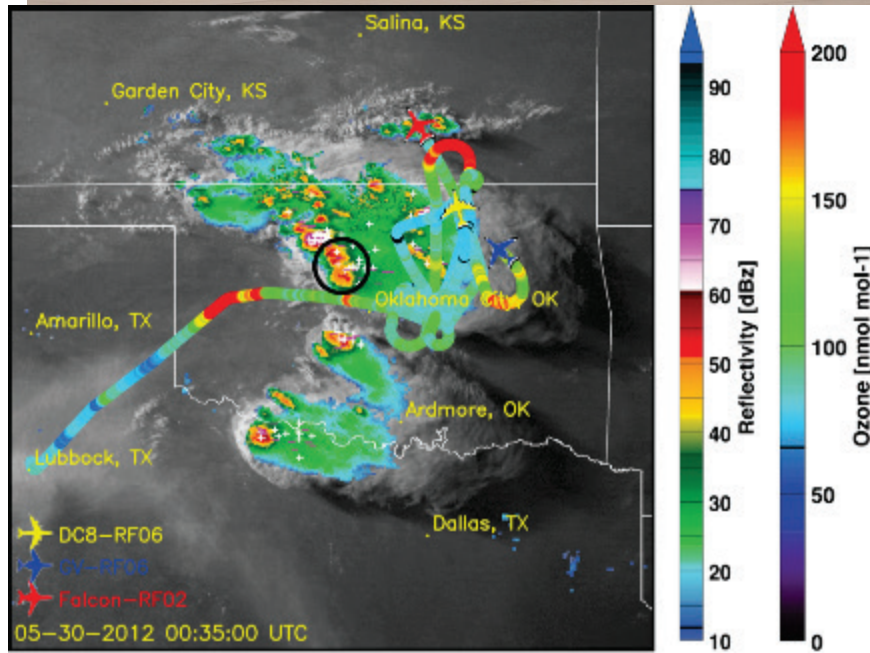


ICCAGRA Successes

- ICCAGRA is fostering cooperation and communication among US agencies and international counterparts
 - Working group on data systems – IWGADTS (complete)
 - Coordination with EUFAR – ICARE conferences (2010, 2017)
- Added value to unique agency capabilities
 - Intercomparisons and cooperation during joint field campaigns
 - Interagency collaboration develops new capabilities
- Member agencies are pushing forward with the use of UAS for scientific research
 - NOAA and NASA joint work on the Global Hawk; NOAA, USCG, DOE joint work in the Arctic
- Airborne fleet: information, resource and asset sharing
 - P-3 re-winging, NASA G-V modifications, support of hurricane surveillance mission (2016)

Interagency collaboration for observing complex weather and climate phenomena: DC3

NSF, NASA & DLR contribute to Deep Convective Clouds and Chemistry (DC3) mission



Interagency collaboration for observing complex weather and climate phenomena: SHOUT



	El Nino Rapid Response (2016)	Hurricane Rapid Response (2016)
Multi-mission / Multi-aircraft coordination	<input type="checkbox"/>	<input type="checkbox"/>
International coordination		<input type="checkbox"/>
Increased aircraft, sensor, and crew "Operational Availability"	<input type="checkbox"/>	<input type="checkbox"/>
Reduced personnel requirements and deployment footprint from previous campaigns	<input type="checkbox"/>	<input type="checkbox"/>
Dual Global Hawk Operations Center (GHOC) operations during science flights		<input type="checkbox"/>
Real-time data distribution established to support science flights from remote locations		<input type="checkbox"/>
Real-time dropsonde data distribution to Global Telecommunication System (GTS)	<input type="checkbox"/>	<input type="checkbox"/>
Real-time dropsonde data assimilation into operational NWP forecast model(s)		<input type="checkbox"/>
Real-time use of data for situational awareness, analysis, and forecasting by NOAA operational forecast center		<input type="checkbox"/>
Real-time imagery distribution through the NOAA UAS Program Website	<input type="checkbox"/>	<input type="checkbox"/>

Interagency collaboration to develop new capabilities:

- NOAA: Requirement and Funding
- NCAR/NSF: Designed and Built
- NASA: Integrated and Operated



Current Projects and Issues

- Facilitate resource sharing among agencies
 - “cost recovery”, MOUs
- Share best practices for UAS policies and operations
 - community standards and calibration methods
 - Conops and operations plans
- Gulfstream “users group”
 - NOAA, NASA, NSF/NCAR – information sharing, pilot swaps
- Dropsonde operations over land
 - SOPs; formal permissions from FAA?
- *Barriers: voluntary activity, time, funding*



QUESTIONS?



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FCMSSR Action Items

AI #	OPR	Text	Comment	Status	Due Date
2017-1.1	OFCM, FCMSSR Agencies	Form a Joint Action Group to review the Weather Research and Forecasting Innovation Act of 2017 and develop options to implement the Section 402 requirements for the Interagency Committee for Advancing Weather Services.	JAG/402 convened on 5/17/17. Drafting ToR	Closed	05/12/17
2017-1.2	ICMSSR	Present proposals to FCMSSR to implement Weather Research and Forecasting Innovation Act of 2017 Section 402 requirements for the Interagency Committee for Advancing Weather Services.			10/24/17
2017-1.3	ICMSSR, OFCM	Produce the FY18 Annual Report on Federal Weather Coordination (the replacement for the Annual Plan for Meteorological Services and Supporting Research) as presented during the 26 April 2017 FCMSSR Meeting.			08/31/17
2017-1.4	ICMSSR, OFCM	Produce the Strategic Plan for Federal Weather Coordination.			10/24/17

ICMSSR Action Item Review

AI #	Responsible Office	Text	Comment	Status	Due Date
2015-1.6	OFCM	Update the Terms of Reference documents for all Committees, Working Groups and Joint Acton Groups subordinate to the ICMSSR to include formalized engagement with OSTP.	Work in progress	Open	05/17/17
2015-2.3	OFCM	Plan to conduct the next Space Weather Enterprise Forum in May 2017.	On track for SWEF 2017 on 6/27	Open	06/27/17
2016-2.2	OFCM, NWS, FAA, DHS	Continue interagency engagement on MPAR and the related radio-frequency spectrum auction. Regularly present updates to the ICMSSR and FCMSSR. (replaces ICMSSR AI 2015-1.2)	Will remain open until executed regularly	Open	Quarterly
2016-4.2	OFCM	Provide a copy of the Terms of Reference for the new Committee on Climate Services (CCS) for ICMSSR review.	Draft ToR will be sent prior to the ICMSSR Mtg	Open	02/10/17

ICMSSR Action Item Review

AI #	Responsible Office	Text	Comment	Status	Due Date
2016-4.5	OFCM, NWS/OOE	Develop a proposal for ICMSSR consideration on how OFCM and the FWE engage in Information Decision Support System (IDSS) interagency coordination.	Work in progress. NWS/OOE is continuing to formulate a concept for interagency engagement	Open	06/15/17
2017-1.1	OFCM	Send the ICMSSR Charter to FCMSSR Chair for signature.	6/13/2017: Sent for signature	Closed	06/22/17
2017-1.2	OFCM, ICMSSR agencies with WG/MPAR members, WG/MPAR	ICMSSR members validate their membership on the WG/MPAR. Re-convene the WG/MPAR to a) review the WG Terms of Reference, b) brief ICMSSR on ToR applicability and on WG activities, and c) seek ICMSSR guidance going forward.	WG roster updated. Save-the-date email sent for meeting	Open	06/07/17
2017-1.3	USAF A3W	Provide a decision on USAF/US Army concurrence or non-concurrence with the draft Strategic Plan.	Input received	Closed	06/01/17

ICMSSR Action Item Review

AI #	Responsible Office	Text	Comment	Status	Due Date
2017-1.4	OFCM	Establish a Joint Action Group to review OPM 1340 standards and make a presentation to the ICMSSR with recommendations.	No action taken	Open	06/07/17
2017-1.5	OFCM	Publish the current version of Federal Meteorological Handbook -1 "Surface Observing" (FHM-1).		Closed	04/30/17
2017-1.6	OFCM	Convene an exploratory meeting to determine whether the Federal Meteorological Handbooks should be prescriptive or descriptive in nature.	Mtg scheduled	Closed	04/28/17

CLOSING COMMENTS / ADJOURN

The Secretariat will document any new action items taken during the meeting, and propose scheduling a mid-September meeting.

Wrap Up

