



**Federal Aviation
Administration**

International Flight Inspection Symposium

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Oklahoma City, Oklahoma

June 24, 2008



Flight Inspection must stay ahead of the growth and changes in global aviation.



- **FAA is transitioning to the Next Generation Air Transportation System.**
- **FAA has a new, proactive approach to safety.**
- **Global civil aviation is growing.**

Moving to NextGen: Aviation Forecast



- **2016: One billion passengers expected.**
- **2016: 18% increase in domestic traffic.**

Moving to NextGen: Aviation Forecast

- **High-tech data link pilotless aircraft are a reality today.**
- **By 2015: 11,000 new Unmanned Aircraft Systems will be built.**



Moving to NextGen: Aviation Forecast

- **Very light Jets:**
 - 2020: over 5000.

- **Commercial Space in 2010:**
 - Branson has 200 tickets sold already.
 - Plans 2 flights / day.

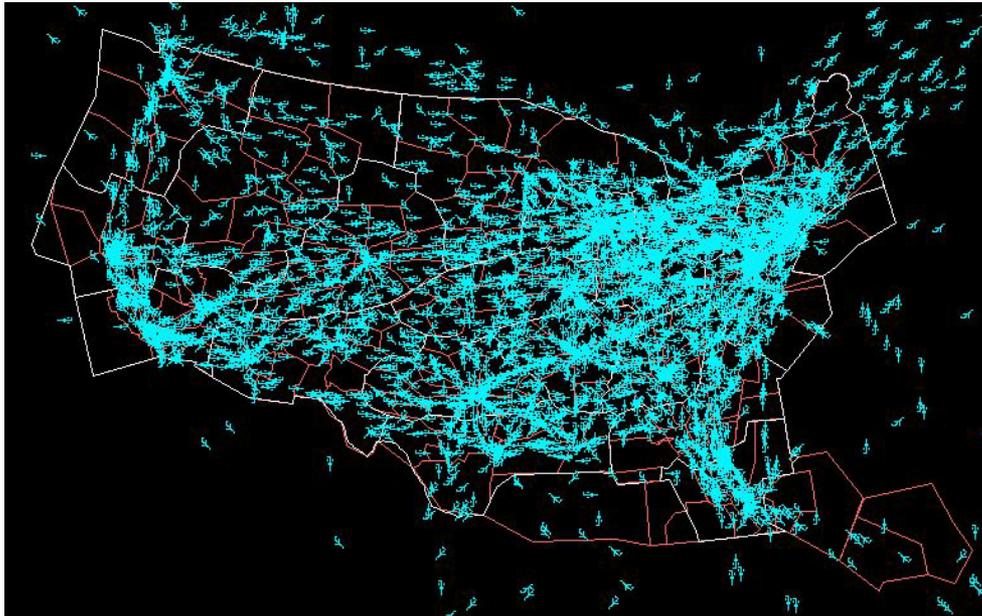


Current U.S. System Can't Handle Growth

- **Ground-based**
- **Human-centric with limited automation**
- **Single channel voice control**
- **Aging infrastructure**



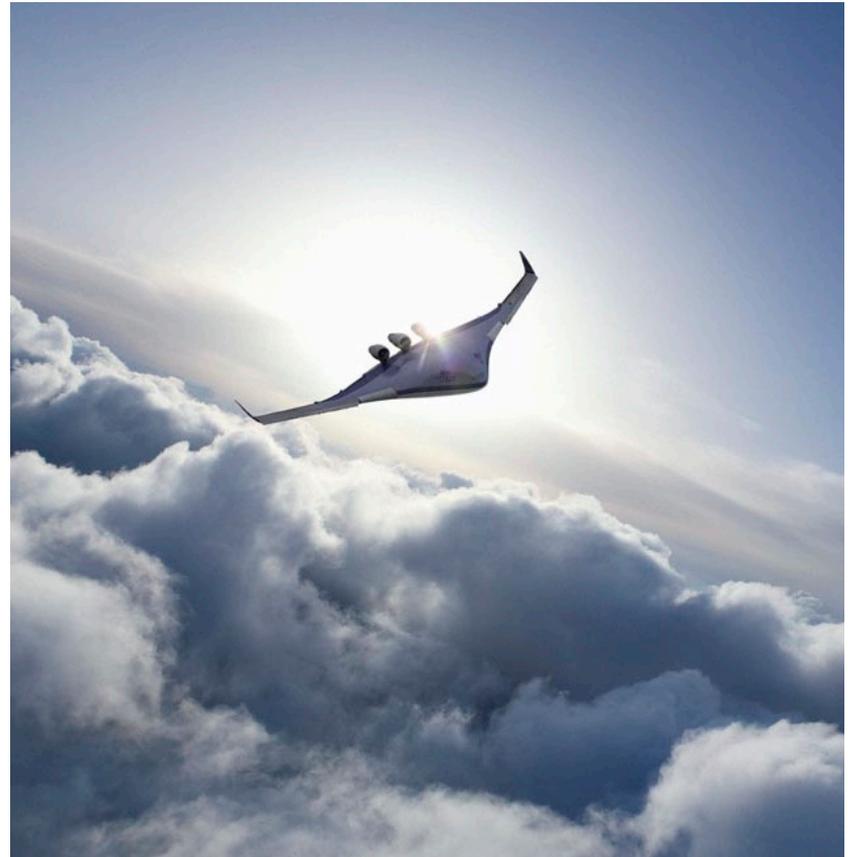
Current U.S. System Can't Handle Growth



- **Studies show the current system can't accommodate 2016 traffic levels.**
- **Without improvements, delays could increase 400% by 2016.**

Next Generation Air Transportation System (NextGen)

- **Transformation of the National Airspace System**
- **Goal is to:**
 - Further enhance safety
 - Increase air traffic capacity
 - Strengthen Homeland security
 - Protect the environment



NextGen Transformation Capabilities

- **Satellite Navigation and Control**
- **Voice and Data Communication**
- **Improved Weather Forecasting Ability**



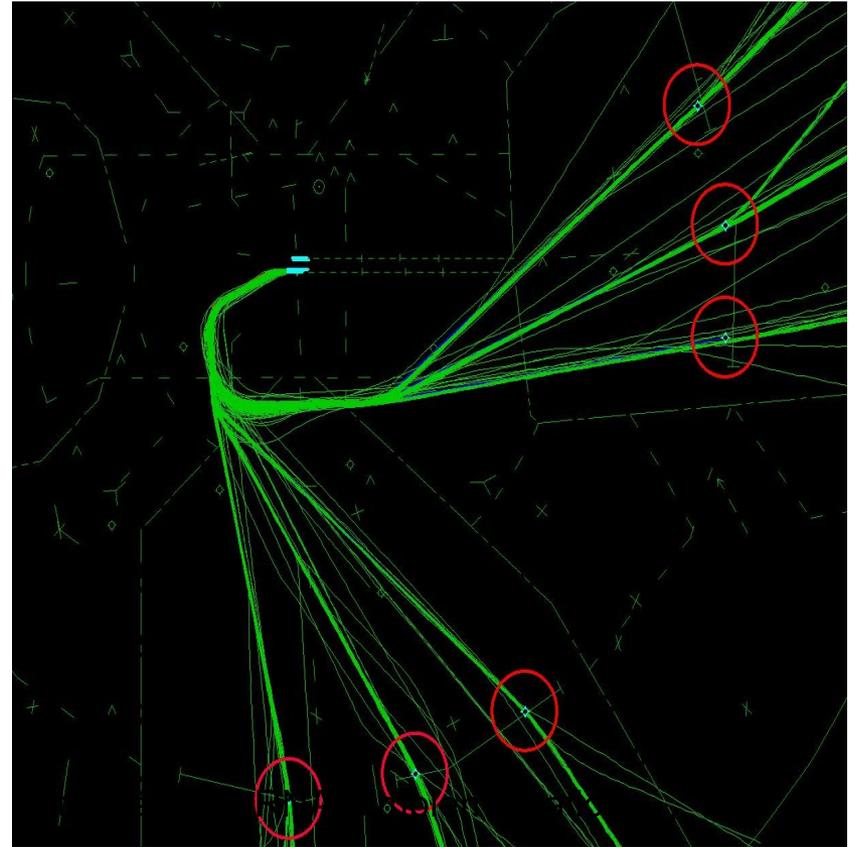
NextGen Capabilities, con't.



- **Common Situational Awareness**
- **Sharing of decision making between ground and cockpit**
- **Network enabled real-time information sharing**

NextGen: Performance-based Navigation

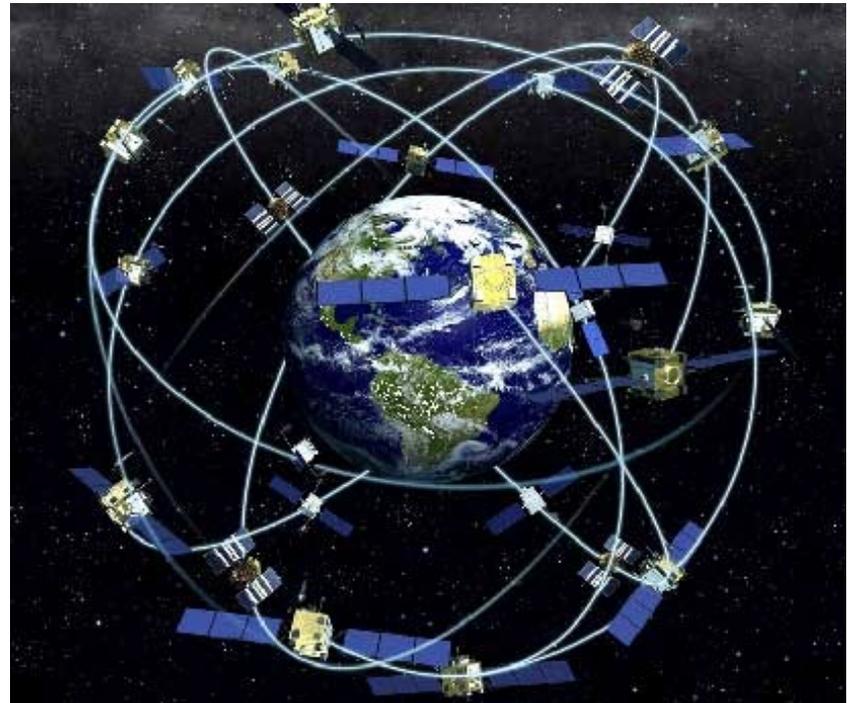
- **Area Navigation**
 - Allows for more direct and precise flight paths.
 - Cuts ground delays and miles flown.
- **Required Navigation Performance**
 - Allows flexible approach procedures with reduced minima.
 - Can enable closer route spacing.



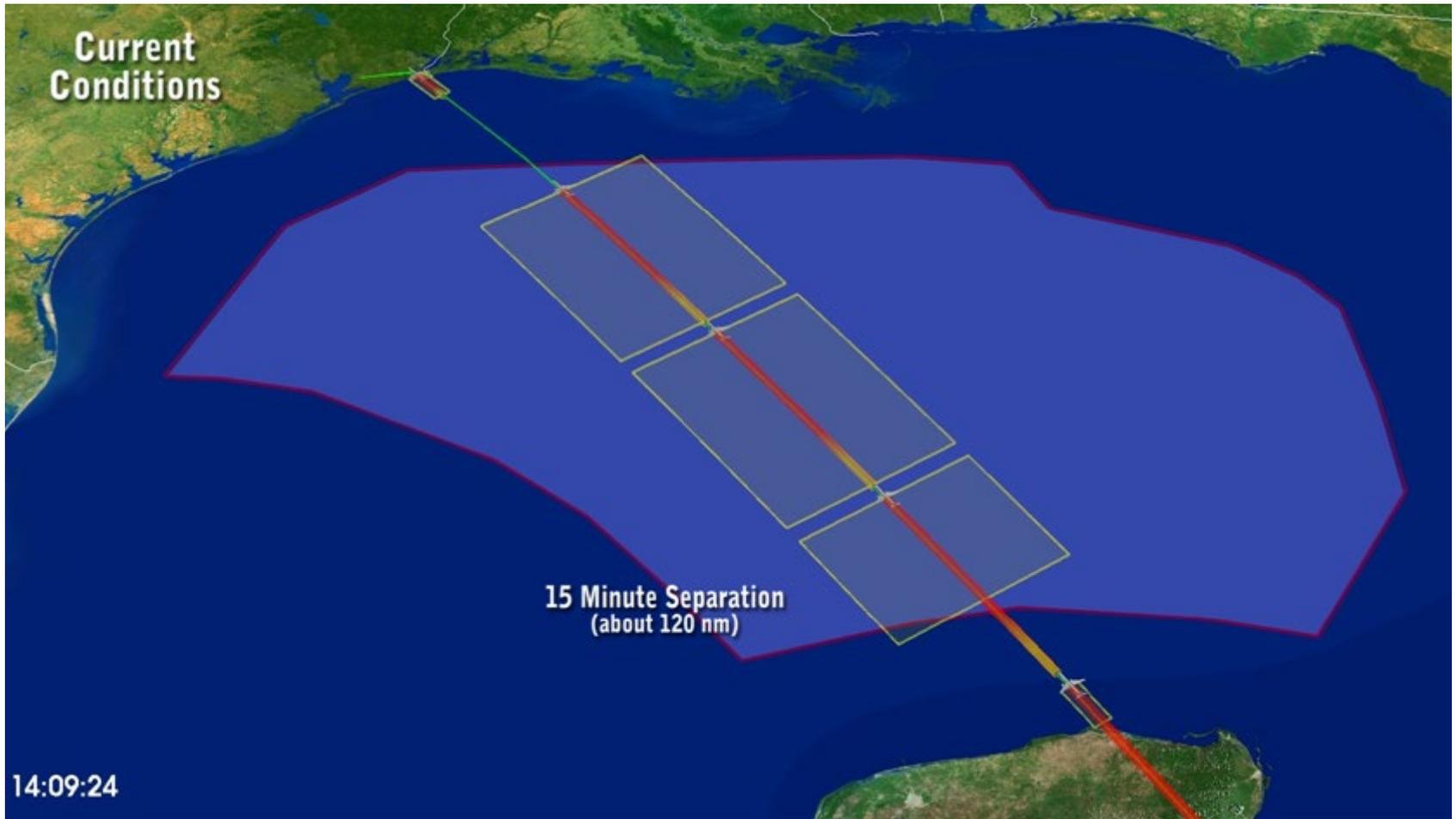
Post RNAV Implementation, Atlanta

Satellite-based Surveillance: Automatic Dependent Surveillance-Broadcast (ADS-B)

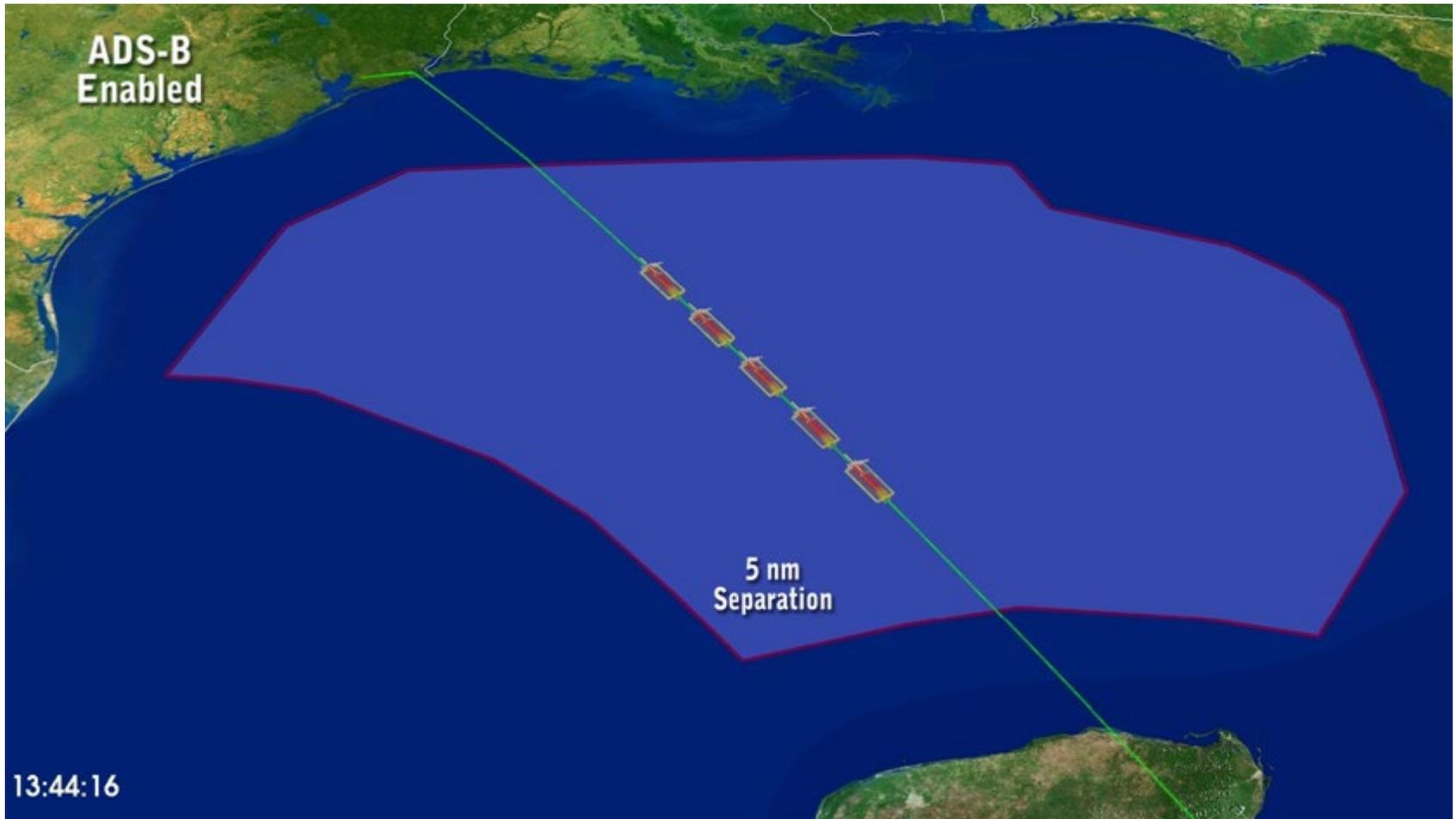
- **1 second update vs.12 seconds for radar**
- **Improved surveillance in mountainous areas**
- **Allows for more efficient aircraft separation**



Gulf of Mexico: Current Conditions

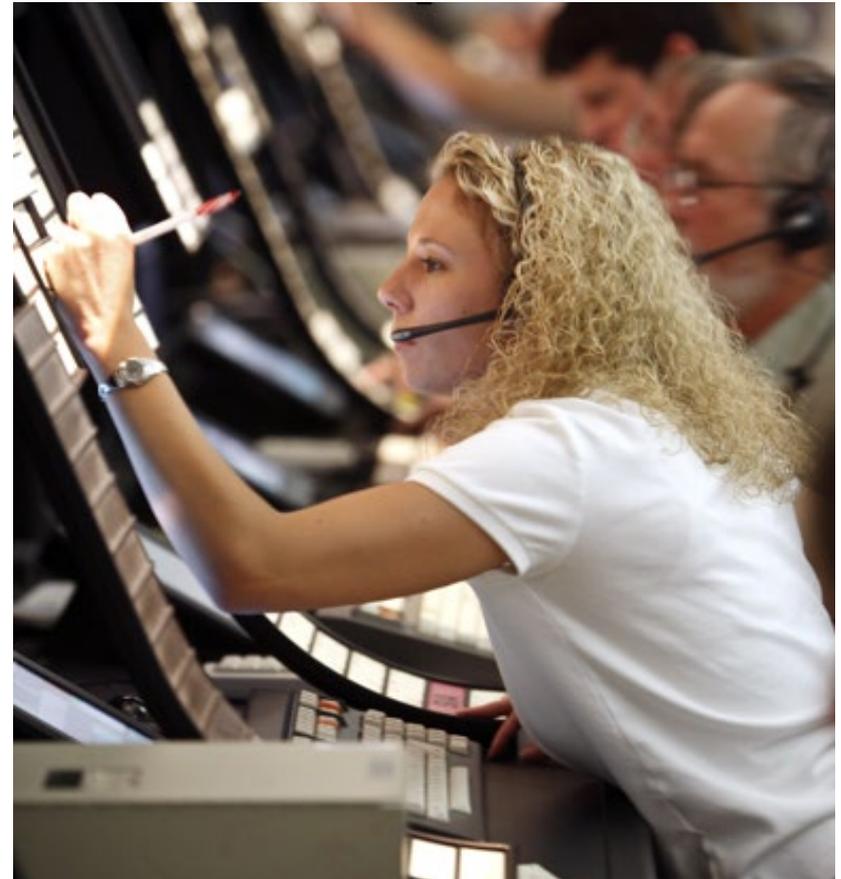


Gulf of Mexico: ADS-B Enabled



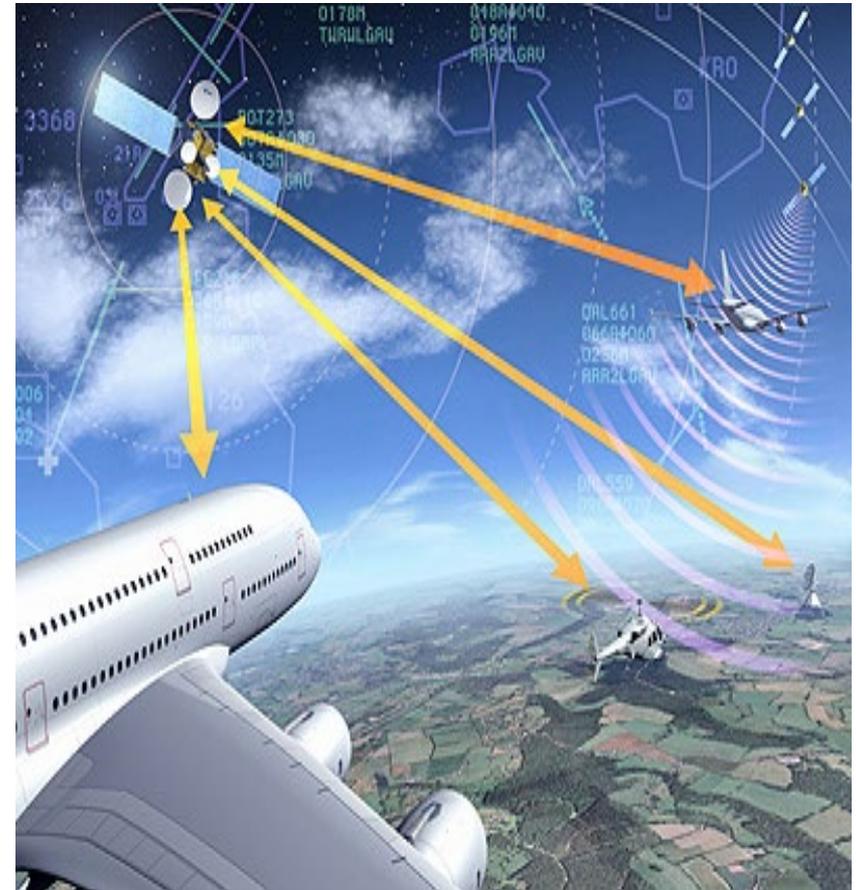
Net-Centric Operations and Data Communications

- **System Wide Information Management (SWIM) allows all users to see a common picture of the NAS.**
- **Data Communications enables less tactical decision planning and coordinating.**

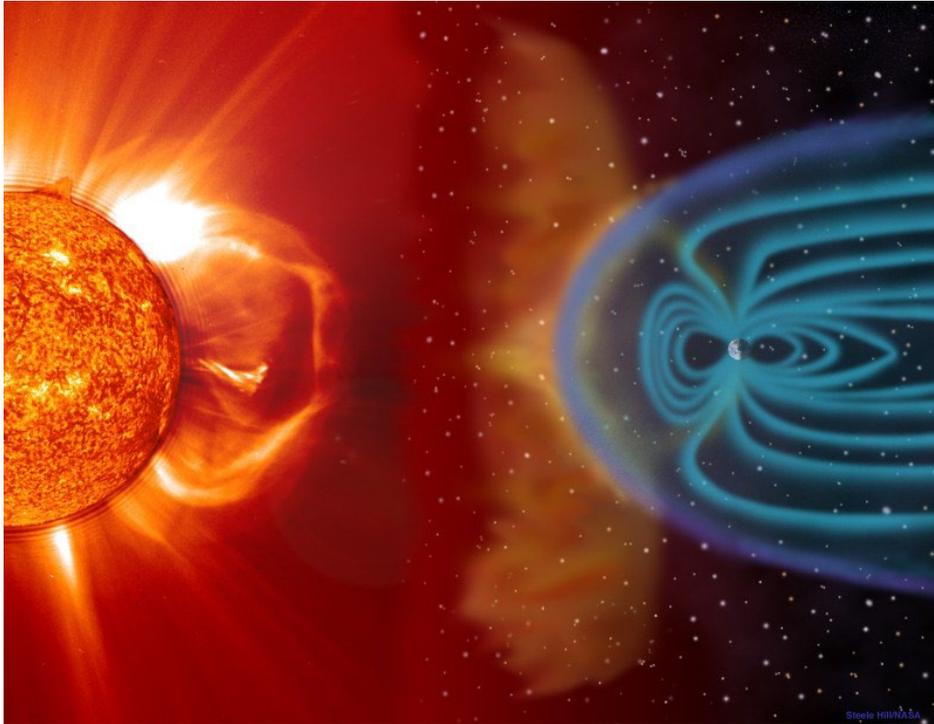


NextGen Benefits

- **Reduced delays and gridlock.**
- **Reduced fuel usage and emissions.**
- **Many more flights can be accommodated.**



Challenges: Space Weather



- **Space Weather can impair satellite-based systems.**
- **How can we mitigate this impairment?**

FAA is Committed to Safety Management System (SMS)

- **Proactive, integrated approach to safety.**
- **Changes to the NAS must have risk mitigation**
- **Effective Flight Inspection is a key part of SMS.**



Global Aviation is Growing, therefore ...



- **Global safety efforts, including flight inspection, are a necessity.**
- **FAA is proud to work with international partners on global safety efforts.**

Global Safety: Challenge to you



- **ICASC can have a large impact in global safety.**
 - Refresh your Charter
 - Seek ICAO affiliation



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