

Program Management Organization

U.S. ADS-B Program Activities

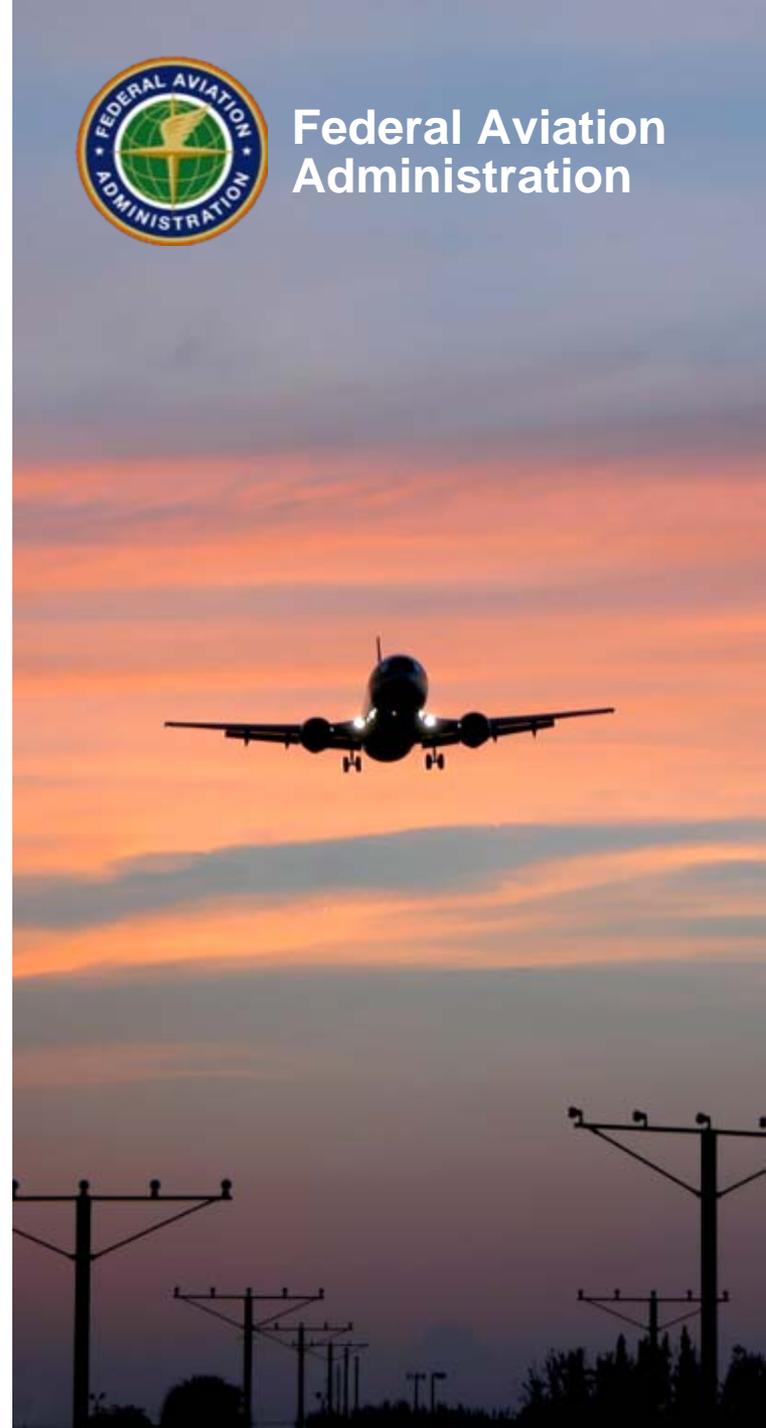
Presented to: New Technology Workshop

**By: Doug Arbuckle, Chief Scientist & Int'l
lead Surveillance and Broadcast Services**

June 6, 2012



**Federal Aviation
Administration**



Outline

- **Why ADS-B?**
- **Strategy**
- **Implementation Status**
- **Alaska details**
- **Gulf of Mexico details**
- **Regulations, Standards and Guidance**
- **ADS-B-In applications**



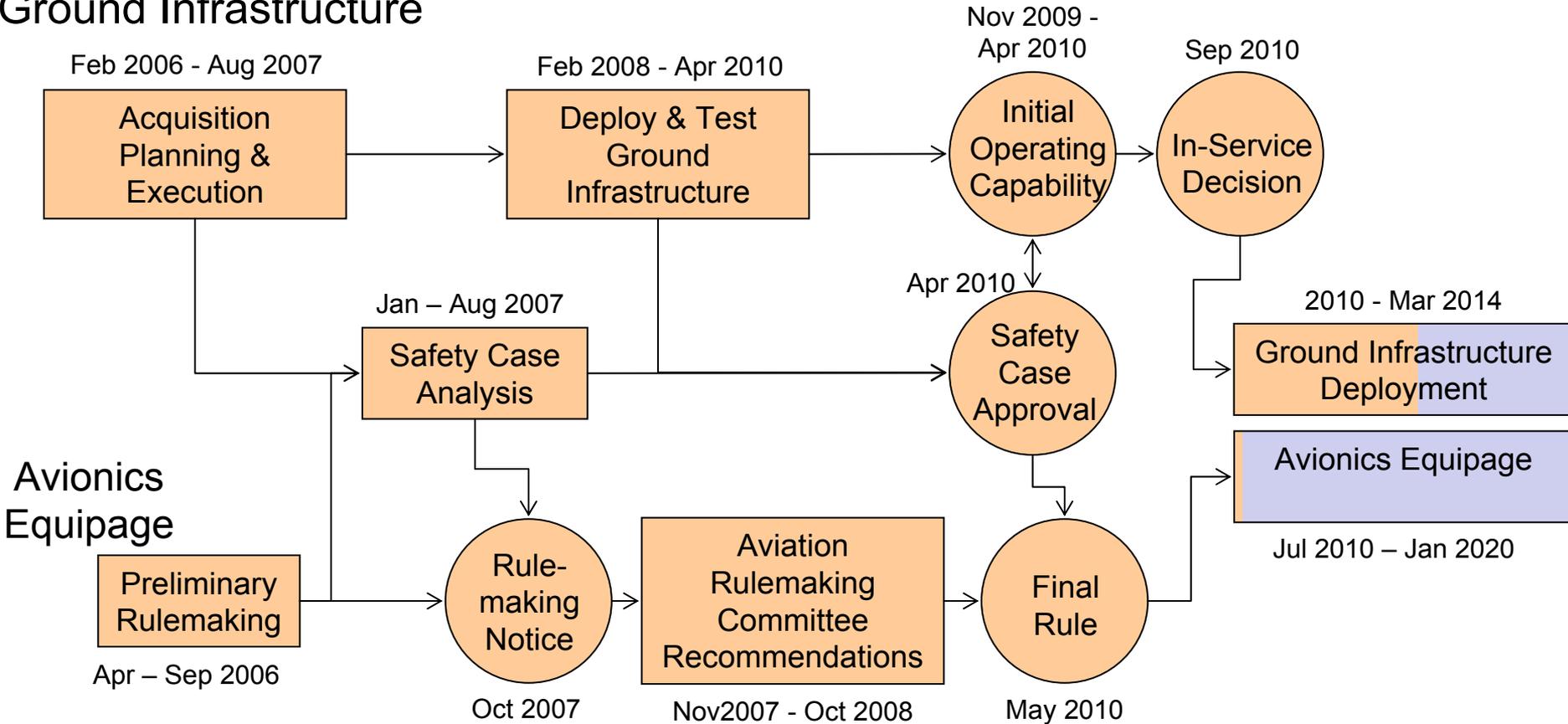
Why ADS-B?

- **Enables NextGen applications via ADS-B-In**
- **Surveillance coverage in regions where radar is impractical or too expensive**
- **Post-2020, allows FAA to divest approximately 175 secondary surveillance radars (lifecycle cost savings)**



U.S. ADS-B Strategy

Ground Infrastructure



= Completed
 = In Process

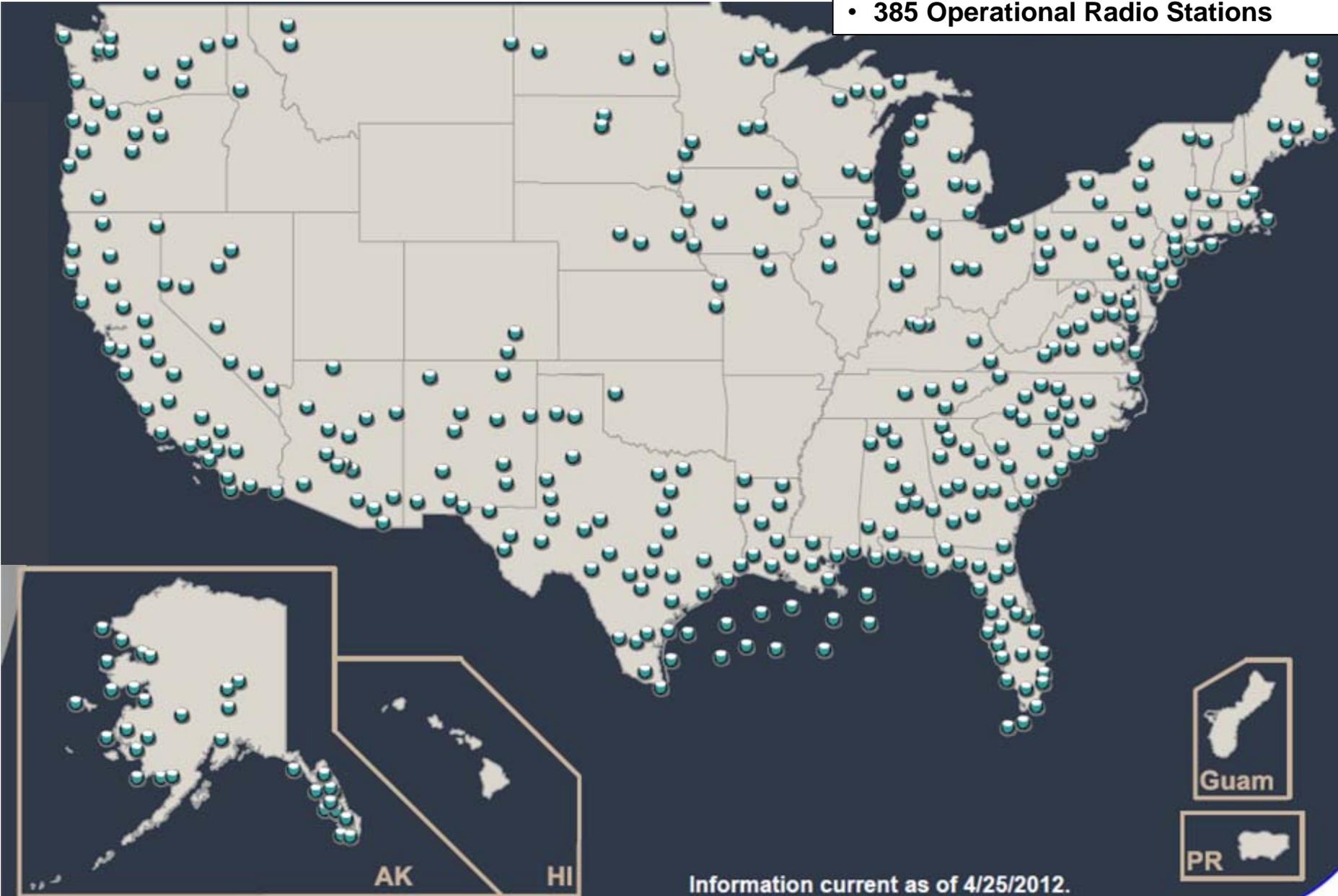


Implementation Status

April 2012

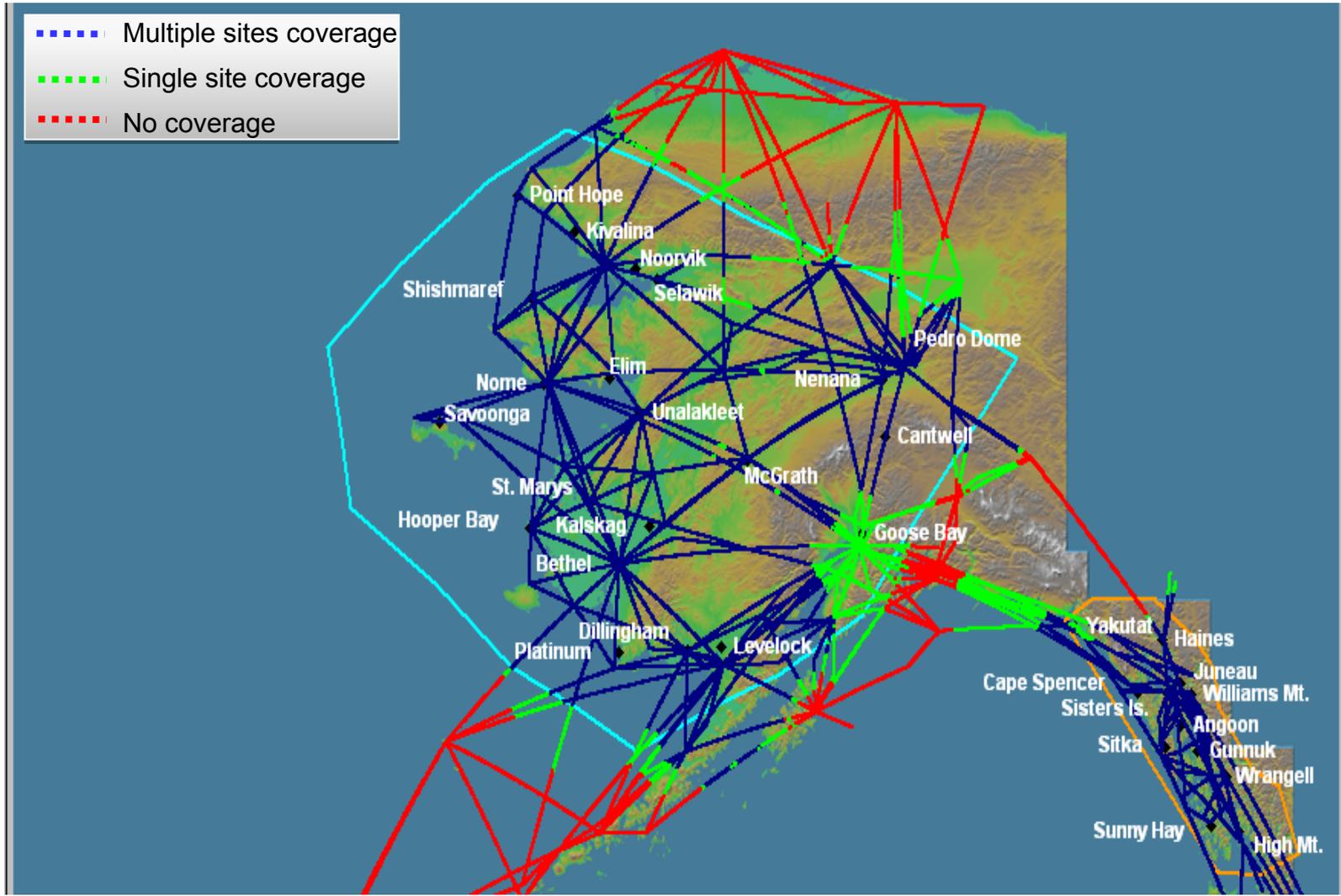
<http://www.faa.gov/nextgen/flashmap/>

- Fiscal Year-End Plan for 2012 – 500 Radio Stations
- 385 Operational Radio Stations



Information current as of 4/25/2012.

May 2012 Alaska Route Coverage (18,000ft MEA)

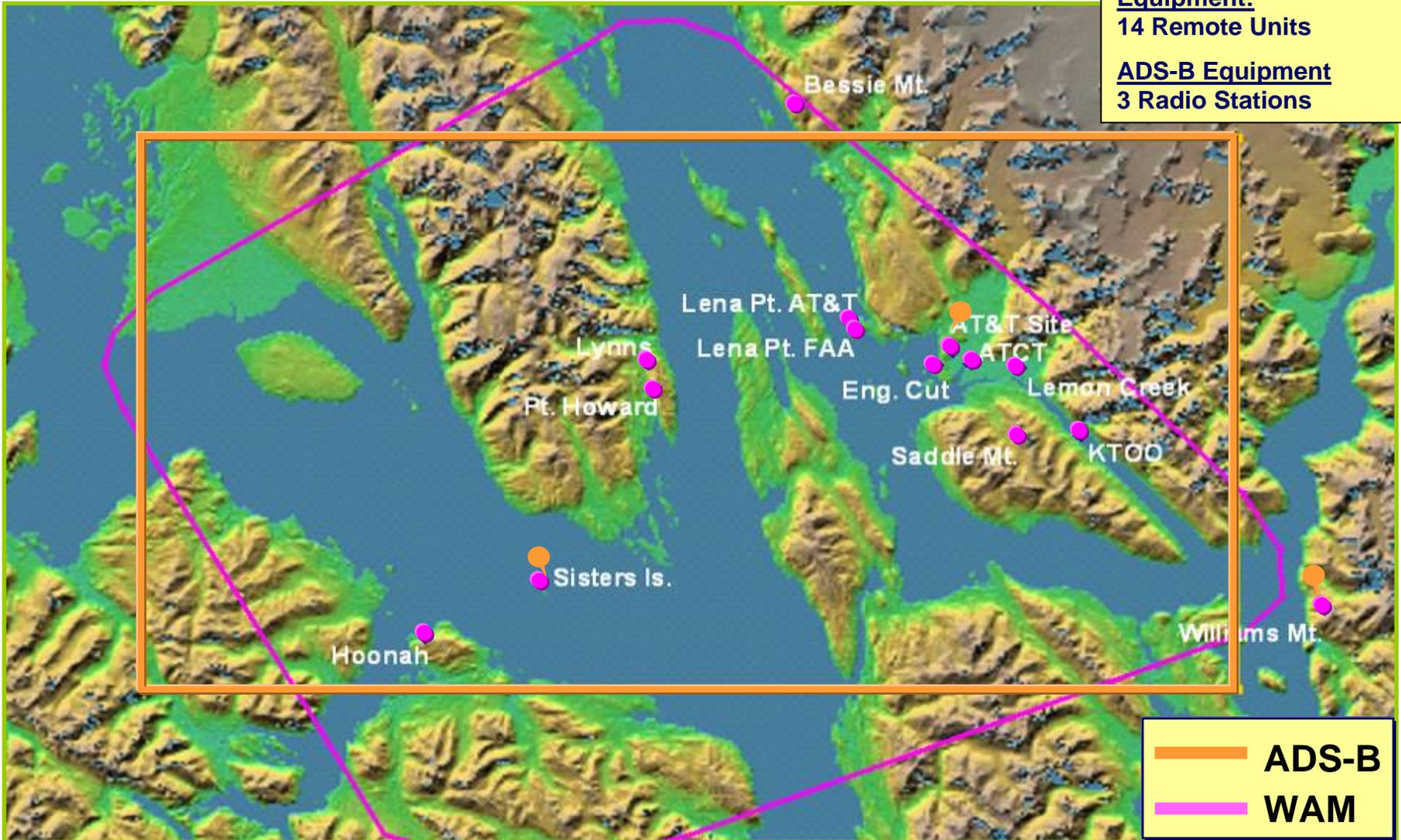


Juneau ADS-B and WAM Coverage

Coverage:
500 ft to 13,000 ft MSL

Equipment:
14 Remote Units

ADS-B Equipment
3 Radio Stations



Williams Mountain

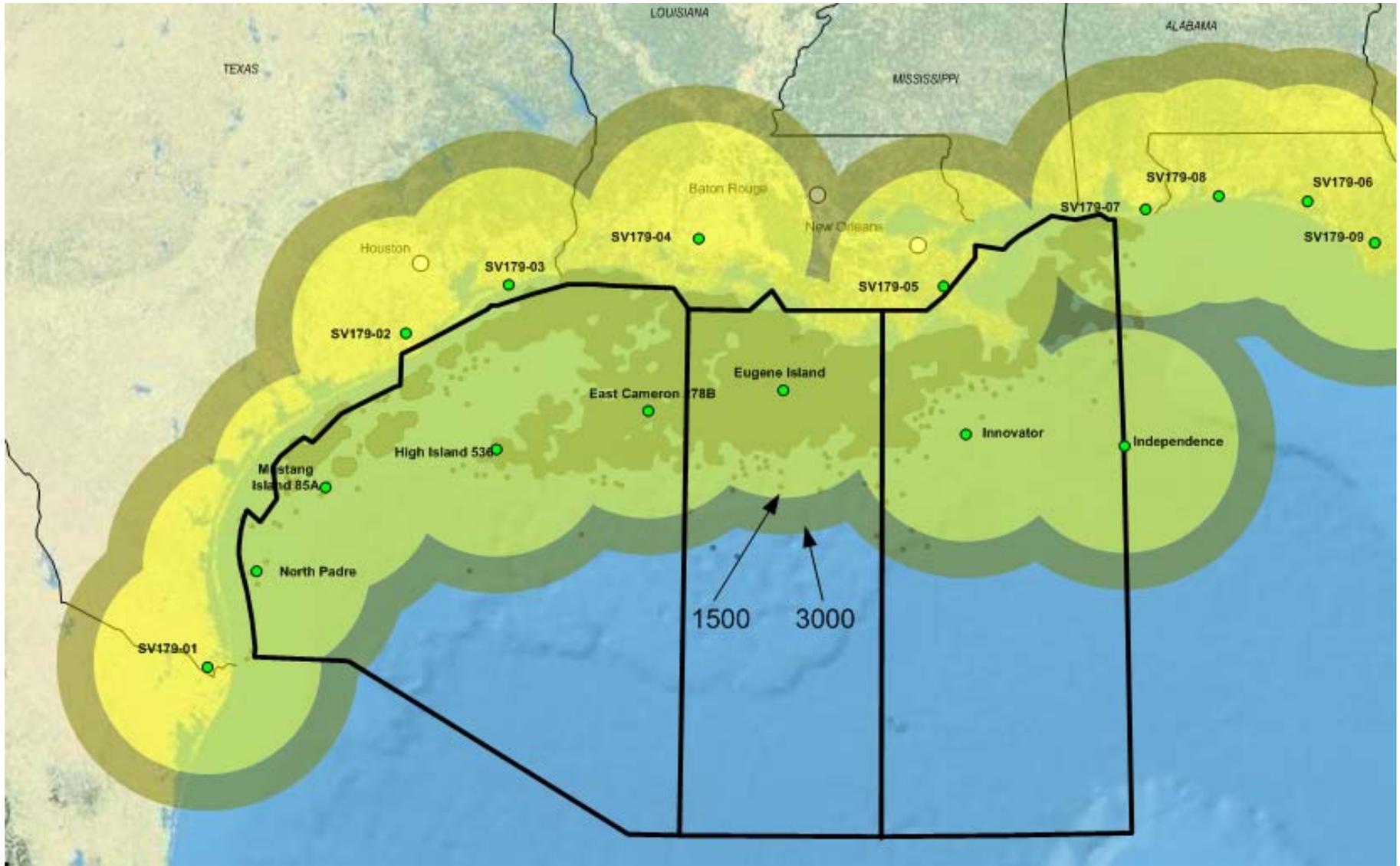


Alaska Benefits Summary

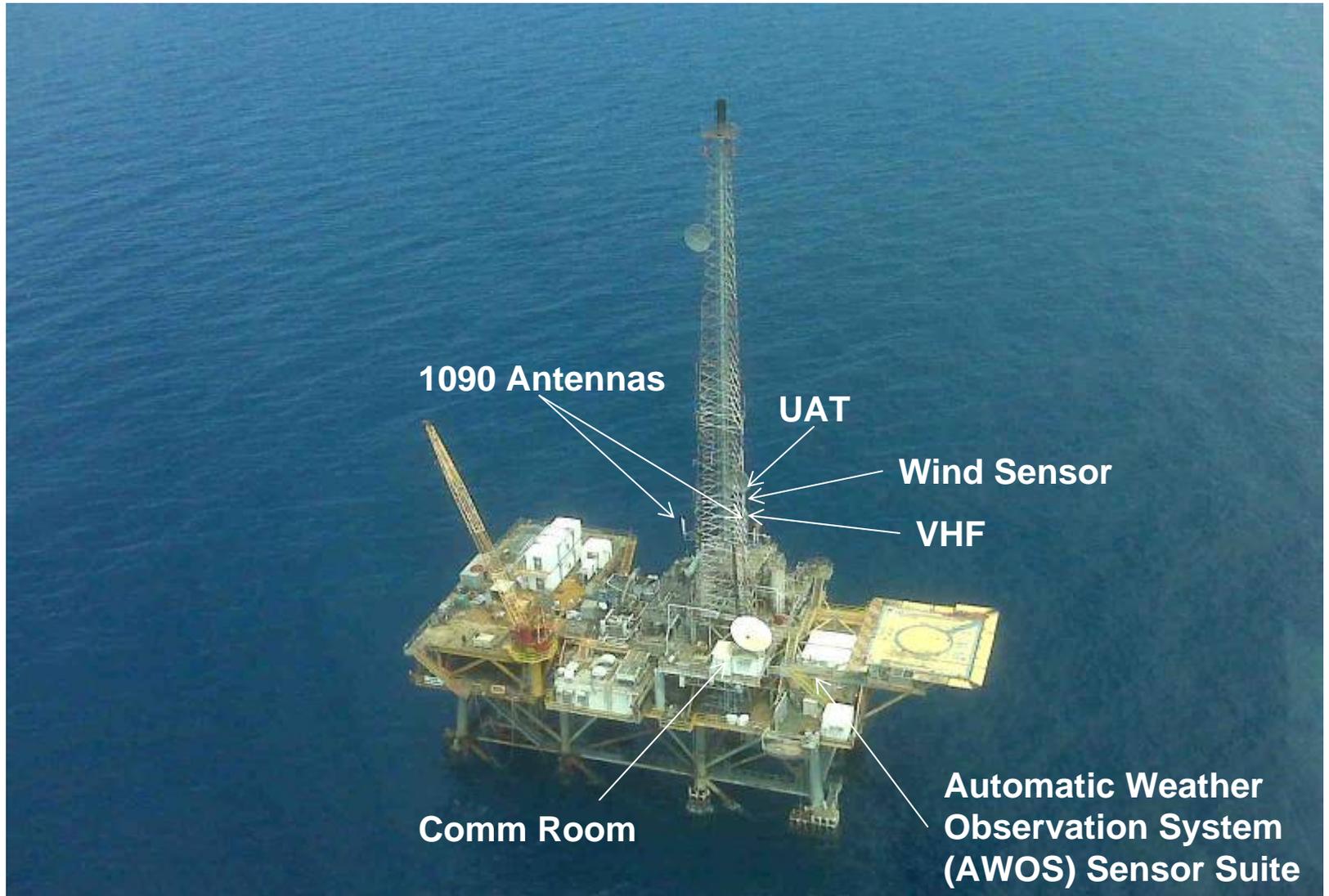
- **More efficient routes in adverse weather**
- **Access to lower altitude routes**
- **Improved search and rescue services**
- **Increase access to remote villages
(commercial and medevac)**



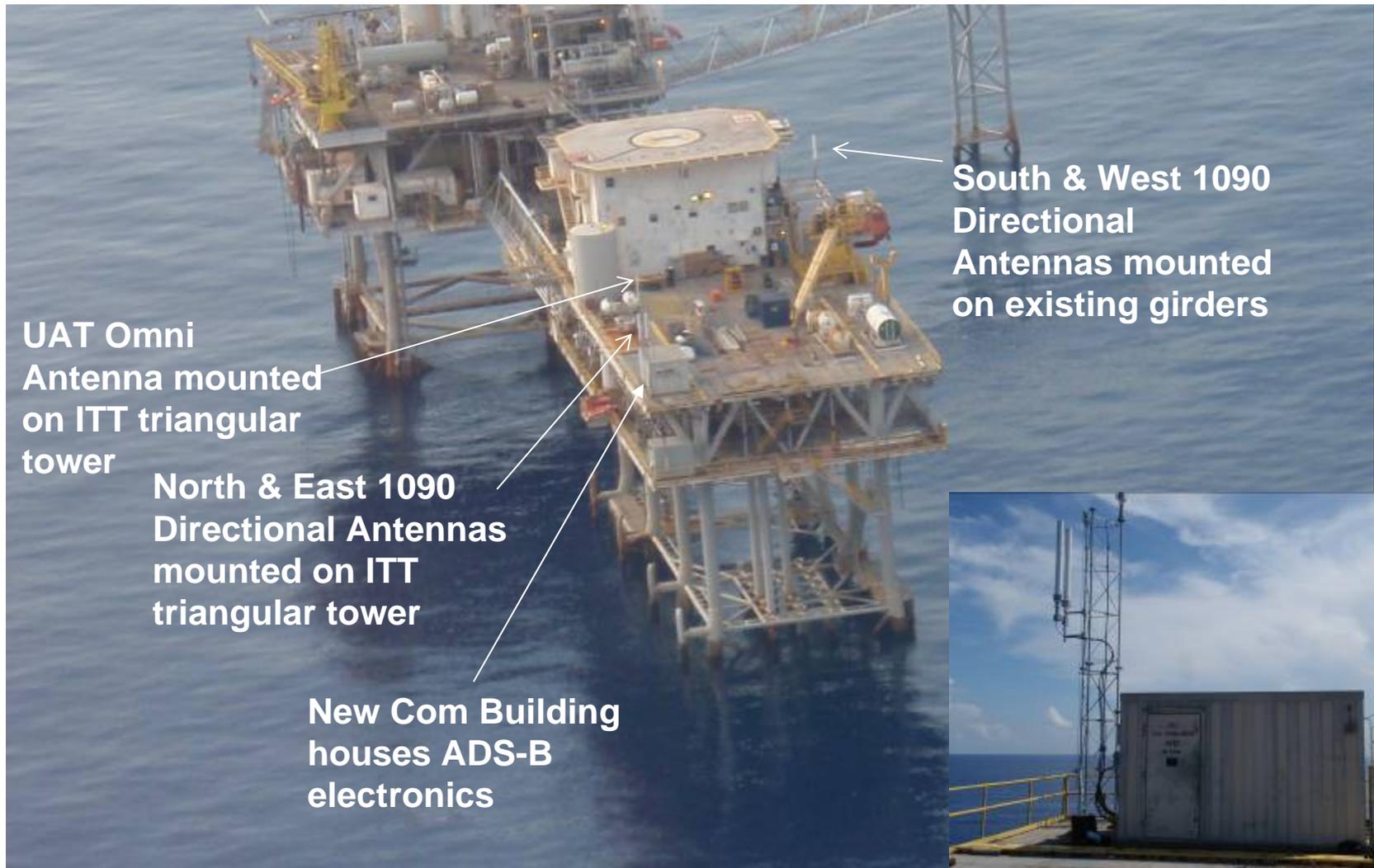
Gulf of Mexico ADS-B Coverage – Low Altitude



North Padre 975 (ADS-B and AWOS)



High Island 536C (ADS-B and AWOS)



Benefits for Helicopter Operators

- **Fuel savings--at least 90-100 lbs per flight through direct routing with ADS-B**
- **For one operator, between 1999-2006, IFR operations were less than 4% of total flying in the Gulf**
- **As of June 2011, more than 50% of the IFR capable aircraft were flying IFR using ADS-B**
- **ADS-B allows quicker access to higher altitudes during climb and cruise portion of flight; avoids possible collisions with birds**

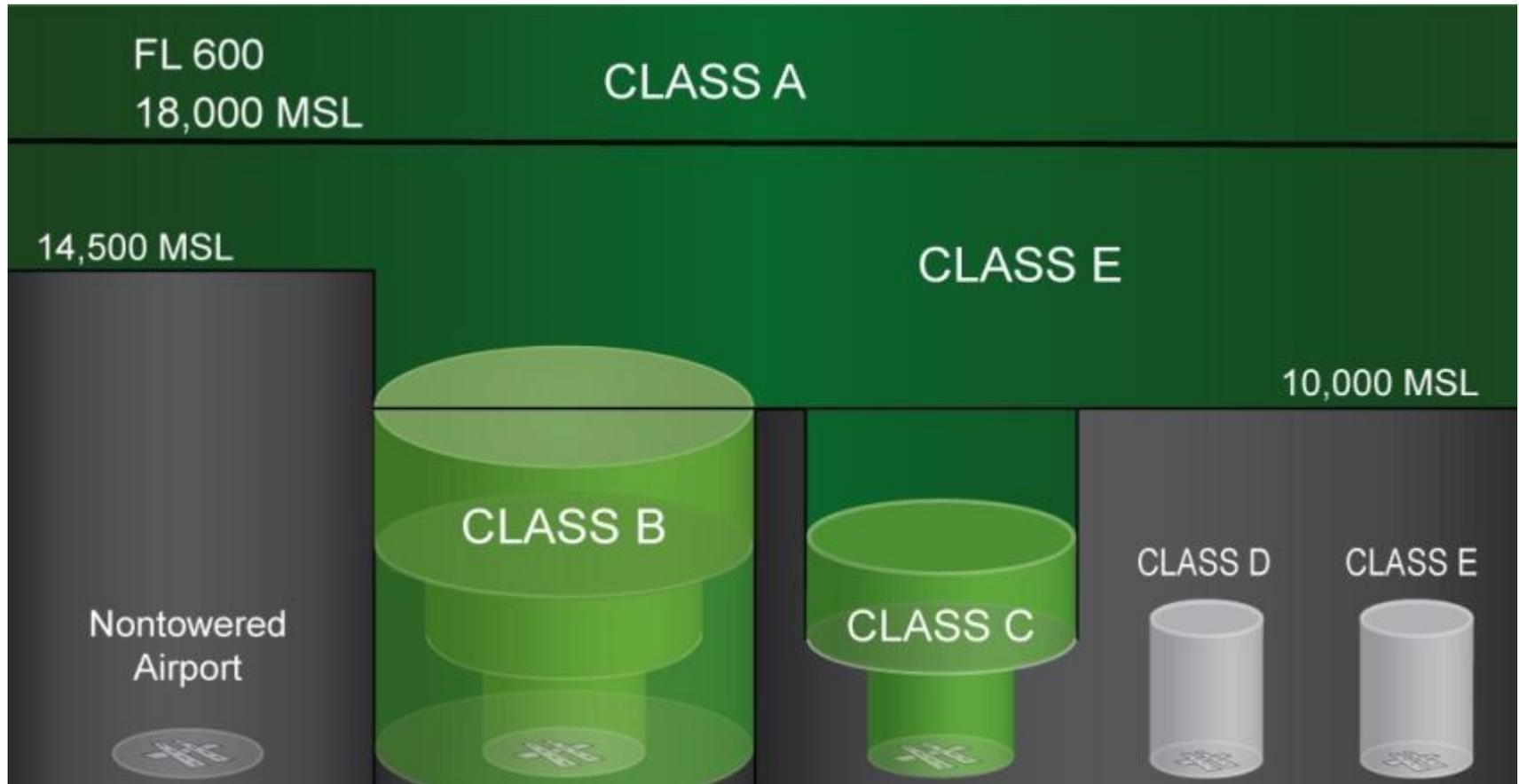


U.S. ADS-B Final Rule: Overview

- **On May 27, 2010, the FAA published the U.S. Final Rule for ADS-B Out equipage**
 - Mandates performance requirements for ADS-B avionics that will be required to fly in certain U.S. airspace by 1-Jan-2020
 - ADS-B Out transmits location information received from a Global Navigation Satellite System -- rule does not preclude other navigation source methods
 - Rule does not mandate ADS-B In
 - A new Aviation Rulemaking Committee (ARC) was chartered in June 2010 to address ADS-B In strategy



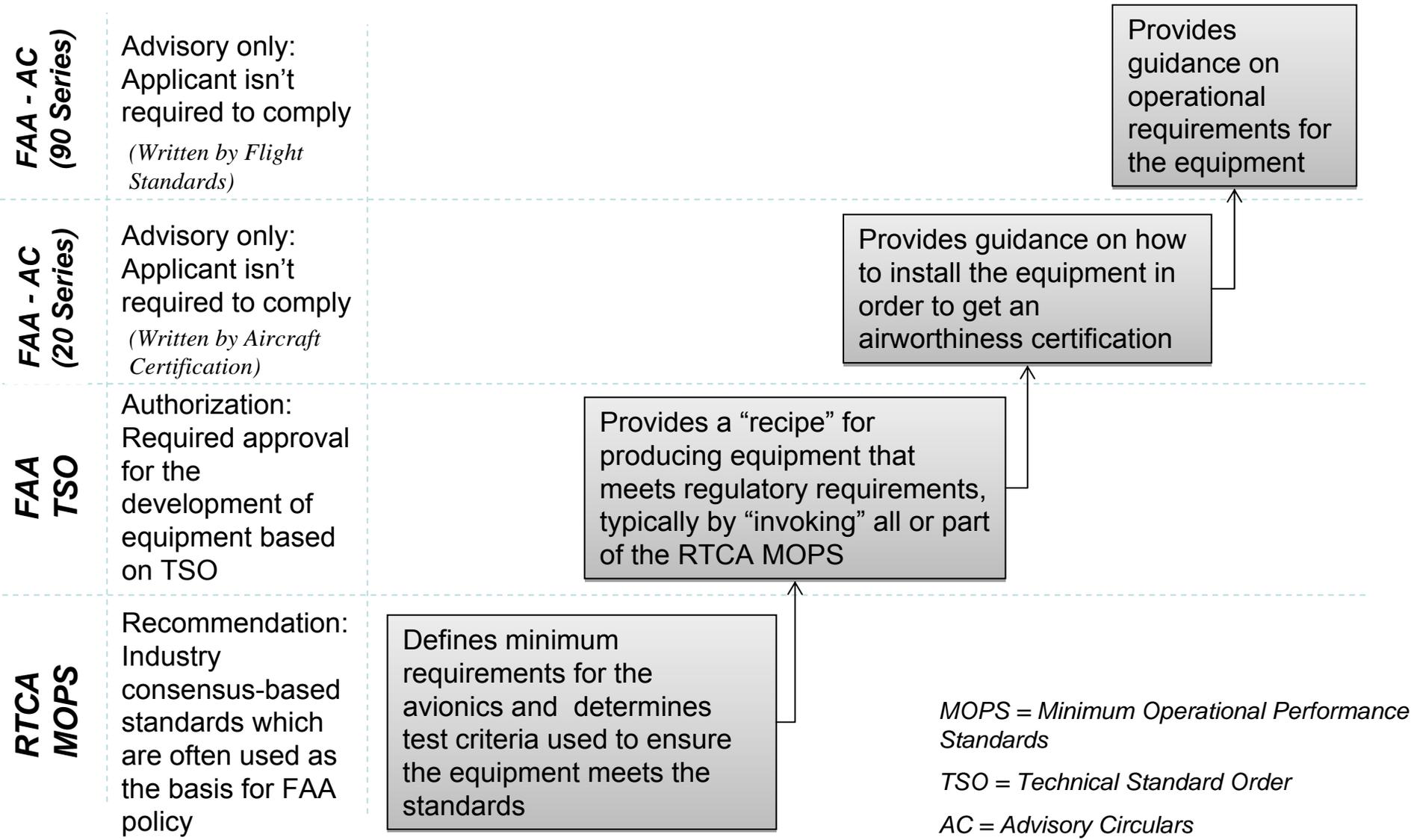
ADS-B Final Rule: Required Airspace (In Green)



Note: 1090MHz ES link is required above FL180



Standards and Guidance Flow



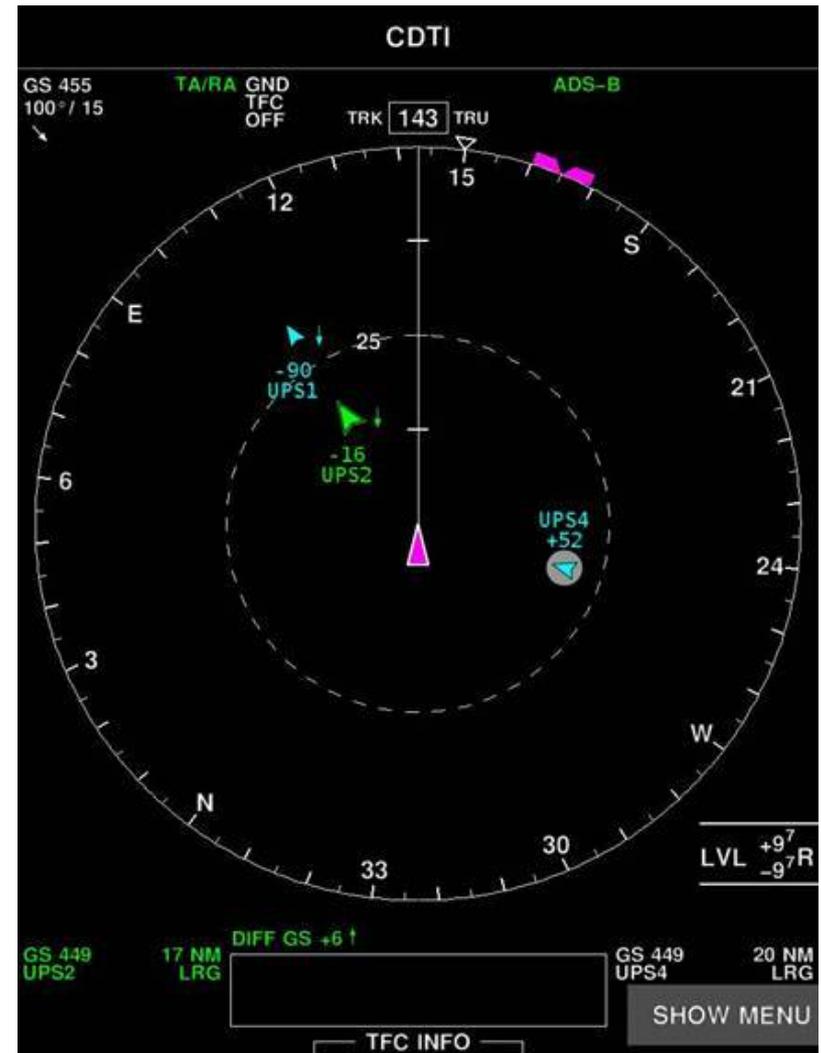
Status: Avionics Upgrades

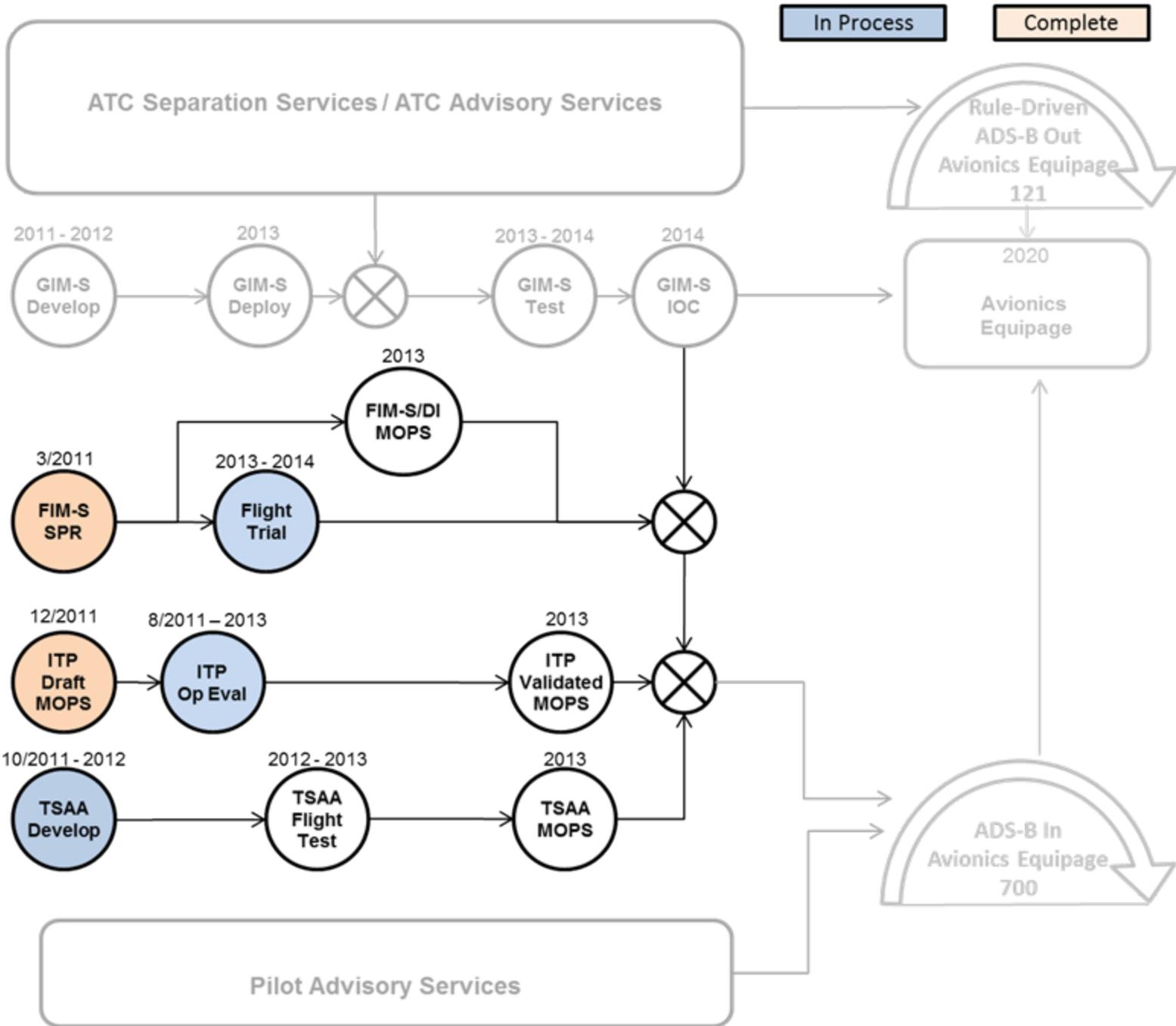
Carrier	Aircraft Type(s)	Quantity	Scope
JetBlue	A320	35	U.S./European rule-compliant ADS-B Out avionics (DO-260B)
United	747	12 (ADS-B In)	ITP installations (ADS-B In) and DO-260B ADS-B Out
USAir	A330-300/200	20 (ADS-B In and Out)	U.S./European rule-compliant ADS-B Out avionics (DO-260B) and ADS-B-In avionics compliant with DO-260B
UPS	747, 767, A300, MD11	143	U.S./European rule-compliant ADS-B Out avionics (DO-260B)
Gulf of Mexico Operators	Helicopters	54	U.S./European rule-compliant ADS-B Out avionics (DO-260B) OR U.S. rule-compliant ADS-B Out avionics (DO-282B)
Alaska operators	Varies	Approx. 400	Upgrade existing DO-282A installations to U.S. rule-compliant ADS-B Out avionics (DO-282B)



ADS-B-In Applications Standards

- Enhanced Visual Acquisition (EVAcq)
- Basic Airborne (AIRB)
- Visual Separation on Approach (VSA)
- In-Trail Procedures (ITP)





ADS-B In Aviation Rulemaking Committee

Member Affiliation

First meeting held July 1, 2010



FAA-requested Deliverables:

- **Task 1:** Endorsement (or not) of continued work on 3 ADS-B-In application standards development projects
-> by October 2010
- **Task 2:** Final ARC ADS-B-In Strategy Recommendations
-> by September 2011
- **Task 3:** Delivery of products from any activities that follow up ADS-B-In Strategy Recommendations
-> by June 2012

ARC Report is located at:

http://www.faa.gov/nextgen/implementation/portfolio/trans_support_progs/adsb/media/ADSB%20In%20ARC%20Report%20with%20transmittal%20letter.pdf



Next Steps

- **Continue U.S. deployment of ADS-B Services**
- **Continue Requirements Development / Validation for ADS-B-In Pilot Applications**
 - In-Trail Procedure (ITP)
 - Traffic Situation Awareness with Alerts (TSAA)
 - Flight-deck-based Interval Management (FIM)
- **Incentivize Aircraft Retrofits and Forward Fit with agreements**
- **Continue to Build Alliances and Private–Public Partnerships**

