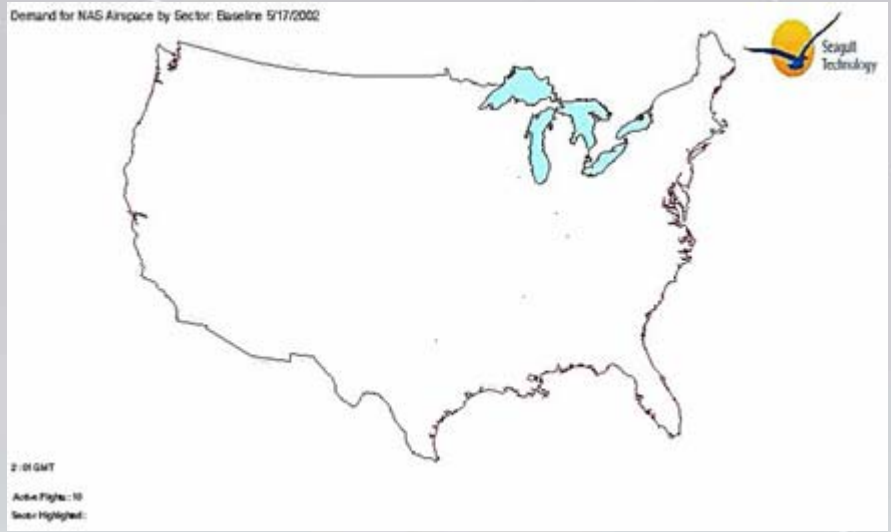


- **Ensure NASA contribution to the air transportation system through the Joint Planning and Development Office (JPDO)**
- **Maintain emphasis on research for the public good (Aviation Safety & Security, Noise & Emissions)**
- **Enhance or accelerate uncrewed aerial vehicle (UAV) research**
- **Assess and leverage possibilities for supersonics**
- **Increase design and risk reduction activities for planetary aircraft**
- **Determine if there is a requirement to continue hypersonics research.**

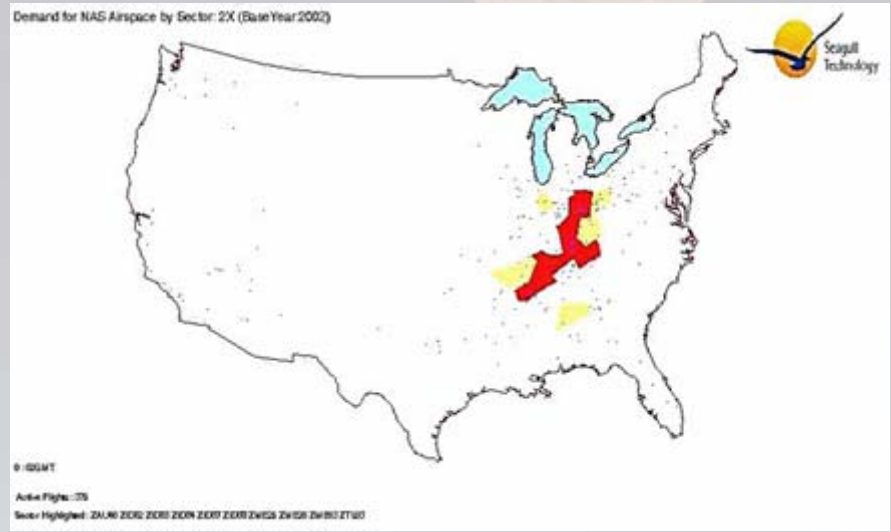




**Baseline Demand (2002)**



**Future 2X Demand**



VAMS ACES Simulation B 2.0.3  
Unconstrained Airports & Airspace  
250 Airports, 24 hour simulation  
Future growth based on Terminal Area  
Forecast (TAF)

2002: ~27K flights total  
Future 2X: ~54K flights total



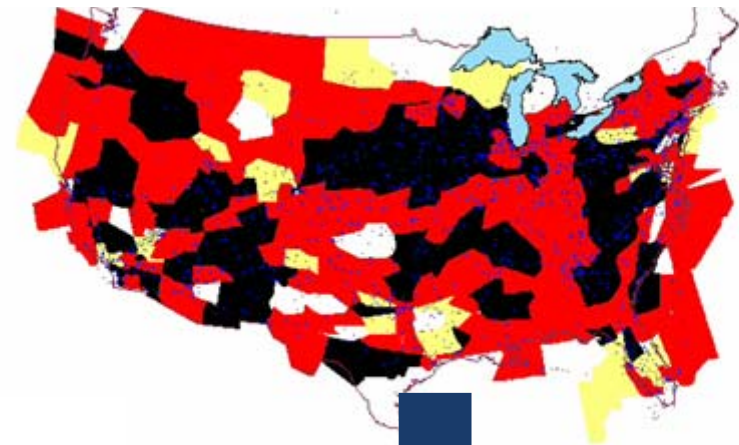
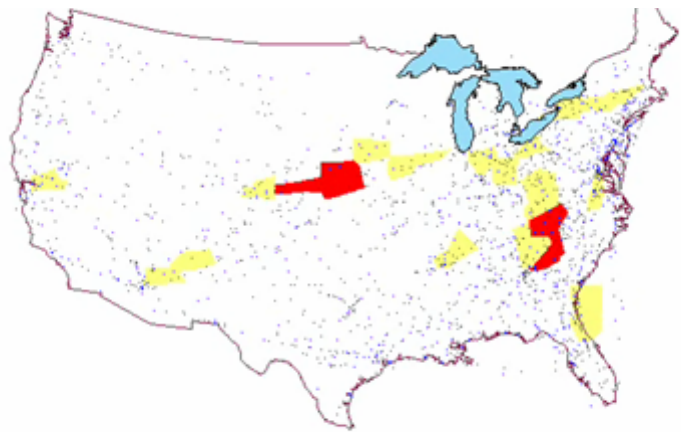
**Sector Color Loading index:**

- Yellow: 80 – 125% of sector capacity**
- Red: 125 - 200% of sector capacity**
- Black: > 200% of sector capacity**

**Baseline Demand (2002)  
Current Sector Capacities**

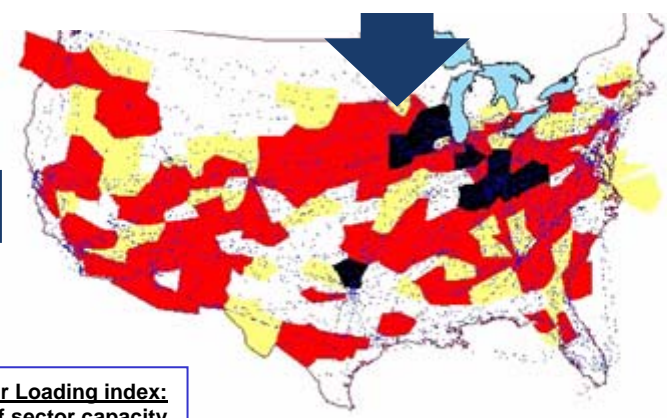
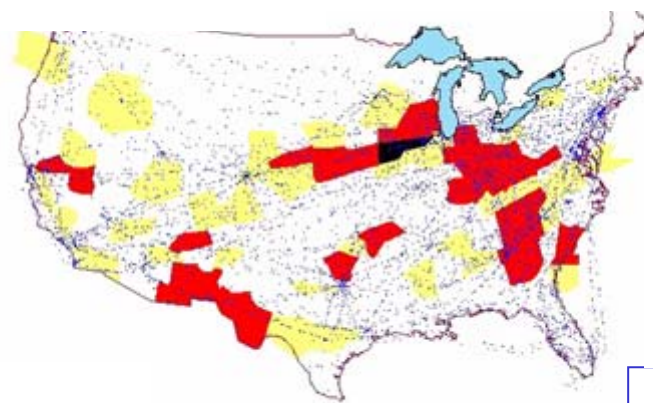
Snapshot at ~1pm EDT  
2X Future Demand

**2X Future Demand  
Current Sector Capacities**



**3X the number of Sectors and Controllers**

**2X the number of Sectors and Controllers**



**Sector Color Loading index:**

- Yellow: 80 – 125% of sector capacity
- Red: 125 - 200% of sector capacity
- Black: > 200% of sector capacity



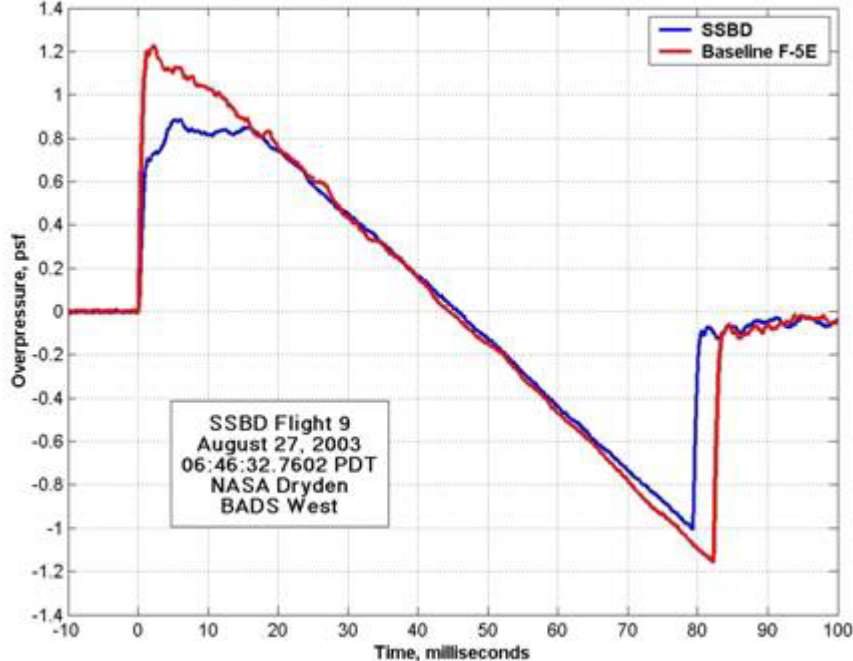
**Lynda Kramer**  
**Aerospace Engineer**  
**Langley Research Center**



F-14 Low Level and Fast

Ground pressure signatures recorded during SSBD Flight 9, back-to-back data flights in the Edwards AFB supersonic flight corridor early morning, Estimated conditions:  
Mach 1.36,  
Altitude 32,000 ft

FIRST MEASUREMENT OF SHAPED SONIC BOOM











**On December 17, 1903  
the Wright brothers changed  
the way we view our planet...**



**The Wright brothers took  
humankind to our sky,**

**Let us fully utilize and protect our sky  
and take humankind to other skies.**