



Friends and Partners of Aviation Weather



'The Cube' is Dead!
Long Live *'The Cube'*!
(and other myths, rumors, and presuppositions)

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Agenda



- Purpose
- Status of NextGen Weather Program
- “The Cube” terminology
- Budget History
- Current Status
- Introduction to NWS Integrated Dissemination Program
- Summary



Purpose



- Provide status of the NOAA NextGen Weather Program
- Introduce the NWS Integrated Dissemination Program



NOAA NextGen Weather Program



Mission

- Improve the access and accuracy of aviation weather information in collaboration with our federal and industry partners.

Vision

- Transform weather services for aviation by delivering improved access to better weather information

Goals

- Improved access to improved weather information through:
 - High temporal resolution
 - Disseminate in seconds
 - Update by events
 - Flexible formats



NextGen Weather Program

Overview of NOAA NextGen Program Structure



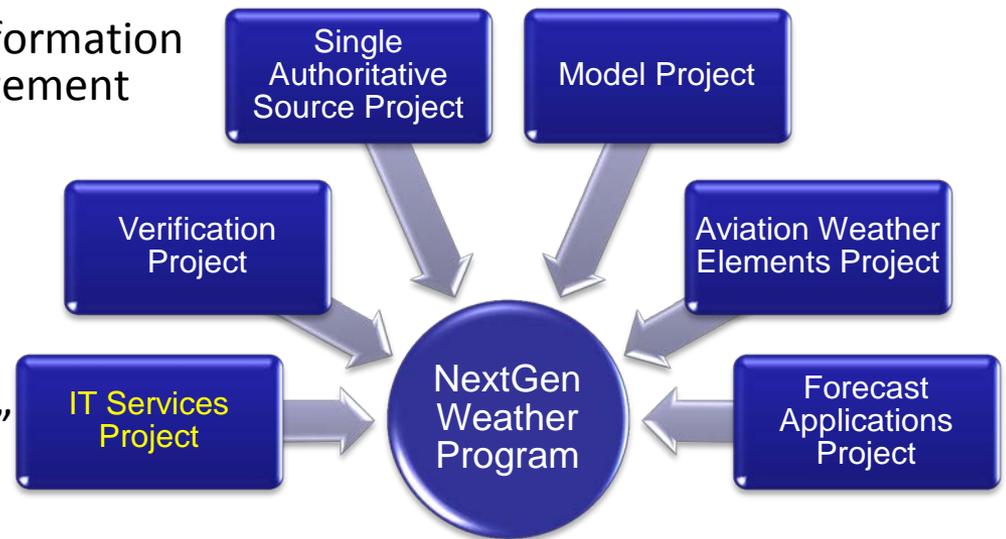
Program Organization: Two major components (IT, Content) composed of six projects

- **IT – IT Services Project:**

- Deliverable: Discovery, Translation and Dissemination services to meet the weather information needs of FAA and other aviation users
- Primary deliverable for NextGen Weather Initial Operational Capability (IOC) in late 2015

- **Contents – (Five Projects):**

- Deliverables: Improved forecast information for ingest into FAA air traffic management systems
- Includes aviation weather research, product and process development, and transition to operations of mature technology
- Focus of efforts to meet “Mid-Operational Capability (MOC)” and “Full Operational Capability (FOC)” requirements





NextGen Weather Program

Overview of Projects and Deliverables



NOAA NextGen Weather Program

IT Services Project

- Aviation weather data discoverability, translation and dissemination services
- Discoverable single access point for weather information in common formats

Single Authoritative Source Project

- Primary source of “Official” weather information for aviation decisions
- Dynamically determined set of most accurate weather information sources

Verification Project

- Improved capabilities to determine the quality of weather information

Forecast Applications Project

- Forecaster Applications allowing manipulation of high res, rapidly updated data sources
- Enables forecaster intervention to correct poor performance of automated forecasts

Model Project

- High resolution, rapidly updated models
- Probabilistic models for forecasting uncertainty

Aviation Weather Elements Projects

- Scientific improvements to weather information critical to aviation operations



The “4-D Weather Data Cube”



- In process of eliminating the term “4-D Weather Data Cube”
- Very difficult to explain what “The Cube” is...
 - CIO Perspective: Technologically unfamiliar term
 - CFO Perspective: “I don’t understand this, so I am cutting it.”
 - Acquisition Perspective: “I can’t tell what you are buying!”
- Example of terminology problem:
 - Actual question from a congressional staffer: “So, how big is this ‘4-D Data Cube’?”
- New name? Not defined...yet! But, what we are driving towards:
 - From IT perspective – improved access and data exchange between NWS and FAA and partner agencies
 - From weather perspective – improved information from forecasters and models for aviation users



Budget



- Original schedules:
 - IT Services Project to build “The Cube”: Initial Operational Capability (IOC) in 2013
 - Remaining projects completion: Full Operational Capability (FOC) in 2022
- The FY 2011 Continuing Resolution delayed IOC to 2014
- The FY 2012 CJS Appropriation was a 50% reduction to the overall program budget profile
 - Priority given to near-term IT Services Project deliverables
 - Coordinating with FAA on highest priorities for NextGen and best way to fulfill
 - Remaining 5 projects (“contents”) are slowed or halted, depending on priority, until funding becomes available
 - Lack of funding impacts long lead-time research needed for much of the out-year requirements
- The NWS re-programming request reduced the FY 2012 NextGen budget
 - *Opportunity:* Lack of FY 2012 Congressional appropriation to counterpart FAA program delayed their IOC schedule, giving schedule relief to the NextGen IT Services Project
 - Subsequently, NextGen IT Services Project able to delay in lock step



Progress Since Last FPAW



- NWS has participated in FAA-led “Capability Evaluations” in 2010 and 2011
 - Demonstrated secure discovery and transfer of NWS weather information via standard formats and services between NWS and FAA
 - Test environment only – non-operational
 - Informed and validated requirements for future acquisition activities
- Developing limited prototype to evaluate methods for discoverability, translation and delivery of 7 NWS product suites
 - Proof of concept for IT services capabilities in an end-to-end test environment
 - Effort will link with other agency efforts and could serve as a foundation for broader web services capabilities
- Supported some “Contents”-related development and testing
 - Refined prototype Forecaster Applications for evaluation by NWS field units
 - Supported small scale model development efforts to improve aviation forecasting
 - Assisted in development of real-time analysis for verification purposes



International Engagements



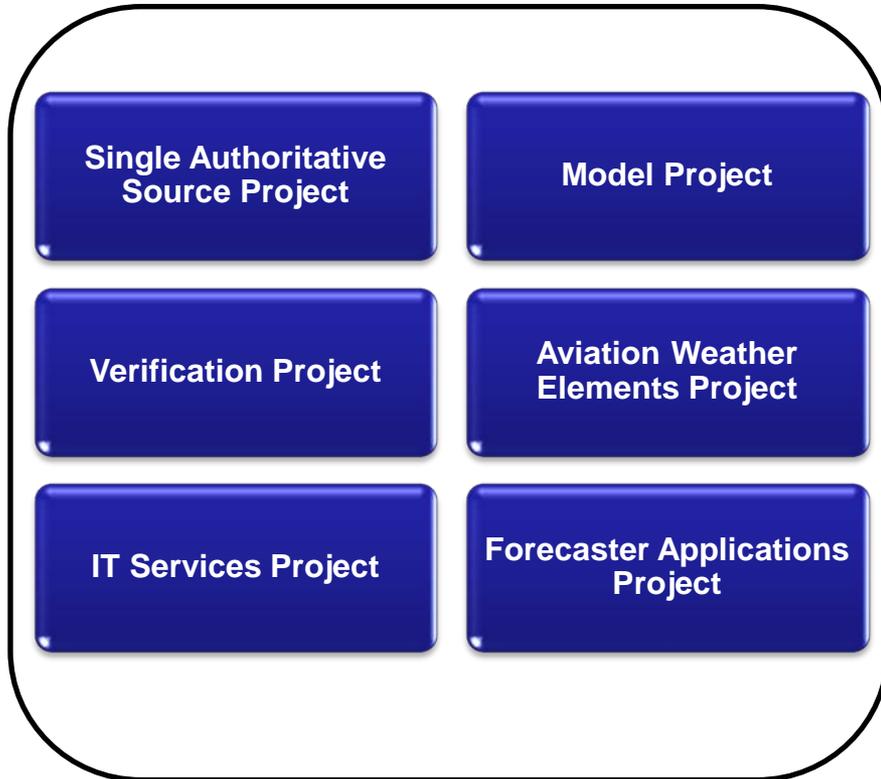
- Continuing coordination with EUMETNET
 - Outlining SESAR-NextGen weather activities under umbrella EUMETNET-NWS umbrella agreement
- Opening dialogue and exchange with Japan in their air traffic improvement initiative
 - “Collaborative Actions for Renovation of Air Traffic Systems (CARATS)”



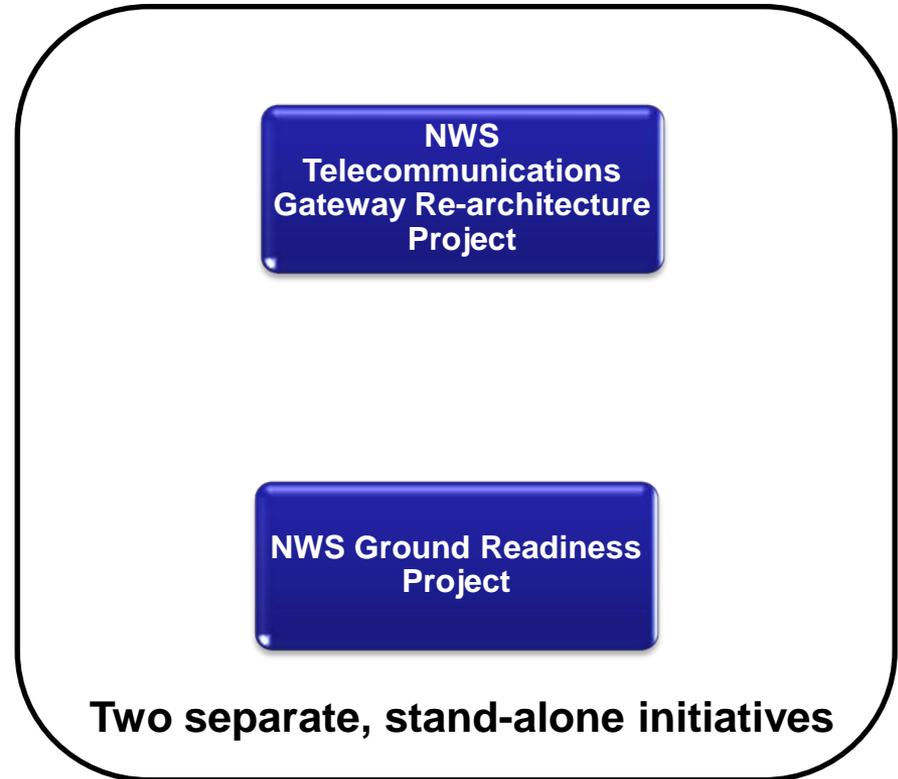
New Program Formulated



NextGen Weather Program



NWS Integrated Dissemination Program



The NWS Integrated Dissemination Program (IDP) started in January 2012



Integrated Dissemination Program

Overview



- The NWS Integrated Dissemination Program (IDP) will manage the projects holistically to deliver enterprise dissemination services in a cost effective manner

Integrated Dissemination Program

NWS Ground Readiness Project

IT Services Project

NWS
Telecommunications
Gateway Re-architecture
Project

IDP Benefits

- Optimize the organization's dissemination services
- Prepare for the increase in essential weather data
- Position NOAA to achieve dissemination shared services

Target State

- Effective and efficient exploitation of available information (Forecasters/Models)
- Scalable data access
- Consumer focused formats and protocols
- On demand access
- Net centric architecture
- Smarter bandwidth utilization
- Subscription services and data discoverability



IDP Progress To-Date



- Collecting, validating, prioritizing requirements
 - Moving into IDP requirements consolidation and normalization phase
- Building schedule and activities leading towards acquisition and development
- Working on IDP CONOPS, Analysis of Alternatives and acquisition artifacts
- Managing all 3 E-300s
 - NWS plans to consolidate these 3 efforts into single E-300



NextGen Way Ahead



- IT Services Project: Key component of IDP
 - Impact to building better access capabilities for FAA and NextGen?
NONE!
 - NextGen IT Services requirements are being integrated with those similar requirements and will be met through IDP
- Contents Projects:
 - Due to budget reductions and longer-term profile, most contents-related activities have been slowed or halted until after IOC of the NextGen IT services capability
 - NWS working with FAA to identify highest priority needs in order to prioritize investments and determine timeline for development and implementation



Summary



- NextGen Weather Program has been slowed due to budget reductions, but near-term schedule remains aligned with FAA schedule due to similar issues
- Longer term R&D activities slowed or halted until funding is available
 - Working with FAA and other partners to minimize impacts
- Delays have given NextGen the opportunity to better align schedule and requirements within NWS to support an enterprise, cross-functional capabilities
 - “I don’t want to create a ‘NextGen Black Box’ that is not part of the whole enterprise!”
 - IT Services project is key component of NWS Integrated Dissemination Program



Questions?