

Weather Working Group Update Next Generation Air Transportation System (NextGen)

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Warning: Broken Glass Ahead

Our charge:
(significantly) reduce weather impacts on the
future National Airspace System

But first...

The Assumptions

- Transformation, not evolution or transition
- A **highly-automated** Trajectory-Based Operations (TBO) end-state
 - Becomes the premise for the “Four-Dimensional (4D) Weather Cube”
 - Subsequently drives the requirement for weather information consistency
- New and updated processes would be required
 - Monumental changes to both the weather provider community as well as the system “user” of that data

Introduction to Weather Concept of Operations (ConOps)

- Weather providers deliver a four-dimensional set of weather information
 - Operators/Mangers will have a common weather picture by using a subset of this information called the Single Authoritative Source (SAS)
- In the NextGen ConOps, weather information will be fully integrated into operations and decision-support tools
 - Data, rather than text and graphics becomes the “product”
- 4D weather will assist decision-makers by integrating with new tools that will describe the full range of available options to deal with weather issues
 - Identifies risk
 - Suggests strategies
 - Minimizes user disruptions

The Elephants in the Room

- Roles of humans and automation
 - NextGen Command and Control Concept
 - NextGen Weather Provision Concept
- Who pays for what?
- What equipage is required/mandated?
- How does industry participate?
- Major concern: This is the same list as 2003

Today/NextGen Weather Information Attributes

<u>Today</u>	<u>NextGen (new requirements)</u>
<ul style="list-style-type: none"> • Not integrated into aviation decision support systems (DSS) 	<ul style="list-style-type: none"> • Totally integrated into DSS
<ul style="list-style-type: none"> • Inconsistent/conflicting on a national scale 	<ul style="list-style-type: none"> • Nationally consistent
<ul style="list-style-type: none"> • Low-temporal resolution (for aviation decision-making purposes) 	<ul style="list-style-type: none"> • High-temporal resolution
<ul style="list-style-type: none"> • Disseminated in minutes 	<ul style="list-style-type: none"> • Disseminated in seconds
<ul style="list-style-type: none"> • Updated by schedule 	<ul style="list-style-type: none"> • Updated by events
<ul style="list-style-type: none"> • Fixed product formats (graphic or text) 	<ul style="list-style-type: none"> • Flexible formats

Our Challenges

- Changing paradigms in multiple agencies
 - Changes roles and requirements of weather providers
 - Changes the operational use of weather information
 - “Disturbs” pre-existing weather relationships
 - Requires a common lexicon and set of processes
 - Interagency budget synchronization (including support/direction from higher levels) a work in progress

Sequence of Events

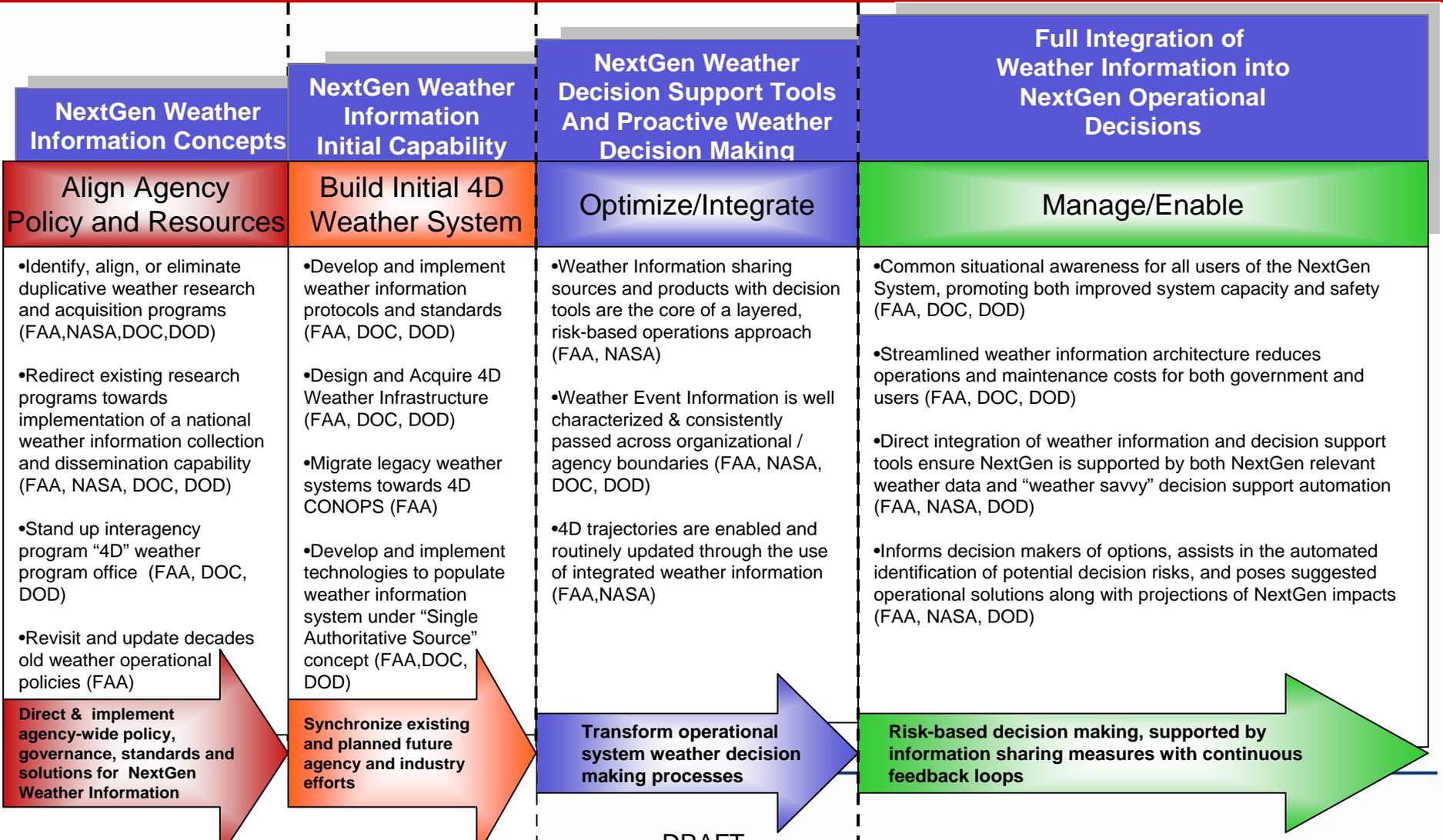
- Two competing philosophies
 - “Build it and they will come”
 - “I don’t plan against vaporware”
- Integrated Work Plan (Interagency)
 - Net-Centric Operations first (2012)
 - Weather (2013)
 - Demonstrate NextGen capabilities (2014-2015)

Status

- Good News
 - NextGen Executive Weather Panel formed and routinely meeting to work these issues
 - 4D Weather Cube plan under development and agency coordination
 - Weather Integration plan out for comment
 - Formal agency coordination later this summer to meet fiscal year end commitment to Senior Policy Committee
- Join us for Friends/Partners of Aviation Weather Meeting
 - July 22 at National Transportation Safety Board (NTSB) Conference facility

Weather

2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025



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Questions?

Thank You!

