

THE NTSB SAFETY ALERT ON NEXRAD IMAGERY

On June 20, 2012, the NTSB issued a "safety alert," noting the "actual age of Nexrad data can differ significantly from age indicated on display." Specifically, the NTSB wants you to know "the actual age of the oldest Nexrad data in the mosaic can EXCEED the age indication in the cockpit by 15 to 20 minutes." The safety alert is available online at <http://go.usa.gov/v0Z>.

As anyone who's used an in-cockpit Nexrad display should know, this isn't news. As the NTSB itself acknowledges, "latency with in-cockpit Nexrad is discussed in pilots' guides, in industry literature, and on service providers'" Web sites. The safety alert's most cogent advice? "Remember that the in-cockpit NEXRAD display depicts where the weather *was*, not where it *is*."

The Safety Alert goes on to state, "While some published [FAA] documents...contain useful information about in-cockpit Nexrad capabilities, the NTSB is not aware of any discussion or guidance in these documents regarding the potential amount of time difference between actual radar-observed conditions and the age displayed in the cockpit." The NTSB isn't wrong, and highlights two recent fatal accidents in which Nexrad latency is suspected as a causal factor.

What's a pilot to do? Never rely on in-cockpit Nexrad as your only source of thunderstorm location information. Establish and maintain visual separation from nearby thunderstorms. Simple, no?



NTSB SAFETY ALERT

National Transportation Safety Board

In-Cockpit NEXRAD Mosaic Imagery

Actual Age of NEXRAD Data Can Differ Significantly From Age Indicated on Display

The problem

- Weather radar "mosaic" imagery created from Next Generation Radar (NEXRAD) data is available to pilots in the cockpit via the flight information service-broadcast (FIS-B) and private satellite weather service providers.
- A mosaic image presents radar data from multiple radar ground sites on a single image on the cockpit display. When a mosaic image is updated, it may not contain new information from each ground site.
- The age indicator associated with the mosaic image on the cockpit display does not show the age of the actual weather conditions as detected by the NEXRAD network. Instead, the age indicator displays the age of the mosaic image created by the service provider. Weather conditions depicted on the mosaic image will ALWAYS be older than the age indicated on the display.
- Due to latencies inherent in processes used to detect and deliver the NEXRAD data from the ground site to the service provider, as well as the time intervals used for the mosaic-creation process set by the service provider, NEXRAD data can age significantly by the time the mosaic image is created.
- Although such situations are not believed to be typical, in extreme latency and mosaic-creation scenarios, the actual age of the oldest NEXRAD data in the mosaic can EXCEED the age indication in the cockpit by

15 to 20 minutes.¹

- Even small time differences between the age indicator and actual conditions can be important for safety of flight, especially when considering fast-moving weather hazards, quickly developing weather scenarios, and/or fast-moving aircraft.

¹ Actual maximum age differences can vary between service type (FIS-B versus satellite) and provider.