4 ways the Forward Scatter Sensor FD70 compares to human observation

The Vaisala Forward Scatter Sensor FD70 is the most accurate and advanced present weather identification solution available, providing constant, reference grade performance to detect everything from freezing drizzle to sandstorms.

How does it compare with professional human observation? The short answer: with an agreement of 97% in freezing rain, for example. Here are four key differences.

	Identifying precipitation types	
Human observation is often in close agreement with the FD70, though distinguishing between snow and mixed rain-snow for example can be more challenging.	**Identifying precipitation types**	Thanks to Vaisala's patented measurement technology, FD70 can quickly identify mixed precipitation types such as rain and snow. High-resolution cameras have confirmed its accuracy in field tests.
Studies show that with conventional sensors, in 40% of times when METAR reports are amended by a human observer, it is because of false present weather information.	**Reporting rapid changes during an event**	Automatization is sometimes essential to reach operative needs, especially for rapidly-changing parameters. The FD70 can quickly identify and report in these conditions.
While precipitation is easy to identify in larger sizes, detecting type in smaller sizes becomes less accurate.	**Droplet size classification**	The FD70 accurately distinguishes between drizzle and rain, detecting all particles as small as 0.1mm.
The human eye can generally detect the onset and end of precipitation, but may miss precise timing.	**Pinpointing the onset and end of an event**	The FD70 never sleeps. It reports the beginning and end of an event from several minutes to more than half an hour earlier than human observation.

Trusted aviation weather from cloud to ground

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Vaisala conducted a comparison test between the Forward Scatter Sensor FD70 and human observation at the Helsinki-Vantaa airport from January to March 2021, which included many challenging present weather conditions. See the full study in our white paper, "Freezing conditions identification with the Forward Scatter FD70: Breakthrough technology for world-leading accuracy," Vaisala 2021.

vaisala.com/FD70