

## Filling the gap: How X-band weather radar improves forecasting in mountain areas

Radar is essential in weather prediction for preserving life and property. They provide coverage over large areas, high resolution, fast updates and versatility – all of which help meteorologists give more accurate forecasts in the face of approaching storms.

Integrating X-band radar into a weather network provides a combination of short and long distance, ground and higher elevation, and real-time data.

The result is:

The best coverage



The highest accuracy

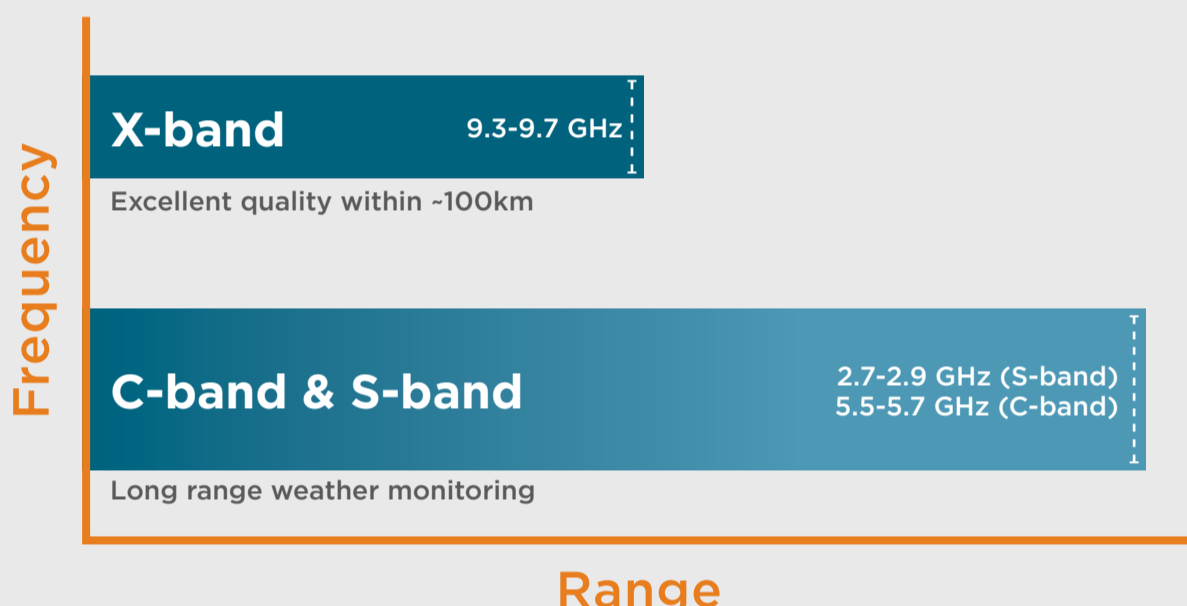


The fastest response times



### Radar types

Different radar types provide varying levels of coverage and accuracy. C-band and S-band radars provide the foundation of large scale radar networks. X-band radar is an excellent choice for accurate short-range weather monitoring.



### C-band and S-band radar: Distance and coverage limitations



These two types of radar are limited by three important factors:

- The farther the distance from the radar, the higher the measurement from the ground
- They do not capture accurate precipitation and weather events close to the ground
- Mountains can block radar, making forecasting less accurate.

## The X-band advantage

X-band radar provides unparalleled resolution at low altitudes in real time. These qualities make X-band ideal for weather monitoring and forecasting in mountainous areas.

X-band radar detects

- The exact path and precipitation level of a storm system
- Precipitation type and amount close to the ground
- Ground-level storm disruptions such as tornadoes.



Filling in the gaps left by C-band and S-band radar helps forecasters in crucial ways. The data provided by X-band radar helps meteorologists to

- See exactly when and where storm systems are emerging on the ground
- Predict flash floods in populated areas
- Quickly alert emergency managers and first responders.

Trusted weather observations for a sustainable future