

Avoidance Tactics

I use charts available at the Aviation Digital Data Service (online at www.aviationweather.gov/adds) to learn where icing is predicted, and Pireps to tell me where icing is being encountered. Unfortunately, forecasts are not guarantees and Pireps are generally old news. So, other data is needed.

I look to see if I'm dealing with a classic cold front, a warm front or the worst combination, an occluded frontal system, and I decide on a flight track that will have me penetrating the frontal zones at their weakest, during the time of day when the weather along such lines is generally the least active. I flight plan to minimize exposure to any zone that shows the classic warm over cold air scenario that can lead to icing conditions—even if it means flying a longer routing. I never plan to fly in the clouds in the mountains. Period. And the same goes for freezing rain, freezing drizzle or freezing fog. Those are just invitations to an "ice ball."

In fact, I flight plan, and then fly that plan to avoid being in any visible moisture between +35 degrees F and -20 degrees F. If only that were enough. Ice has been seen to disable aircraft at temperatures much colder than -20 degrees F, and it's a short jaunt from +35 degrees to 32 degrees F.

Why such strict rules? My single-engine piston-powered airplane has no anti-ice or de-icing protection short of windshield defrost and a heated pitot tube. I fly above the undercast as long as I can, as a rule. Altitude and clear air above a cloud layer are your friends when it comes to ice. That said, be a purist. Don't settle for bumping along at the cloud tops. Research shows that can be a great spot to find icing encounters. And just under the cloud on a cold day? There's ice there, too.

NASA says that changing altitude by as little as 3000 feet can get you out of an inadvertent icing encounter. If you know the temperatures below you are above freezing and the terrain permits, by all means, go low. But if you are squeezed by terrain, your best odds are an attempt to climb out of what you hope is a typical icing band. And of course, there is always the option of turning around and going back to where there was no ice. Whatever you do, do it quickly. The longer you wait, the heavier you get. Pilots who have survived encounters with severe ice will tell you it happened in an instant.

