

Icing Product Alaska (IPA) Forecast: Description

The IPA produces experimental guidance for in-flight icing conditions over Alaska and surrounding areas. It uses output from a numerical weather prediction model to create a gridded display of the probability of icing, the severity of that icing, and the potential for any supercooled large drops (SLD) to exist. SLD is defined as freezing drizzle or freezing rain and can be especially hazardous to aircraft due to its propensity to accumulate beyond protected surfaces. These products are output on 1000-foot flight levels from the surface to FL300 over Alaska and can be used as a supplement to the official forecasts produced by the Alaska Aviation Weather Unit. The algorithm first identifies areas of potential cloudiness and then identifies the icing environment in those clouds by combining model fields based on the forecast weather scenario. These weather scenarios include non-precipitating, snow, rain, drizzle, freezing rain, freezing drizzle, multiple layers, and convection. The formation and character of icing conditions can vary widely depending on the scenario so the algorithm takes advantage of this information in order to make the best possible guidance.

Observations of icing, like PIREPs, are important for the algorithm. They allow the developers to investigate cases where icing is observed to see what can be learned about the environment. PIREPs are also used as verification so that the skill of the products can be evaluated objectively. More observations result in more confidence in the calculated verification statistics. For most of Alaska the months of March and April have a high frequency of icing conditions, so collecting PIREPs during this time will be the most helpful. Reports of no icing, especially in clouds, are extremely useful as well.

All IPA outputs can be found at www.rap.ucar.edu/icing/fipak. Please direct any questions or comments about the products to Cory Wolff (cwolff@ucar.edu), Associate Scientist at the Research Applications Laboratory.