

ADS-B DERIVED WEATHER API

Weather Intelligence Redefined

Aviation, more than any other mode of transportation, is greatly affected by weather. From thunderstorms and snowstorms to temperature and pressure extremes, every stage of the flight has the potential to be impacted by weather. Commercial aviation, with its more than 100,000 daily flights, must not just deal with these adverse weather conditions regularly, but the costs associated with it as well.

The two major impacts of weather are safety and efficiency of operations. To enhance safety while attempting to maintain flight schedule integrity, airlines are highly dependent upon accurate weather information.

Primary Challenges

- Temperature changes can affect aircraft performance, flight plans, routes and volatile precipitation patterns could increase delays and cancellations.
- Changing wind patterns could increase turbulence and result in the rerouting of flights and a consequent increase fuel in burn.

ADS-B Derived Weather Data from AirNav Systems helps mitigate this impact by delivering real-time temperature and winds aloft data to airlines, airports, and aviation meteorological service providers. Armed with this robust data, flight management systems can safely and efficiently plan routes ahead of time to avoid adverse weather conditions during the various phases of a flight.

AIRNAV ADS-B DERIVED WEATHER DATA

ADS-B Weather API

AirNav's REST-based ADS-B Derived Weather Data API enables aviation and meteorological service providers to seamlessly integrate real-time temperature and winds aloft data into their applications and products.

Wind speed, wind direction and temperature data are derived from the ADS-B data received in real-time from the multitude of ADS-B equipped aircraft that crisscross our skies every day.

This unconventional approach to harnessing weather data is possible because of AirNav's extensive space and ground-based network of 27,000+ ADS-B receivers that receive over 7 billion ADS-B transmissions each day.

Image on the left: *The graphical format of winds aloft & temperature data.*



Data Feed

- Real-time data feeds can be accessed via TCP Stream, HTTP, Kafka and FTP, while customized reports can be delivered upon request.
- Data via the API is provided in common formats such as JSON and XML but can also be customized as per client requirements.
- A dedicated team, that is assigned to every client for setup and onboarding is also available 24x7 for after-sales support and priority issue resolution.

Data Features

-  Access real-time data via TCP Stream, HTTP, Kafka
-  Multiple data formats – JSON, XML
-  Weather data is displayed in 1,000 ft increments
-  Customized reports provided on request
-  Graphical & textual formats available

API Features

-  Rest-based API Architecture
-  Integration handled by a dedicated team
-  Seamless integration into client applications
-  Low-latency, reliable and scalable API
-  Zero downtime deployment
-  Data fusion with other AirNav weather services available

Benefits

1 Optimized Flight Planning

- ✓ AirNav ADS-B Derived Weather Data ensures flight planning software engines are constantly fed accurate, real-time weather data.
- ✓ Optimize flight planning and significantly reduce fuel burn rates using flight management systems that chart efficient cruising flight levels based on live ADS-B derived weather conditions.
- ✓ Reduce aviation fuel expenditure due to lower fuel consumption per flight.

2 Increased Operational Safety

- ✓ Improve total situational awareness through up-to-date weather reports that indicate adverse weather conditions such as clear air turbulence (CAT).
- ✓ Increase passenger safety through reduction of in-flight weather-related incidents.
- ✓ Increase on-time performance while reducing delays, re-routes, cancellations, and insurance payouts caused due to inclement weather.

3 Reduced Emissions

- ✓ Reduce CO2 emissions and climate change impact through optimized flight planning and efficient routing.
- ✓ Reduce contrail-linked climate change by planning and adjusting flight routes so that aircraft can avoid areas where they form.

4 Ready To Deploy Solution

- ✓ Seamless integration and deployment
- ✓ Flexible pricing options
- ✓ 24x7 after-sales support
- ✓ Free 30-day trial and demo on request