Total Turbulence

Measure events and alert others

The Weather Company
An IBM Business

- Improve safety
- Reduce maintenance inspections
- Improve efficiency
- Increase passenger comfort
- Enhance operational analysis

Your challenge

Each year, turbulence costs airlines millions of dollars in injury claims, operational inefficiencies, aircraft and sensitive cargo damage and lost revenue.

Your current approach

Airlines rely on verbal pilot reports (PIREPs) of turbulence, which are subjective, often delayed and imprecise in location. The government issued turbulence SIGMETs and Significant weather guidance are not airframe or flight segment specific, leading to uncertainty about the location, extent and severity of enroute impacts. Further hampering decision-making, flight crews, controllers and dispatchers do not always access the same information. This uncertainty can lead to extra contingency fuel, and suboptimal altitude and route plans, all of which drive profit erosion from the planned flight.

The Weather Company, an IBM Business solution

Total Turbulence provides a workflow integrated end-to-end solution that helps improve certainty and reduce turbulence impacts and their associated costs. Bringing together patented real-time turbulence detection, high-resolution numerical weather modeling, highly experienced aviation meteorologists and proven delivery platforms, Total Turbulence delivers timely, precise and actionable turbulence alerts and data.

Total Turbulence relies on aircraft sensed data from The Weather Company's exclusive TAPS™ software-only technology. The Weather Company meteorologists receive TAPS reports and issue Turbulence Advisories to alert dispatchers and crew of the imminent hazard on both The Weather Company applications like Fusion and Pilotbrief and aircraft communication displays. The Weather Company Meteorologists also issue and continually update our industry-leading WSI Enroute Hazards SIGMETs and Flight Plan Guidance (FPG).

WSI Turbulence Auto PIREP System (TAPS) allows for timely and precise reporting of turbulence location and severity

- Patented, real-time, objective turbulence detection; accounts for airframe
- Proven in NASA and FAA research and operations[1]
- Reports simple severity categories as well as EDR and RMS-g parameters

WSI Turbulence Advisory fills critical information gap and operational blind spots

- Issued for moderate or higher turbulence PIREP or TAPS report prior to SIGMET or FPG amendments
- Indicates clearly, the severity and 3D airspace impacted
- Helps ensure timely alerting to mitigate impacts of emerging significant hazards

WSI Enroute Hazard SIGMETS and Flight Plan Guidance (FPGs) deliver precise, incisive and actionable view of turbulence impacts

- Tailored for transport class aircraft to optimize altitude and route plans
- Created using extensive global observations, publicly-available and proprietary PIREPs, as well as WSI's own weather modeling
- Monitored, redefined and verified continuously by expert aviation meteorologists 24x7x365

WSI Decision Support Integration helps ensure all stakeholders are operating on the same page

- WSI Fusion for real-time alerting and optimal planning
- WSI Replay for on-demand post-event analysis
- WSI Pilotbrief for preflight and in flight crew awareness
- WSI S/WINDS enterprise data services; early maintenance notification
- Builds confidence, collaboration and sharpens decision-making in all phases

WSI Service Level meets flight critical requirements

- Fully managed and supported
- Fully redundant, active data center architecture
- Premium Service Level available
- Focus scarce IT resources on airline operational optimization

About The Weather Company, an IBM Business

The Weather Company, an IBM Business, helps people make informed decisions and take action in the face of weather. The company offers the most accurate forecasts globally with personalized and actionable weather data and insights to millions of consumers, as well as thousands of marketers and businesses via Weather's API, its business solutions division, and its own digital products from The Weather Channel (weather.com) and Weather Underground (wunderground.com).

The company delivers around 25 billion forecasts daily. It's products include the world's most downloaded weather app, a network of 250,000 personal weather stations, a top-20 U.S. website, one of the world's largest IoT data platforms, and industry-leading business solutions.

Weather Means Business™. The world's biggest brands in aviation, energy, insurance, media, and government rely on The Weather Company for data, technology platforms and services to help improve decision-making and respond to weather's impact on business.

For more, visit theweathercompany.com

Footnote

1 Prince, J.B., Buck, B.K., Robinson, P.A., AeroTech Research (U.S.A.), Inc., Newport News, Virginia; Ryan, T., ARINC Inc., Annapolis, Maryland, In-Service Evaluation of the Turbulence Auto-PIREP System and Enhanced Turbulence Rada Technologies, July 2007, https://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20070023592.pdf

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