AIR Web Services

Making data-driven underwriting decisions is a key step in managing catastrophe risk. Your underwriters need instant access to hazard and loss analytics for the policies they are considering. But managing all this information is time-consuming and prone to inefficiencies.

A Customizable and Integrated Solution

To help underwriters make faster decisions while reducing errors and application processing times, AIR Web Services offers customizable hazard and loss analysis reports that can be integrated into your organization's underwriting workflows.

AIR Web Services offers detailed hazard and loss metrics by peril to determine the potential risk at specific locations. AIR Web Services is hosted on the cloud, so your risk analytics are always instantly accessible anywhere. These results can then be integrated directly into your company's underwriting and pricing applications.



With AIR Web Services, you can:

- Instantly receive the loss metrics (e.g., average annual loss (AAL) or individual exceedance probability (EP) points) and hazard characteristics of a location
- Streamline your workflow for processing individual accounts
- Increase the accuracy and speed of underwriting decisions
- Ensure consistent execution of your underwriting strategy
- Codify what rules are applied to define violations for identifying potential high-risk locations based on your view of risk
- Quickly set new underwriting guidelines and price new contacts in seconds
- Immediately make go/no-go underwriting decisions

Access Analytics Anytime, Anywhere with Our Cloud-Based Services

AIR Web Services is easily accessible within any company's workflow or decision-making process. The cloud technology helps reduce IT costs and allows your underwriters to immediately access the most up-to-date software while minimizing downtime and lost productivity.



Services Designed Specifically for the Underwriter Workflow

Easy address entry:

Your underwriters provide the physical location of the property in the form of an address or using latitude and longitude coordinates; property characteristics, such as construction and occupancy details; and insurance coverage terms. They can then choose the type of analysis they need—e.g., hurricane or earthquake hazard, or loss information for risk assessment—and the service provides the requested results. AIR Web Services supports hazard analysis for a single location as well as loss analysis for either multiple locations or a contract with up to 10 locations.



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Instant analysis results:

AIR Web Services returns results for hazard and loss analysis in two sections:

- The Analysis section, which includes processing information
- The Response Element section, which includes the geocoding information for the location included in the analysis and the hazard or loss information the underwriter requests.



A sample of Hazard Analysis Services integrated into client's workflow



AIR Hazard Analysis Service

The AIR Hazard Analysis Service is an AIR Web Service that enables your underwriters to determine how susceptible a property is to catastrophes, such as U.S. hurricanes, earthquakes, severe thunderstorms, winter storms, floods,

Hazard Metric Explained

Relative risk is a specific property's risk score in relation to other properties within the same county or state, expressed as a percentile. The risk score represents the percentile of the loss amount that is likely to reach or exceed 1% of the average annual losses of other properties in the county or state. and terrorism. To expedite the decision-making process for underwriters and reduce application processing time, the AIR Hazard Analysis Service defines risk using peril-specific profiles. The Hazard Analysis Service offers detailed descriptors by peril for a specific location to determine the potential risk of that location.



Risk Analysis per Peril

AIR Web Services enables your underwriters to run an analysis for one or more perils for an individual location.

Hurricane: Specifies the property's susceptibility to the hurricane peril. The analysis describes the likelihood of storm surge at the property, the historical occurrence of hurricanes at the property, elevation, the distance from the property to the coast, and the Florida Wind Mitigation zones (available only in the State of Florida).¹

Earthquake: Specifies the property's susceptibility to the earthquake peril in terms of both shake and liquefaction. The analysis describes the soil type at the property, whether the property is in a landslide zone, fault-zone information and faults near the property, the likely magnitude of earthquakes near the property, and probable intensities expressed using the Modified Mercalli Intensity (MMI) scale. For properties in California, the analysis provides the California DOI zone, the information necessary to meet disclosure regulations.

Severe Thunderstorm: Specifies the property's susceptibility to the severe thunderstorm peril in terms of the sub-perils tornado, hailstorm, and straight-line windstorm, varying from "very low" intensity to "very high." The analysis describes the historical occurrence of the sub-perils at the property.²

Winter Storm: Specifies the property's susceptibility to the winter storm peril.

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Flood: Specifies the property's susceptibility to the flood peril. The analysis describes the source of the flood based on Digital Q3 Flood Data compiled by FEMA,³ flood zone, elevation, and shortest distance to a water body for 100-year floodplain and 500-year floodplain.

Terrorism: Specifies the terrorism target nearest the property.

Response Elements by Peril

For each location, the AIR Hazard Analysis Service generates responses that are specific to a certain peril. For all perils except terrorism, AIR Hazard Analysis provides the 100-year loss level, 250-year loss level, average annual loss, relative risk by county, relative risk by state, as well as the number of historical events and their frequencies per peril. For a complete list of response elements generated in AIR Web Services, please check out documentation for AIR Web Services.

HURRICANE	EARTHQUAKE	SEVERE THUNDERSTORM
Distance to Coast	Distance to Nearest Fault	Tornado
Distance to Actual Coast	Nearest Historical Earthquake	Hailstorm
Nearest Historical Hurricane	California DOI Zone	Windstorm
Coastal County	Liquefaction Potential	Nearest Historical Tornado
Storm Surge	Soil Type	Nearest Historical Hailstorm
Potential	Landslide Zone	Nearest Historical Straight-Line Windstorm
Elevation	Alquist-Priolo Earthquake Fault Zone	
Surface Terrain		

AIR Loss Analysis Service

The AIR Loss Analysis Service is an AIR Web Service that enables your underwriters to estimate occurrence and aggregate losses due to catastrophic events for one or multiple locations or a contract with up to 10 locations. The loss analysis results are available instantly within clients' pricing system.

AIR can configure customized loss analysis packages based on your view of risk. These reports can include groundup losses, gross losses, or a combination of both, as well as losses at specific exceedance probabilities. The report can provide different levels of detail depending on your requirements, from annual summaries to detailed eventlevel loss information. AIR provides 10,000-year catalogs to help assess the potential for losses. For hurricanes, standard and warm sea surface temperature catalogs are available for the U.S. For earthquake, time-dependent and time-independent catalogs are available for the U.S. and Canada. For flood, the catalog includes both on- and offplain combined events for the U.S.

Loss Metrics Explained

For each location, the AIR Loss Analysis Service calculates loss numbers for one or more perils and includes the address, geocode match level, and latitude/longitude. The following loss numbers are included for the hurricane, flood, and earthquake perils:

- AVERAGE ANNUAL LOSS (AAL): An average of all losses expected over a given time frame. On average, you should expect this level of loss to occur each year.
- N-YEAR RETURN PERIOD: The minimum level of loss you should expect over a given time frame. For example, a 100-year return period loss tells you that you can expect that level of loss or greater once in every 100 simulations of next year's risk.



Facilitate Faster and More Profitable Underwriting Decisions

AIR Web Services saves time by generating reports instantly and reduces the errors and costs associated with having to manually cross-reference a submission with your company's underwriting guidelines or collecting or requesting information from disparate sources. It eliminates the need to use complex APIs and manually develop your own applications for integrating the hazard and loss analysis into your underwriting workflow.

AIR Web Services provides instant and customized risk metrics reports for your underwriters, helping them make informed, consistent underwriting decisions that support your organization's business goals.

By using AIR models, you are using information necessary to meet disclosure regulations and can be confident you are compliant with all the regulatory requirements for catastrophe models.

¹The State of Florida created zones to define Exposure Area (Terrain), Exposure Area 2010 FBC (Terrain), High Velocity Wind Region, Windspeed Region, Windborne Debris Region.

² Historical tornado information includes intensities expressed according to the Fujita scale.

³ The Digital Q3 Flood Data is not modified in any way by AIR. Digital Q3 Flood Data is developed by FEMA by scanning existing hardcopy Flood Insurance Rate Maps (FIRM), then vectorizing a thematic overlay of flood risk.

ABOUT AIR WORLDWIDE

AIR Worldwide (AIR) provides risk modeling solutions that make individuals, businesses, and society more resilient to extreme events. In 1987, AIR Worldwide founded the catastrophe modeling industry and today models the risk from natural catastrophes, terrorism, pandemics, casualty catastrophes, and cyber incidents. Insurance, reinsurance, financial, corporate, and government clients rely on AIR's advanced science, software, and consulting services for catastrophe risk management, insurance-linked securities, longevity modeling, site-specific engineering analyses, and agricultural risk management. AIR Worldwide, a Verisk (Nasdaq:VRSK) business, is headquartered in Boston, with additional offices in North America, Europe, and Asia. For more information, please visit www.air-worldwide.com.

