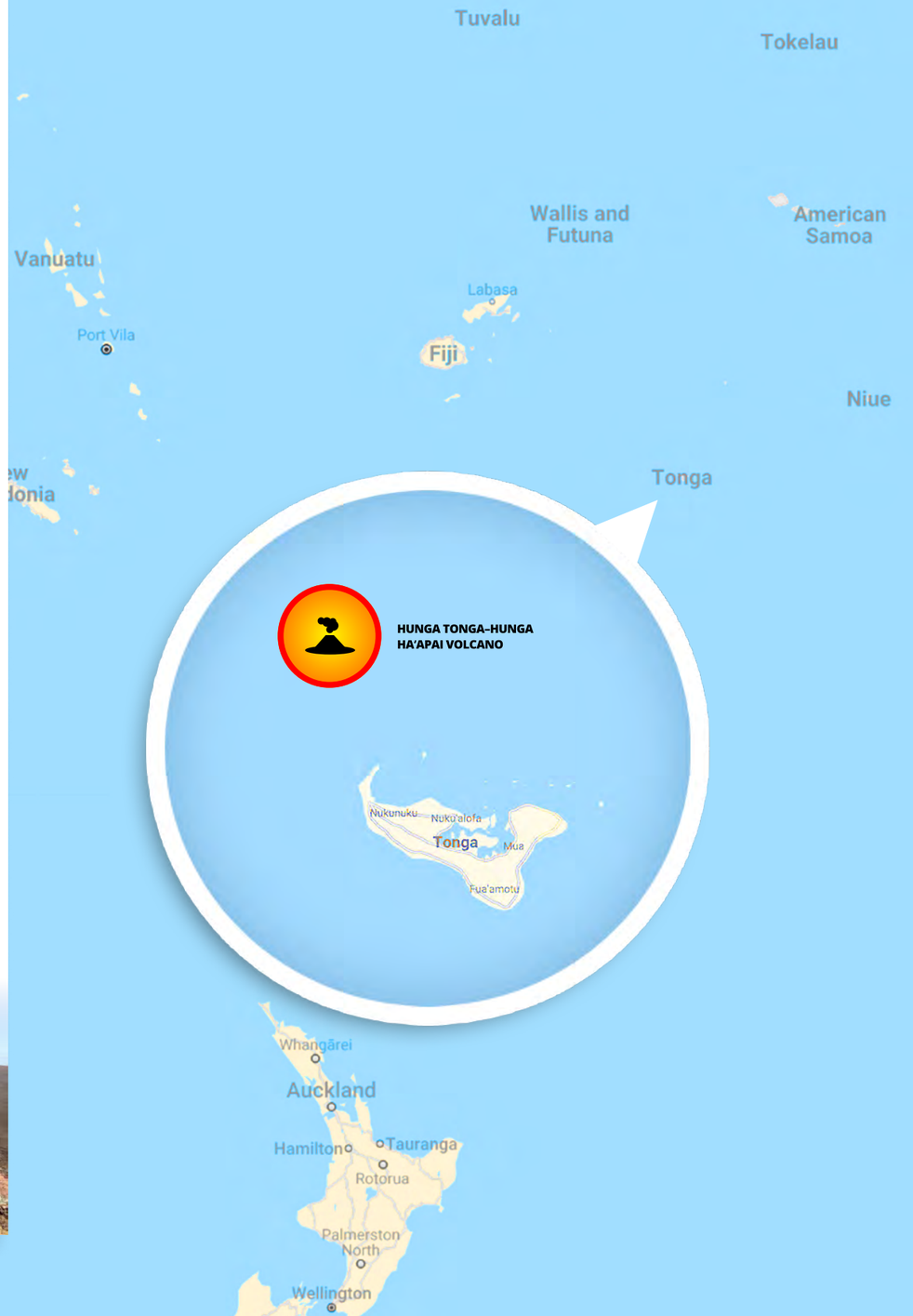
The Value of Real-time Information

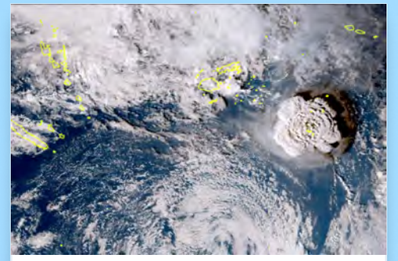
Dataminr Pulse Enabled Customers to Mitigate Operational and Supply Chain Risks Throughout the Hunga Tonga-Hunga Ha'apai Volcanic Eruption

In January 2022, global businesses with supply chains dotting the Pacific Ocean were faced with a complex and fast-evolving set of risks following the eruption of the Hunga Tonga–Hunga Ha'apai underwater volcano. Volcanologists assessed that the eruption was Earth's most powerful in 30 years. The resulting tsunami battered the region; its effects were felt as far as South America and the west coast of the U.S.

In addition to the headline-grabbing impact the event had on residents and local businesses, the eruption posed risks to global organizations with operational ties to the area. Companies whose footprint—including satellite offices and supply chain partners—encompassed the region had to make quick, wide-ranging decisions in order to safeguard their personnel, operations and assets. And they had to do so with limited resources in a chaotic news environment, where the next critical update could be obscured by irrelevant information.

At every stage of the disaster—from the volcano's first rumblings to resuming commercial activity in the region—Dataminr Pulse helped customers derive actionable insights via its industry-leading AI platform. Pulse surfaces alerts on emerging risks and high-impact events from more than hundreds of thousands of public data sources at an unmatched speed, and enables customers to respond quickly and effectively to complex supply chain, operational and reputational risks.





ALERT

Himawari-8 weather satellite catches volcanic eruption north of Nuku'alofa, Tonga: Reporter photo via social media.

2021-12-19 21:09 EST

ALERT

Ha'apai under volcanic cloud as residents in Neifau and Vava'u reporting loud explosions from volcano 170 kilometers south in Nuku'alofa, Tonga: Reporter photo via social media.

2021-12-19 21:24 EST

ALERT

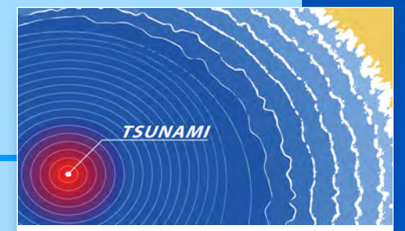
Qantas reroutes path of Flight QF7552 from Honolulu, Hawaii to Auckland, New Zealand following volcanic eruption in Tonga: Reporter photo via social media.

2021-12-19 21:46 EST

ALERT

Tonga declares hazard zones around Hunga Tonga-Hunga Ha'apai volcano: Government photo via Tonga government.

2021-12-24 13:53 EST



ALERT

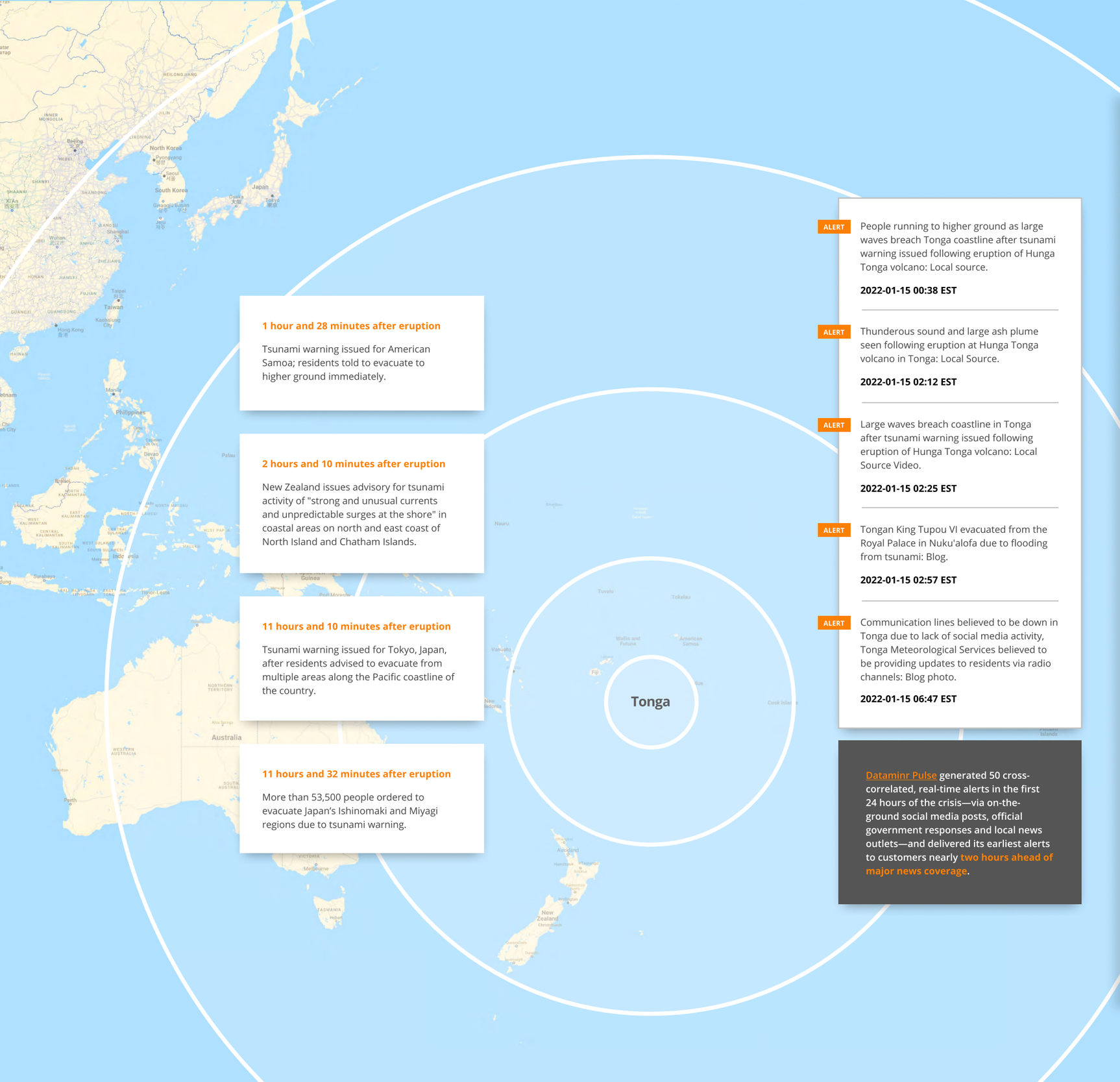
Tonga issues nationwide tsunami warning due to ongoing activity at Hunga-Tonga volcano: Local news outlet via Matangi Tonga .

2022-01-13 18:46 EST

Real-time Information Leads to Earlier Event Discovery and Faster Responses

In the weeks before the event, Dataminr Pulse alerted customers to troubling indicators at Hunga Tonga. On December 20—25 days before the tsunami-inducing eruption—Pulse alerted customers in real time to satellite footage and eyewitness videos of an underwater eruption. Within 20 minutes of the initial rumblings, Pulse customers received verified alerts and learned of the first supply chain impacts, namely cargo flight diversions, shortly after.

Pulse continued to surface dozens of alerts related to gas emissions, volcanic activity and emergency declarations. The frequency and accuracy of these alerts allowed customers to understand and visualize risks to their physical assets and consider the potential weak points in their supply chains.



1 hour and 28 minutes after eruption

Tsunami warning issued for American Samoa; residents told to evacuate to higher ground immediately.

2 hours and 10 minutes after eruption

New Zealand issues advisory for tsunami activity of "strong and unusual currents and unpredictable surges at the shore" in coastal areas on north and east coast of North Island and Chatham Islands.

11 hours and 10 minutes after eruption

Tsunami warning issued for Tokyo, Japan, after residents advised to evacuate from multiple areas along the Pacific coastline of the country.

11 hours and 32 minutes after eruption

More than 53,500 people ordered to evacuate Japan's Ishinomaki and Miyagi regions due to tsunami warning.

ALERT People running to higher ground as large waves breach Tonga coastline after tsunami warning issued following eruption of Hunga Tonga volcano: Local source.

2022-01-15 00:38 EST

ALERT Thunderous sound and large ash plume seen following eruption at Hunga Tonga volcano in Tonga: Local Source.

2022-01-15 02:12 EST

ALERT Large waves breach coastline in Tonga after tsunami warning issued following eruption of Hunga Tonga volcano: Local Source Video.

2022-01-15 02:25 EST

ALERT Tongan King Tupou VI evacuated from the Royal Palace in Nuku'alofa due to flooding from tsunami: Blog.

2022-01-15 02:57 EST

ALERT Communication lines believed to be down in Tonga due to lack of social media activity, Tonga Meteorological Services believed to be providing updates to residents via radio channels: Blog photo.

2022-01-15 06:47 EST

Dataminr Pulse generated 50 cross-correlated, real-time alerts in the first 24 hours of the crisis—via on-the-ground social media posts, official government responses and local news outlets—and delivered its earliest alerts to customers nearly **two hours ahead of major news coverage**.

Greater Context Means Businesses Can Mitigate Operational and Supply Chain Risk More Effectively

In the early evening of January 15, Tongans endured the massive volcanic eruption and the ensuing explosion. Within hours, the ash plume and resulting tsunami wave wrecked significant swaths of the country and cut it off from the rest of the world.

Pulse customers with personnel, assets and supply chain touch points in the region learned of the event within three minutes of the earliest volcanic activity. In the 24 hours following the eruption, Pulse sent over 250 alerts—from 100 unique locations in 16 different Pacific Rim countries—on tsunami advisories, wave impacts and evacuation plans.

As the hours passed, Pulse leveraged eyewitness accounts, as well as statements from local government and news reports, to provide firsthand visibility into the escalating situation and the trajectory of the tsunami waves. Pulse customers were able to visualize alerts via a dynamic map interface, enabling them to evaluate risks to their assets and supply chain touch points further afield from Tonga.

Access to real-time, corroborated and geo-located information allowed Pulse customers to escalate awareness of the disaster. As a result, they were able to quickly secure assets, move employees and executives to safety and ensure the resiliency of their supply chains.

DATAMINR PULSE

Fast-evolving Security Risks Demand Coordinated Responses Informed by Real-time Information

Pulse customers needed to maintain real-time awareness of threats to critical public infrastructure—including roads, airports, power plants, deepwater harbors and telecom towers—that could impact their operations and assets. In some cases, the damage to public infrastructure caused by the eruption and tsunami was severe and resulted in cascading, increasingly complex risks.

In the aftermath of the eruption, Pulse continued to provide real-time alerts on new and deepening security risks to critical infrastructure, as well as tailored alerting on customers' critical physical assets and supply chain touch points in the area. As a result, corporate security and business continuity teams were able to work collaboratively to identify vulnerabilities in their supply chain and prioritize specific actions in their emergency response plans.