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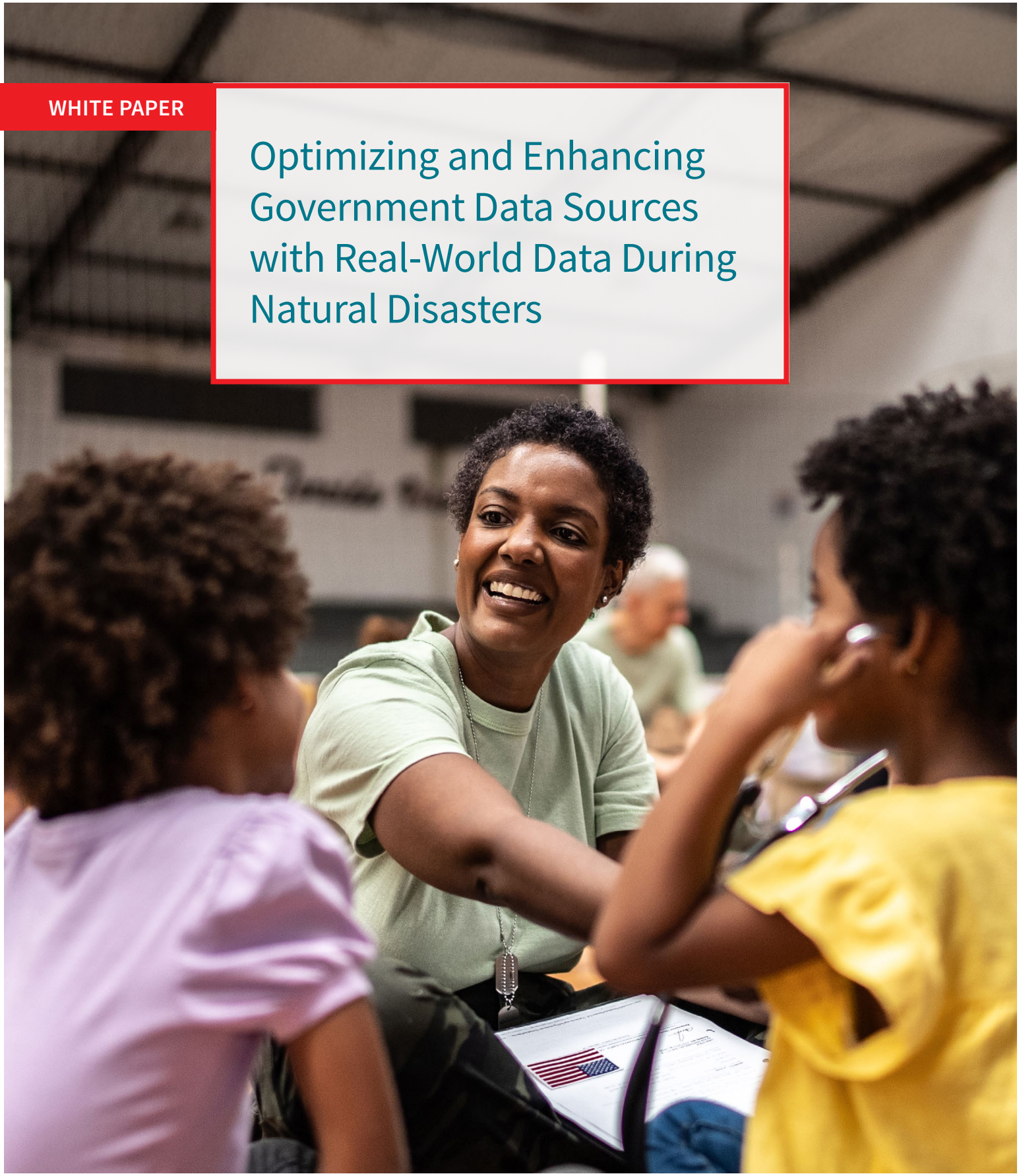
Optimizing and Enhancing Government Data Sources with Real-World Data During Natural Disasters



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Introduction

Effective disaster relief and recovery during a natural calamity is profoundly challenging, both for affected individuals and for the search and rescue personnel deployed to help them. In these high-stake situations, federal agencies must rely on comprehensive readiness plans to act swiftly and effectively.

Optimizing current data ecosystems with comprehensive real-world data (RWD) can transform how government agencies work together to approach disaster management and can result in significant cost savings. Agencies like the National Oceanic and Atmospheric Administration (NOAA) play a key role in disaster preparedness by issuing timely and accurate weather alerts to safeguard life and property. These alerts trigger coordinated responses from agencies such as the Department of Health and Human Services' (HHS) Administration for Strategic Preparedness and Response (ASPR), often working alongside the Federal Emergency Management Agency (FEMA) to manage and mitigate disasters. In the last 10 years, appropriations for disaster assistance totaled at least $448 billion, plus an additional $110 billion in supplemental appropriations so far in fiscal year 2025.[1]

> As natural disasters become more frequent and severe, RWD plays a critical role for enabling more precise, proactive, and informed disaster response strategies. RWD can enhance the situational awareness of agencies, supporting faster and more efficient decision-making when time is of the essence.

For years, RWD has provided meaningful insights in health care and helped advance the important mission of government agencies. This data can be just as consequential when developing projection models for natural disasters so agencies can better prepare communities, support first responders, and ultimately save more lives. This proactive approach not only strengthens resilience, but also ensures that impacted individuals and their families receive the help they need—when they need it most.

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RWD offers targeted insights by providing a historical and environmental context for how disasters have unfolded in the past. A key differentiator in this approach is the ability to deliver hyperlocal insights—going beyond the city or ZIP code level, to specific neighborhoods, blocks, or even street segments. This granularity can enable more precise alerts and tailored recommendations, ensuring that interventions are both timely and contextually relevant. When integrated into advanced analytics, this data can become a powerful tool in identifying vulnerable populations and anticipating the geographic and demographic impact of an impending disaster.

Federal agencies can incorporate underutilized RWD attributes currently absent from many preparedness programs. These attributes can improve the precision and accuracy of natural disaster planning across all 50 states and 5 U.S. territories to more proactively identify 'at risk' communities and rescue personnel to provide critical assistance.

> In this white paper, Ambee and LexisNexis® Risk Solutions outline how environmental data and real-world demographic data can complement each other to support federal agencies in anticipating, responding to, and managing the growing threat of natural disasters.

Enhancing Government Capabilities with LexisNexis Risk Solutions RWD

In partnership with Ambee, LexisNexis Risk Solutions can pair demographic and contact data with high-resolution, actionable environmental insights—including wildfire, air quality, and forecasts for illnesses, such as influenza. This can enable federal agencies not just to react, but to proactively plan, days or even weeks in advance.

RWD has and continues to provide critical context around natural disasters such as hurricanes, floods, and wildfires. However, it is still challenging to ensure this RWD is regularly aggregated and updated so it can serve as a reliable tool for decision-making by government agencies. Several divisions within HHS are tasked with locating and assisting individuals and their beneficiaries during or after emergencies. In recent years, the scale and complexity of such disasters has increased, placing even greater demands on these agencies.

As the federal government is entrusted with immense responsibilities in rescue and recovery, the speed and precision of their response efforts become paramount. What if sophisticated models powered by comprehensive RWD could accurately pinpoint high-risk areas and vulnerable individuals before disaster strikes, increasing disaster resilience? Such capabilities could significantly reduce response times, make more effective use of limited resources and improve outcomes—especially for at-risk populations.

> Ambee's wildfire forecasting models, now publicly launched with 30-day lead times and over 85% accuracy, can identify high-risk zones before NOAA or satellite alerts. When integrated into LexisNexis Risk Solutions contact mapping systems, this creates a chain from event detection to population identification to outreach and relocation, saving critical hours and lives.[2]

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Utilizing RWD as a Catalyst for Smarter Disaster Management

LexisNexis® Risk Solutions RWD offers a powerful way to enhance and optimize existing government data, providing the compiled constituent information available. As one of the world's leading data aggregators, LexisNexis Risk Solutions brings together insights from over 10,000 public and proprietary sources, with significant coverage of. almost the entire U.S. adult population, linked with 99.99% accuracy. We have provided our real-world data sets to over 9,500 federal, state, and local agencies.

> Ambee's proprietary climate and environmental intelligence with insights into wildfires, air quality, severe weather and disease risk, combined with LexisNexis Risk Solutions real-world identity and location data, can empower agencies to act with speed and confidence.

This collaboration can not only deliver insights linked at the individual level —down to specific neighborhoods or street segments—but also can ensure this information is targeted to enable actionable decisions for users of this data. By enriching environmental forecasts with demographic insights, such social determinants of health (SDOH) data, agencies can implement targeted interventions, ensuring that alerts and resources reach those who need them most, precisely when they need them.

With over 50 years of data aggregation, LexisNexis Risk Solutions contact and locate solutions consistently deliver near 100% precision.[3] Agencies including FEMA and ASPR that are entrusted with critical disaster response efforts must be able to rapidly communicate with affected residents. Access to accurate contact information including e-mail, mobile phone numbers, and updated physical addresses is vital.

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RWD as a Catalyst for Smarter Disaster Management

Optimizing current data ecosystems with comprehensive RWD inputs can transform the way government agencies approach disaster management. From identifying evacuation zones, to locating beneficiaries and coordinating search and rescue efforts, RWD can be the backbone of a more intelligent and agile response framework.

> The next evolution of disaster management combines the power of environmental models and climate intelligence with targeted precision of population outreach. By combining Ambee's environmental forecasts with LexisNexis Risk Solutions identity insights, agencies can gain a full view of what is coming, who is at risk, and how to respond—before disaster strikes.

Conclusion

The partnership between Ambee and LexisNexis Risk Solutions offers an early-warning-to-response solution: from targeted modeling of disaster zones, to identification and outreach to affected individuals. By better understanding environmental triggers and pairing them with individual-level demographic insights, agencies can increase their foresight and better utilize tools needed to allocate resources, protect lives, and strengthen national disaster resilience.

For more information:
Scan or call 888-216-3544

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About LexisNexis Risk Solutions

LexisNexis® Risk Solutions harnesses the power of data and advanced analytics to provide insights that help businesses and governmental entities reduce risk and improve decisions to benefit people around the globe. We provide data and technology solutions for a wide range of industries including insurance, financial services, healthcare, and government. Headquartered in metro Atlanta, Georgia, we have offices throughout the world and are part of RELX (LSE: REL/NYSE: RELX), a global provider of information-based analytics and decision tools for professional and business customers. For more information, please visit www.risk.lexisnexis.com, and www.relx.com.

1. https://www.gao.gov/assets/gao-25-108216.pdf
2. The accuracy figure is based on internal validation tests conducted by Ambee's data science team throughout 2024. The accuracy was measured by comparing Ambee's 30-day wildfire risk forecasts against actual wildfire occurrences recorded through official sources such as NASA FIRMS (MODIS/VIIRS satellite detections), National Interagency Fire Center (NIFC) incident reports, and CalFire and local fire department data across regions including California, Arizona, and Oregon.
3. LexisNexis Risk Solutions internal Best Address Solution results.