

## Understanding exposure to immediate and future risks



### The Challenge

- Understand exposure to risk at thousands of client locations around the world

### The Benefits

- Deep understanding of static and transitory risks
- Live intelligence about potentially disruptive events
- Value adding risk management services for clients
- Tangible information about climate change

The multinational risk management and insurance brokering organisation WTW uses Esri's ArcGIS suite to deepen its understanding of global risks, including unpredictable, immediate risks from tropical storms or earthquakes and future risks from climate change. It shares its risk intelligence with clients to help them make better informed operational decisions and react quickly to events to minimise business disruption.

### The Challenge

In the insurance and reinsurance industry, understanding exposure to risk is critical. Insurers need to know where clients' assets may be, whether these are physical assets on the ground or other less tangible assets that are fundamental for global supply chains. From a simple address, they need to be able to separate the multi-storey buildings and high-value distribution centres from low priority offices and car parks. Then, they need to identify if and when these assets might be exposed to a diverse range of risks, from climate change and storm damage to social unrest and war.

### The Solution

Operating in 140 countries, WTW uses Esri's geographic information system (GIS) suite, ArcGIS, to help it not only assess risks at each of its clients' locations, but also constantly monitor changes in risk levels in real-time. Different teams and business units within WTW's 45,000-person workforce use a range of Esri desktop and web-based solutions as part of their day-to-day roles.

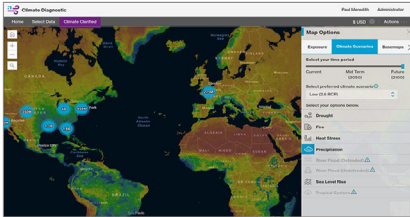
WTW hosts its geospatial data in ArcGIS Enterprise, which hosts a number of internal and external applications, as well as risk models for clients. Specialist users within the analyst community use ArcGIS Pro for desktop analysis, while other employees use a simple ArcGIS portal application to view and share maps and analysis or use ArcGIS for Microsoft BI to import maps into reports. "The diversity of the ArcGIS product suite means that it can be used in different ways, by different levels of users, from expert GIS analysts and climate scientists to insurance brokers with no GIS experience," says Sharon Palmer, Director of Risk Analytics, Platforms and Technology at WTW.

One key tool that has been developed using ArcGIS is Global Peril Diagnostics (GPD), which consolidates and analyses risk data from a variety of sources. It includes a module for analysing complex global supply chains and another for monitoring live events, such as the approach of a tropical storm. GPD uses ArcGIS map services to identify when clients have assets in the projected path of a storm or in the vicinity of an earthquake and sends them an automated alert. Used by the corporate risk brokering division of the business, GPD plays a vital role in helping WTW to understand and screen risks around the world.

Climate change is now recognised as a significant future risk, and WTW uses ArcGIS to provide clients with specialist advice in this area. ArcGIS Pro is used in the delivery of the firm's Climate Quantified™ service, as it allows data scientists to model hazards and vulnerabilities and quantify physical and transition risks around the world in different climate scenarios. WTW has also developed a model called Climate Diagnostic, using ArcGIS, that is used by employees and clients to visualise actual and predicted changes in climate hazards, such as extreme wind, sea level rises and heat stress.

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Sharon Palmer, Director of Risk Analytics, Platforms and Technology, WTW



WTW's Climate Diagnostic model provides a visual picture of future climate risks.

### The Benefits

#### ***Deep understanding of static and transitory risks***

ArcGIS is a key tool that gives WTW a deep understanding of risk. Increasingly, WTW is now using ArcGIS to extend its analysis beyond business assets to entire supply chains, with sophisticated supply chain risk models. The organisation can, for example, now model how a flood at a factory that supplies a significant component could disrupt the client's manufacturing processes, as well as explore transportation risks, whether by sea, road, air or rail. “ArcGIS is helping us to extend our capabilities from static risks to transitory risks,” Palmer says.

#### ***Live intelligence about potentially disruptive events***

Pivotal new tools, developed with ArcGIS, give WTW the ability to see not just the path of a storm, but where clients' assets are in relation to that storm, which clients will be most impacted and, more specifically, which clients will be affected with greatest severity. “ArcGIS gives us geospatial analytics on the fly!” Palmer explains. “When events like earthquakes and storms occur, we can notify clients quickly and help them implement mitigations locally to limit damage and business disruption.”

#### ***Value adding risk management services for clients***

The versatility of ArcGIS gives WTW the capability to develop and deliver new client services. It can, for example, create client-specific analytical models to help clients understand specific risks at their global locations. Clients can then use this information to make decisions about where to open new offices and which facilities to expand based on a better understanding of risks at these locations. In the future, WTW plans to develop more ArcGIS-enabled apps that will allow clients to self-serve information about their risk profiles around the world.

#### ***Tangible information about climate change***

ArcGIS is proving particularly invaluable in helping WTW and its clients to better understand emerging and changing risks relating to climate change. The Climate Diagnostic tool makes it easier for people to visualise changes over time, at specific locations, and comprehend how climate-related hazards could impact specific operations, properties and asset portfolios in the future. As Palmer says, “ArcGIS enables us to take abstract data about climate and turn it into tangible information about risk that is specific to our clients. It's a huge help in a changing world.”

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