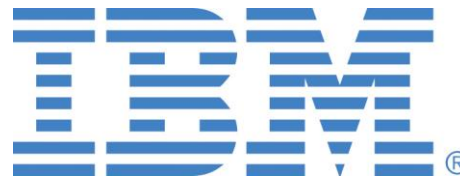




# Supply Chain Risk Insights Powered by Watson

**Tom Ward**

Supply Chain Cloud and Cognitive Leader  
**International Business Machines**





# Supply Chain Innovations

A wide-angle photograph of a lush green golf course under a clear blue sky. Large, mature trees line the left and right sides of the frame. In the center, a golfer in a blue shirt and light-colored pants is captured mid-swing on a green. Overlaid on the center of the image is the text "delivery made with cloud" in a white, serif font.

delivery  
made with  
cloud



# Risk Insights Agenda

1. Introduction to IBM supply chain risk mitigation
2. What is cognitive computing?
3. How does cognitive relate to big data?
4. Risk Insights video and demonstration
5. Getting started toward a cognitive supply chain
6. Questions and answers



# Purpose-driven Excellence

In keeping with our conference theme, *Purpose-driven Excellence*, here are the key takeaways for attendees for this session:

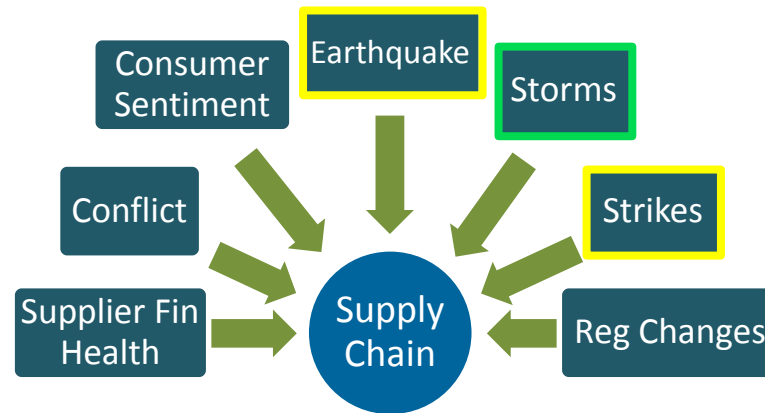
- ✓ Supply chain risks are pervasive and growing
- ✓ Risks can be identified, analyzed and visualized
- ✓ Using cognitive, cloud and big data, move from risk alerts to risk prediction and mitigation



# Overview of Risk Insights

## Today

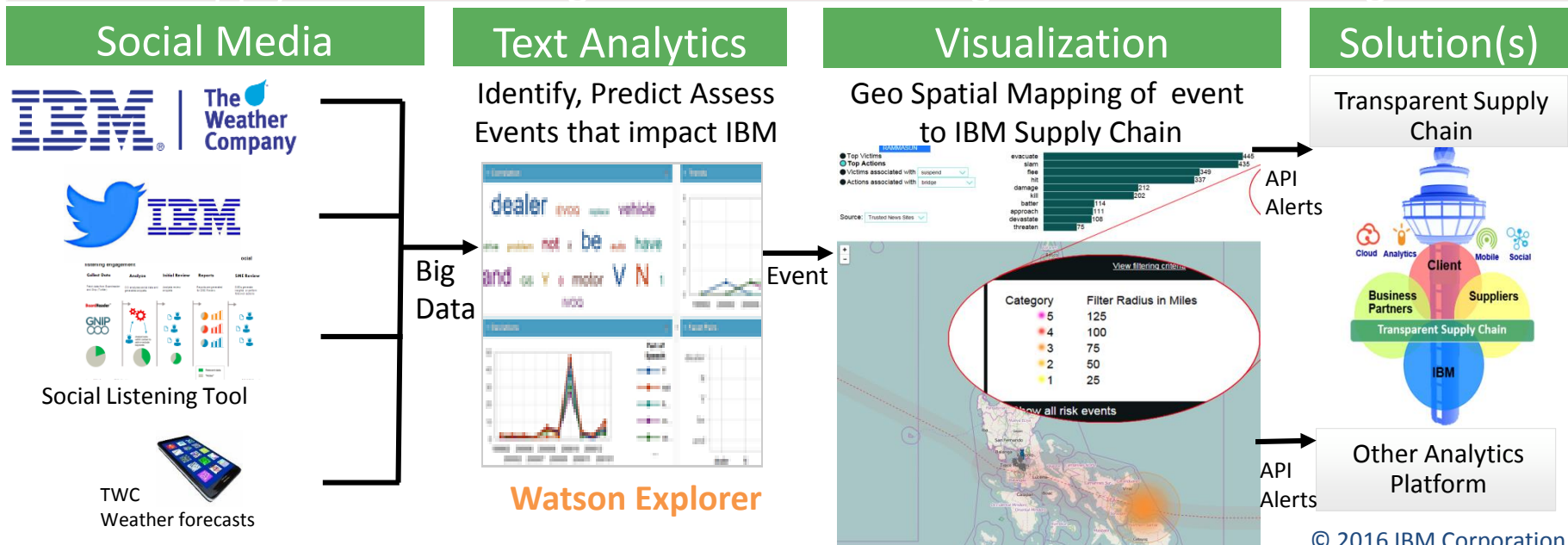
How do we monitor threats to our global supply chain?



## Manual monitoring

- Costly
- Time consuming
- Lacks precision
- Not standardized

## Supply Chain Risk Insights with Watson – high-level solution design

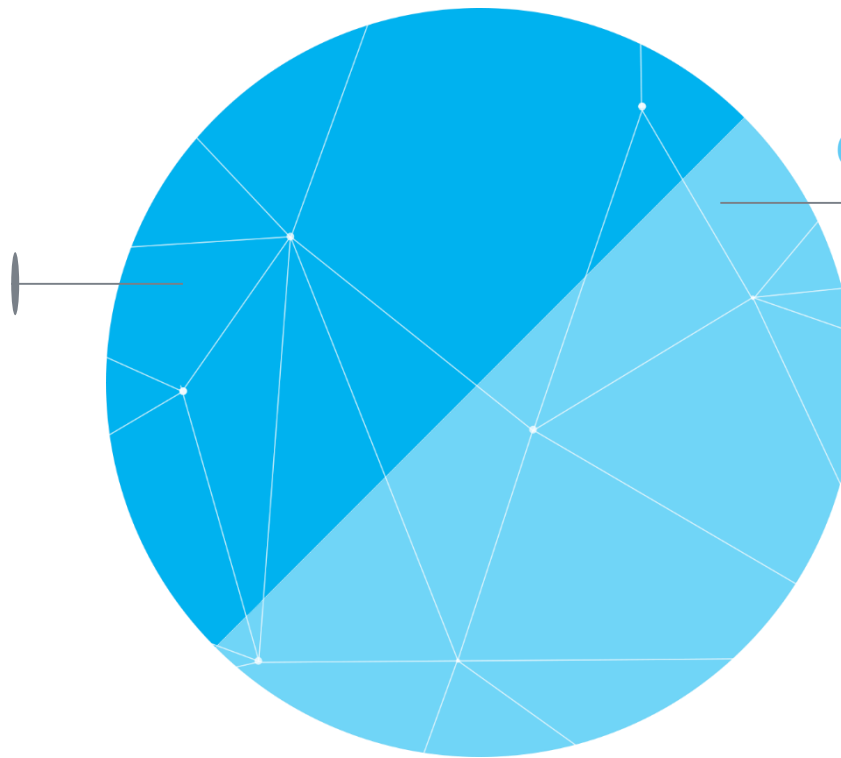




# Cognitive systems partnership: humans and technology

## Humans excel at:

COMMON SENSE  
MORALS  
IMAGINATION  
COMPASSION  
ABSTRACTION  
DILEMMAS  
DREAMING  
GENERALIZATION  
INTUITION



## Cognitive Systems excel at:

LOCATING KNOWLEDGE  
NATURAL LANGUAGE  
MACHINE LEARNING  
ELIMINATE BIAS



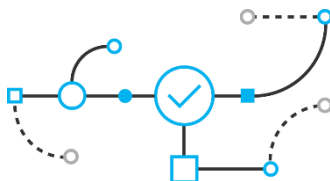


# Three capabilities differentiate cognitive systems



## Understanding

Cognitive systems understand like humans do, whether that's through natural language or the written word; vocal or visual.



## Reasoning

They reason. They can understand information but also the underlying ideas and concepts. This reasoning ability can become more advanced over time. It's the difference between the reasoning strategies we used as children to solve mathematical problems, and then the strategies we developed when we got into advanced math like geometry, algebra and calculus.



## Learning

They never stop learning. As a technology, this means the system actually gets more valuable with time. They develop “expertise”. Think about what it means to be an expert- - it's not about executing a mathematical model. We don't consider our doctors to be experts in their fields because they answer every question correctly. We expect them to be able to reason and be transparent about their reasoning, and expose the rationale for why they came to a conclusion.



# Organizations embrace analytics for value from the Data Deluge

**88%** of Healthcare and Life Sciences organizations report that data and analytics keep their organization on par with or ahead of their local or global competitors

**77%** of organizations are implementing technologies that did not exist as recently as five years ago

**71%** of organizations are using advanced analytics in three or more functional areas of their business

**90%** of executives in our recent Global Transportation study (2015) report that Big Data yields prescriptive insights through the use of analytics

**79%** of Healthcare and Life Science organizations who implemented big data & analytics projects report that the investments met or exceeded expectations

Source: IBM Institute for Business Value (IBV) 2015

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# Supply chain analytics leverage Big Data including Cognitive

How do we optimize a dynamic, Big Data Environment?

## Cognitive

Deeply analytical computing systems that learn & interact naturally with people



Watson

What should we do about it?

## Prescriptive

Collaborate for maximum business value, informed by advanced analytics

**Veracity** (data in doubt)

What will happen?

## Predictive

Understand the most likely future scenario, and its business implications

**Velocity** (data in motion)

What happened?

## Descriptive

Get in touch with reality, a single source of the truth, visibility

**Variety** (many forms of data)

**Volume** (data at rest)

Future prediction – Gartner



# Risk Insights delivers the transformation triad

1. Cognitive insights provided from massive amounts of social media news
2. The Weather Company data as a service is visualized for new insights
3. The application is completely built on the cloud with Bluemix API's

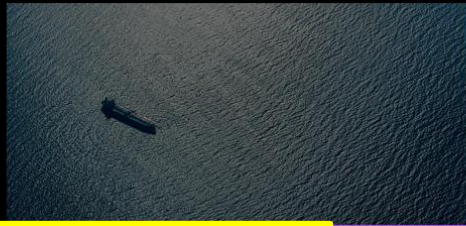


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# Cognitive Supply Chain Risk in the IBM 2015 Annual Report

2015 Annual Report

[Chairman's Letter](#) [Financial Highlights](#) [Proxy](#) [Stockholder Information](#) [Board of Directors & Senior Leadership](#) [Downloads](#)[Explore All](#)[Cognitive Solutions](#)[Cloud Platforms](#)[Ecosystems](#)[Clients](#)[Research](#)[People](#)[Using Cognitive for Solar-Powered Car Racing](#)[Fighting Fraud With IRIS Analytics](#)[Introducing 20 New Industry-Specific Analytics Solutions](#)**Building a Cognitive Supply Chain**

WILD DUCKS PODCAST

**IBM + Westpac:  
Disrupting Banking  
in New Zealand**[On Mobile Banking](#)

IBM FELLOW

**Donna  
Dillenberger**[Global Leader of Enterprise Systems](#)

Managing global supply chains can be a risky business. Extreme weather, epidemics and other unexpected events can disrupt the delivery of products and services. With IBM's Supply Chain Risk Management system, our threat visualization tool powered by IBM Watson, IBM's supply chain managers can synthesize insights by combining location-specific data from social media and The Weather Company to help predict and mitigate the impact of unexpected events.



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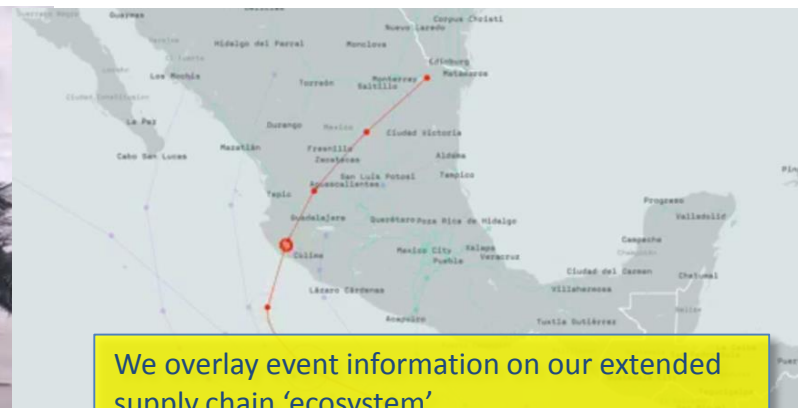




# Risk Insights video featured in Cognitive Article for Forbes



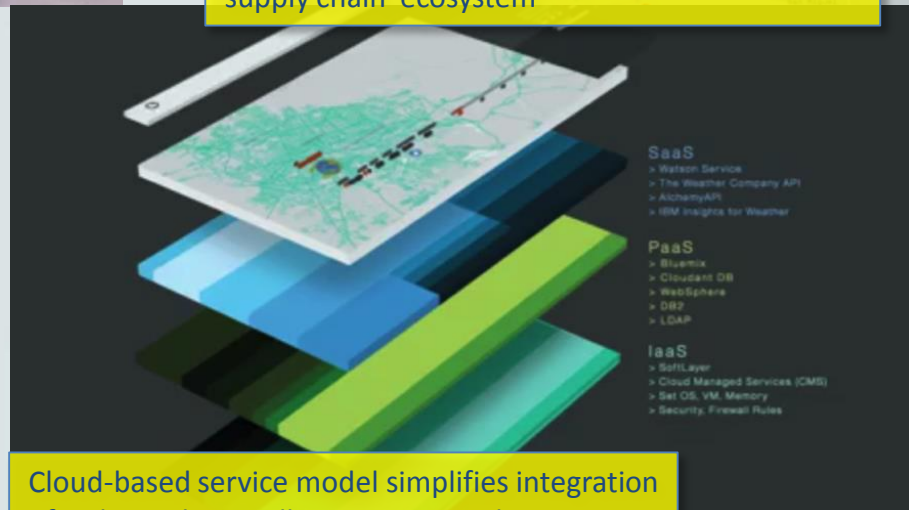
Storms and other Supply Chain threats have a way of evolving quickly...



We overlay event information on our extended supply chain 'ecosystem'



Social media analytics help us understand the real impact of the event

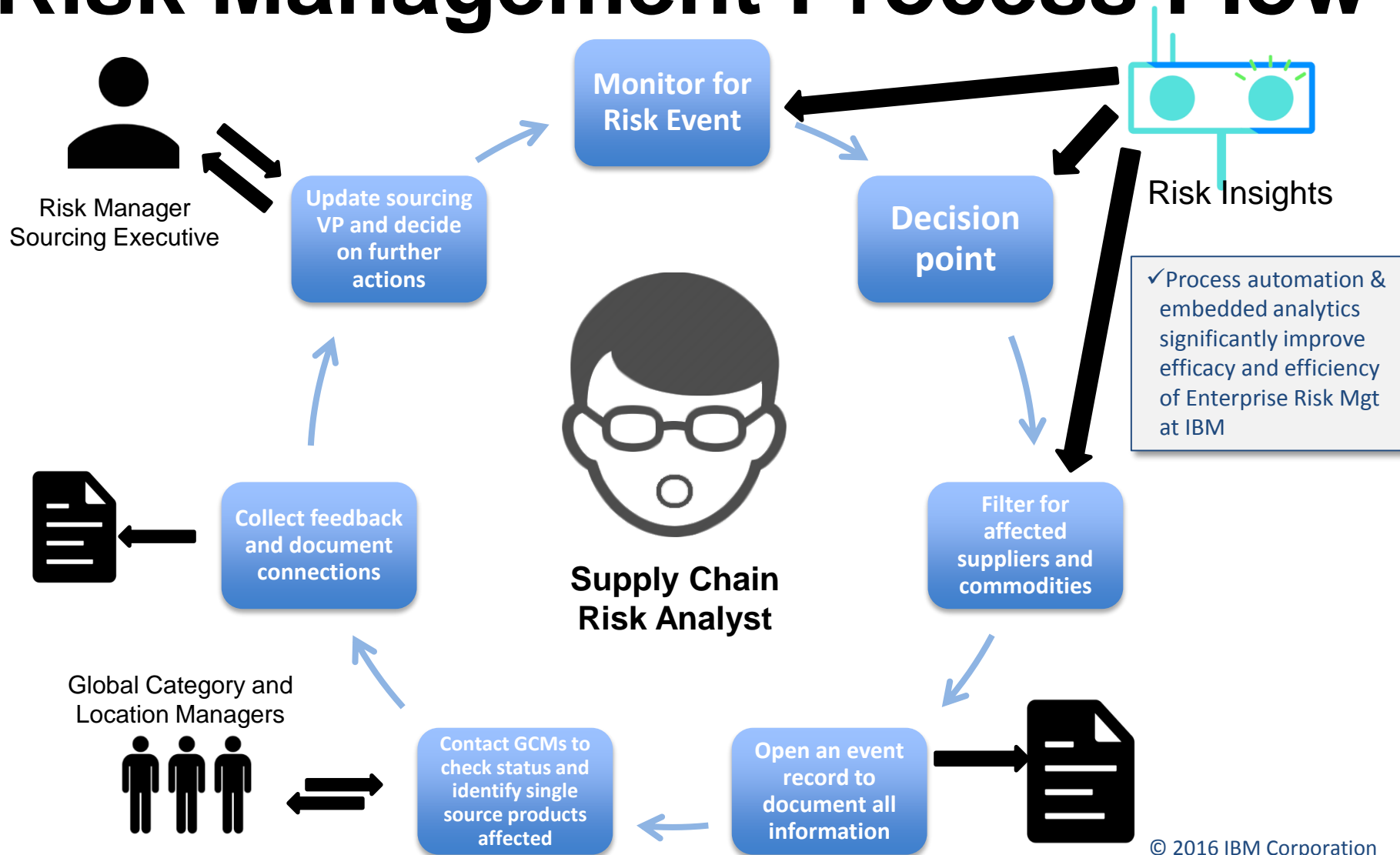


Cloud-based service model simplifies integration of Risk Insights intelligence into our business

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# Risk Management Process Flow



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# Cognitive Risk







# What can you do to get started as a Cognitive Supply Chain?

- ✓ Learn about analyzing unstructured data for quality, risk or delivery
- ✓ Apply cloud and analytics technologies to improve your supply chain operations
- ✓ Out think your supply chain challenges



# Questions and Answers



## ...and Next Steps



# Thank You!

**Your opinion is important to us!**

**Please take a moment to complete the survey using the conference mobile app.**

**Innovation Session TP/15**

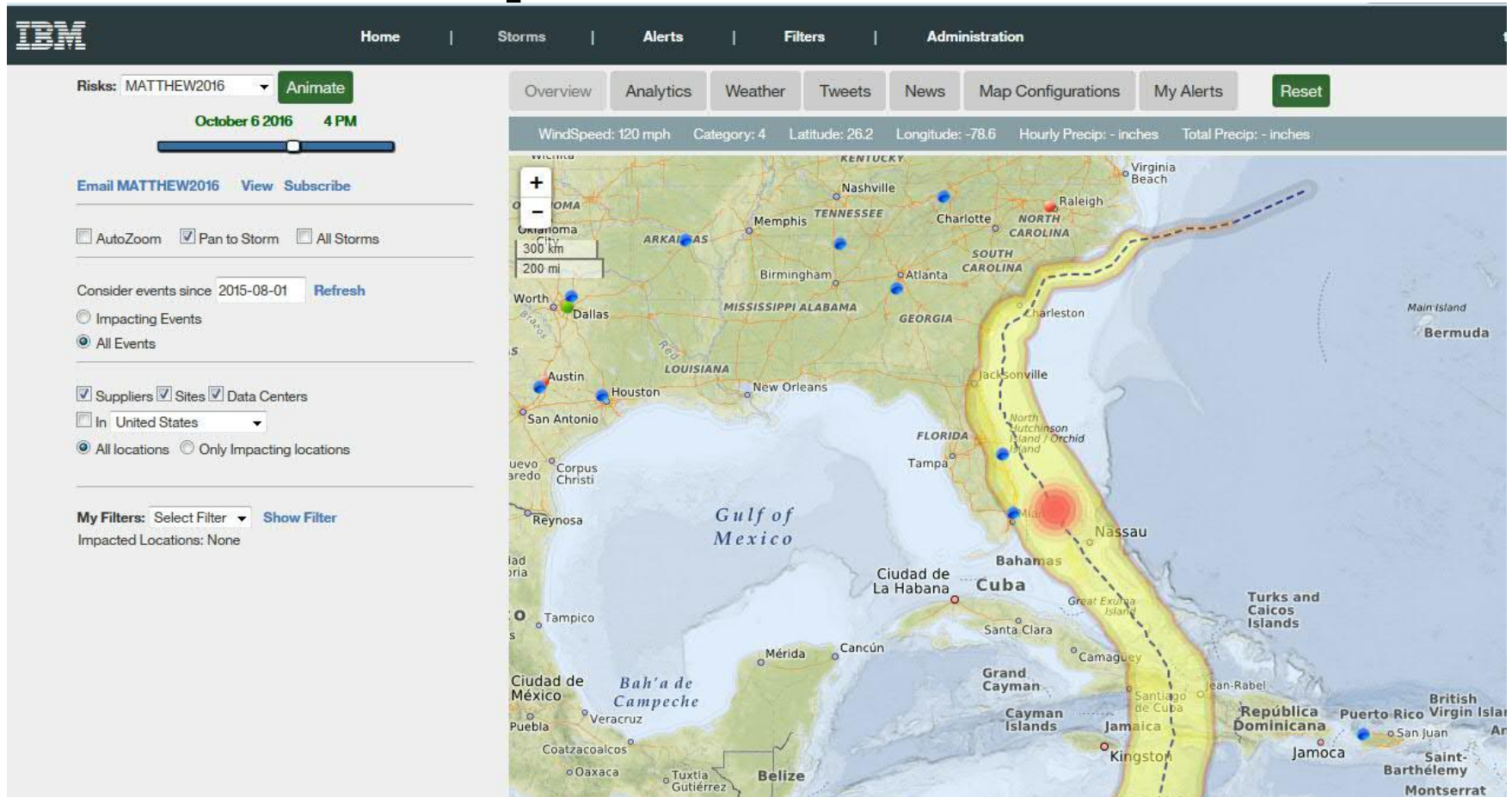
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# Risk Insights for Hurricane Matthew up the East Coast



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