

GEOSPATIAL WORLD FORUM

The logo for the Geospatial World Forum, featuring a circular design with blue and orange segments and a grey diagonal line.

2-4 April 2019

Taets Art and Event Park, Amsterdam

#geospatialbydefault
Empowering billions!

CLICK TO KNOW MORE



Image: used under license from Shutterstock.com

GEOINTELLIGENCE FOR YOUR BUSINESS

NATHAN RISK SUITE

Geospatial World Forum 2016

Dr. Jürgen Schimetschek
Munich Reinsurance Company

Munich RE 

01

Natural hazard loss
events worldwide

Image: used under license from Shutterstock.com

02

What does
Geointelligence signify?

Image: used under license from Shutterstock.com

03

Geointelligence within the
insurance value chain

Source: Earthstar Geographics, Esri, Munich Re

04

NATHAN Risk Suite
Overview

Source: NASA

05

Innovative outlook and
success criteria

Image: used under license from Shutterstock.com

Image: used under license from Shutterstock.com

01 Natural hazard loss events worldwide 2015

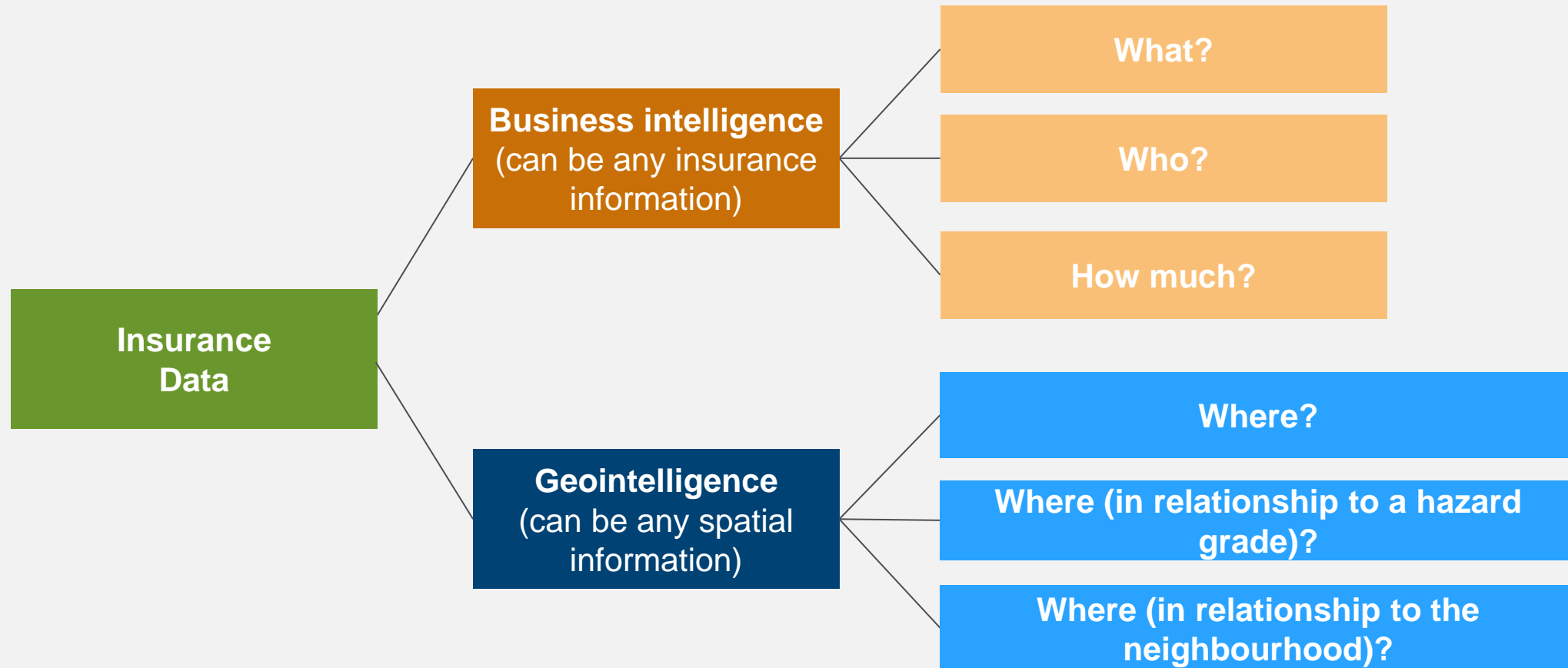
Loss events worldwide 2015 (1060)

Geographical overview



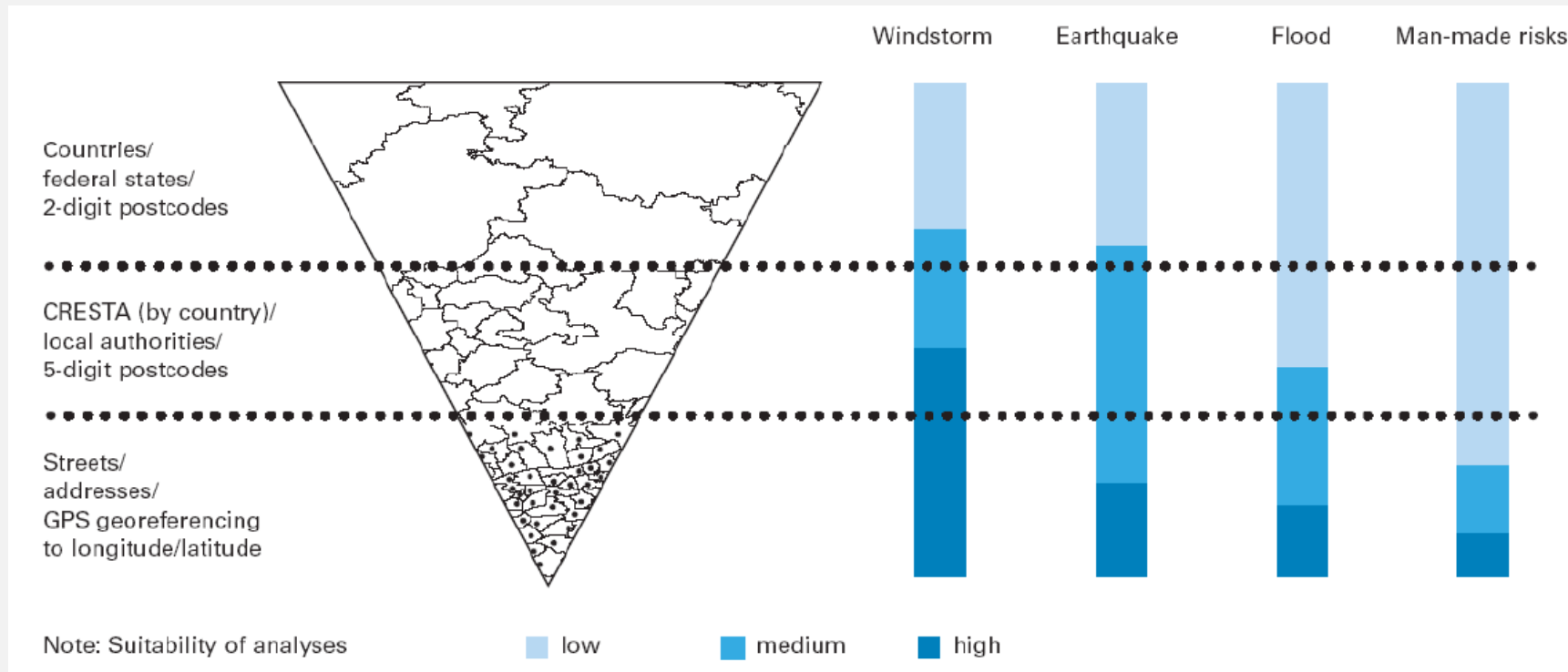
02 What does Geointelligence signify?



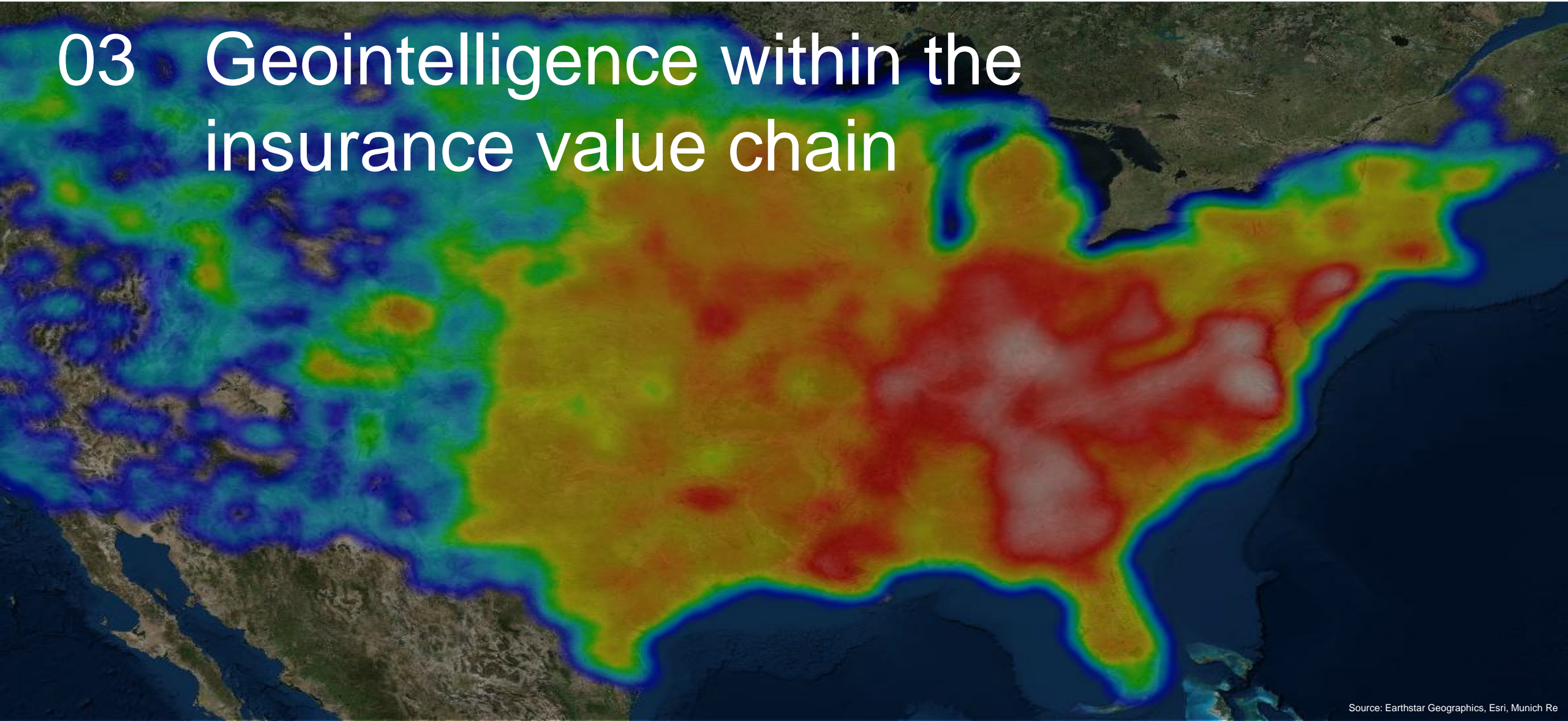


The importance of Geocoding Accuracy

- Flood, Storm surge, Man-made risks: House number or at least Street level geocoding required
- Earthquake, Windstorm: Postcode 5 or City level geocoding may be sufficient

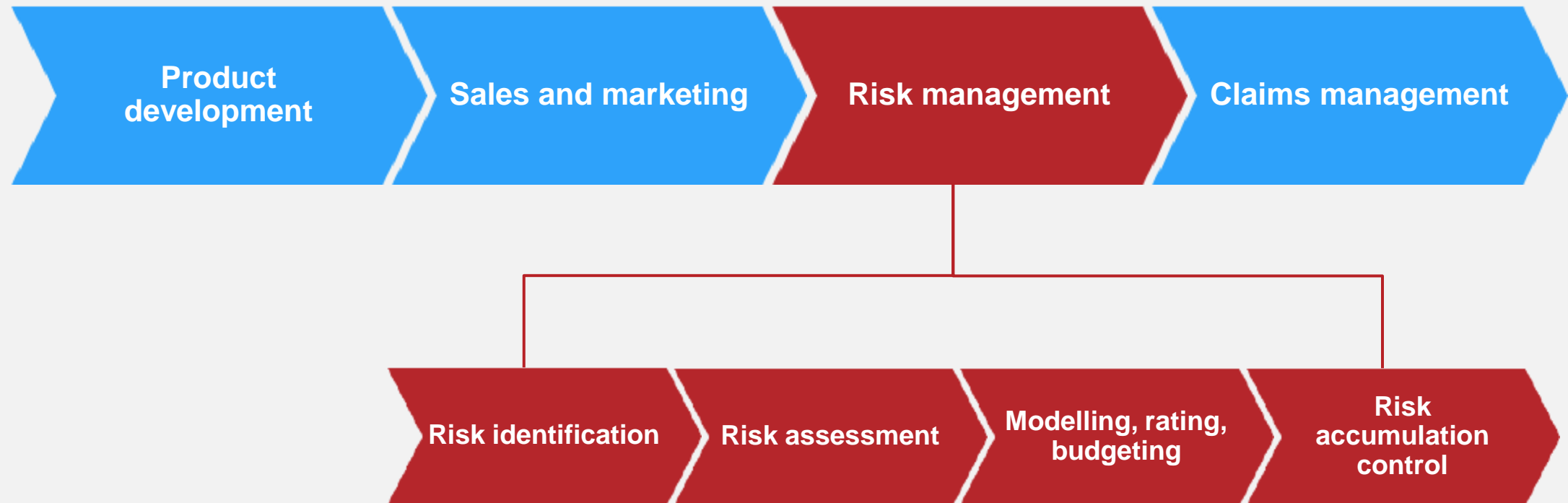


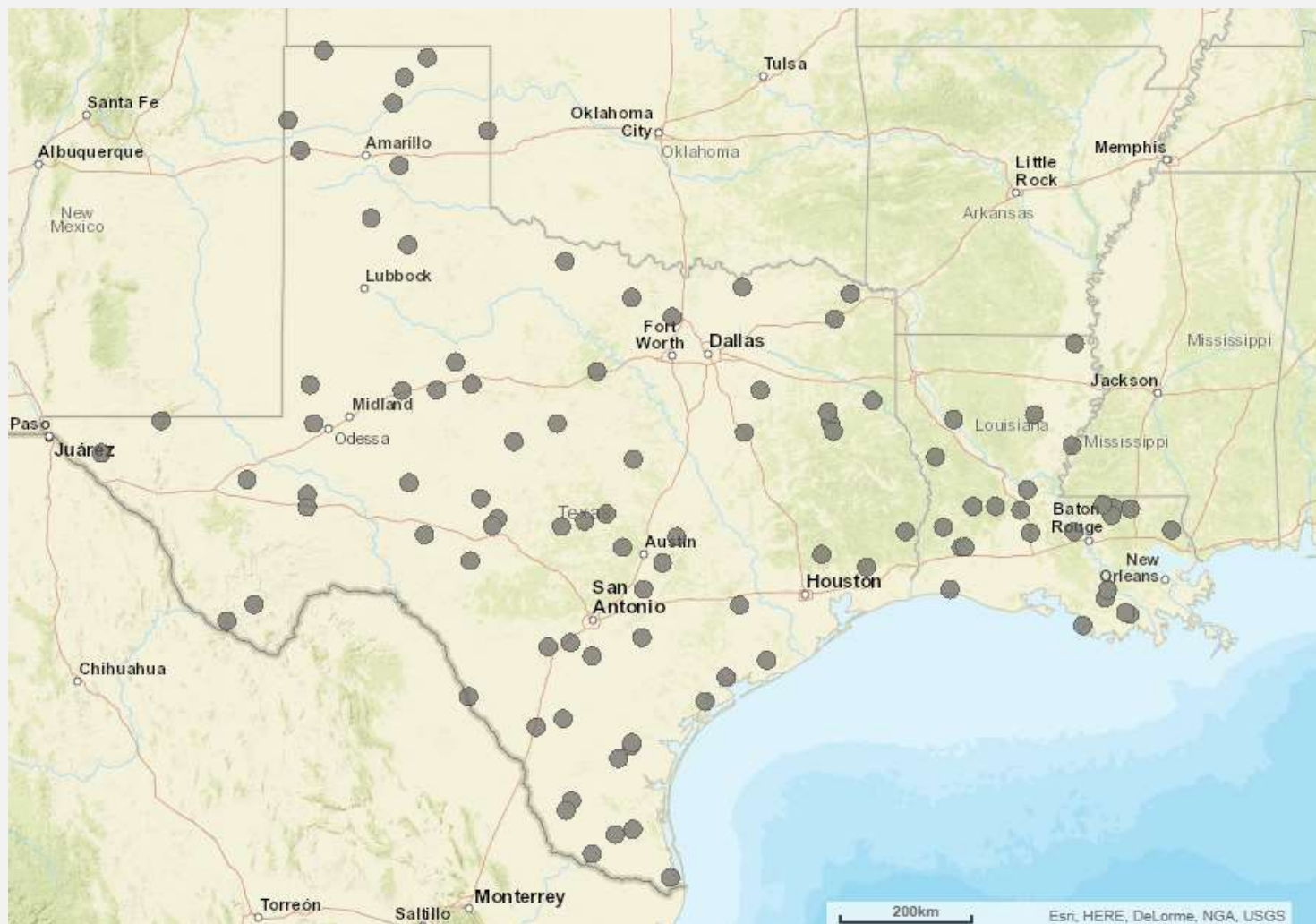
03 Geointelligence within the insurance value chain



Geointelligence in the insurance business

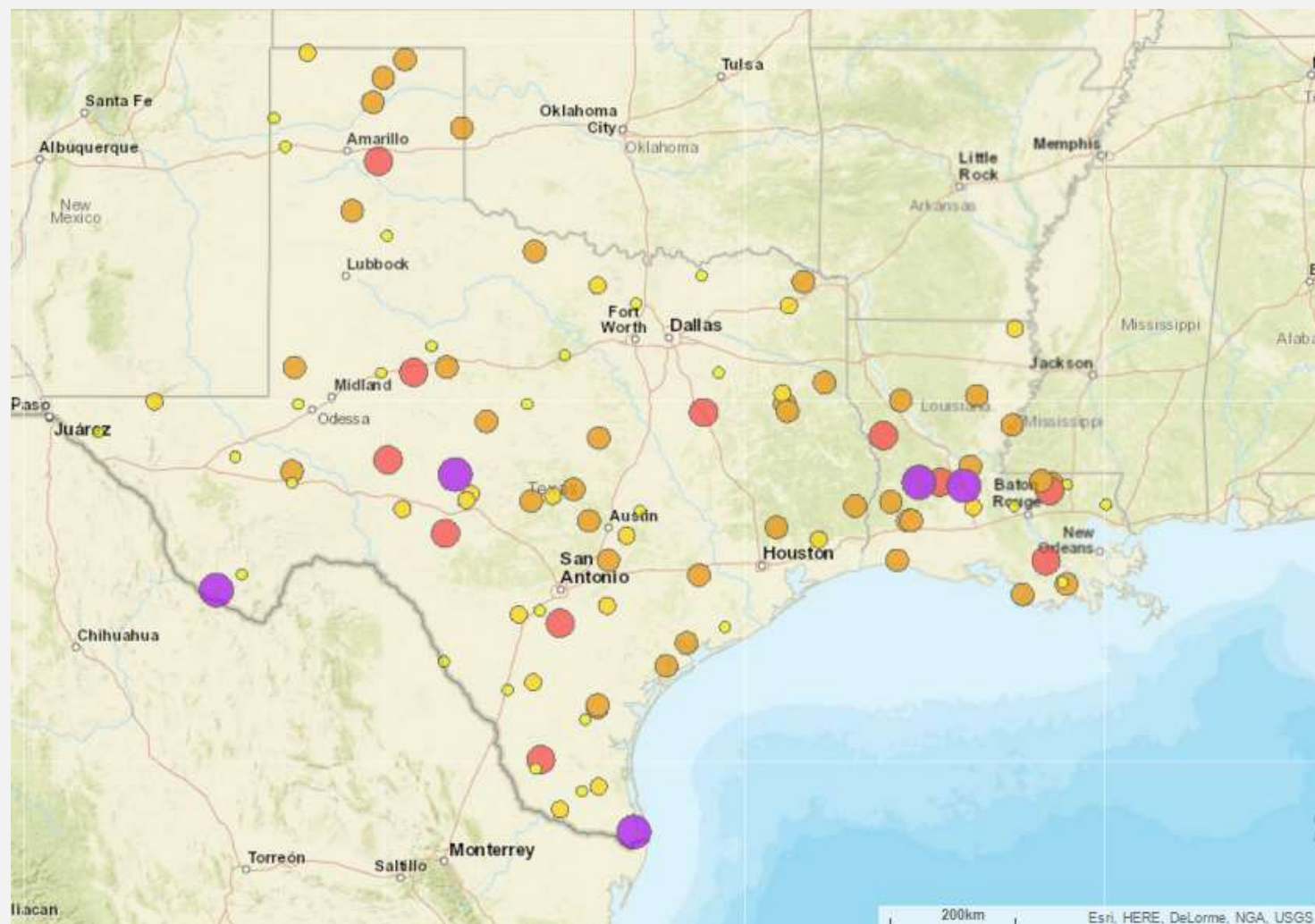
Value chain





Where?

Step 1: Identify **where** my risks are located



Where?






AND

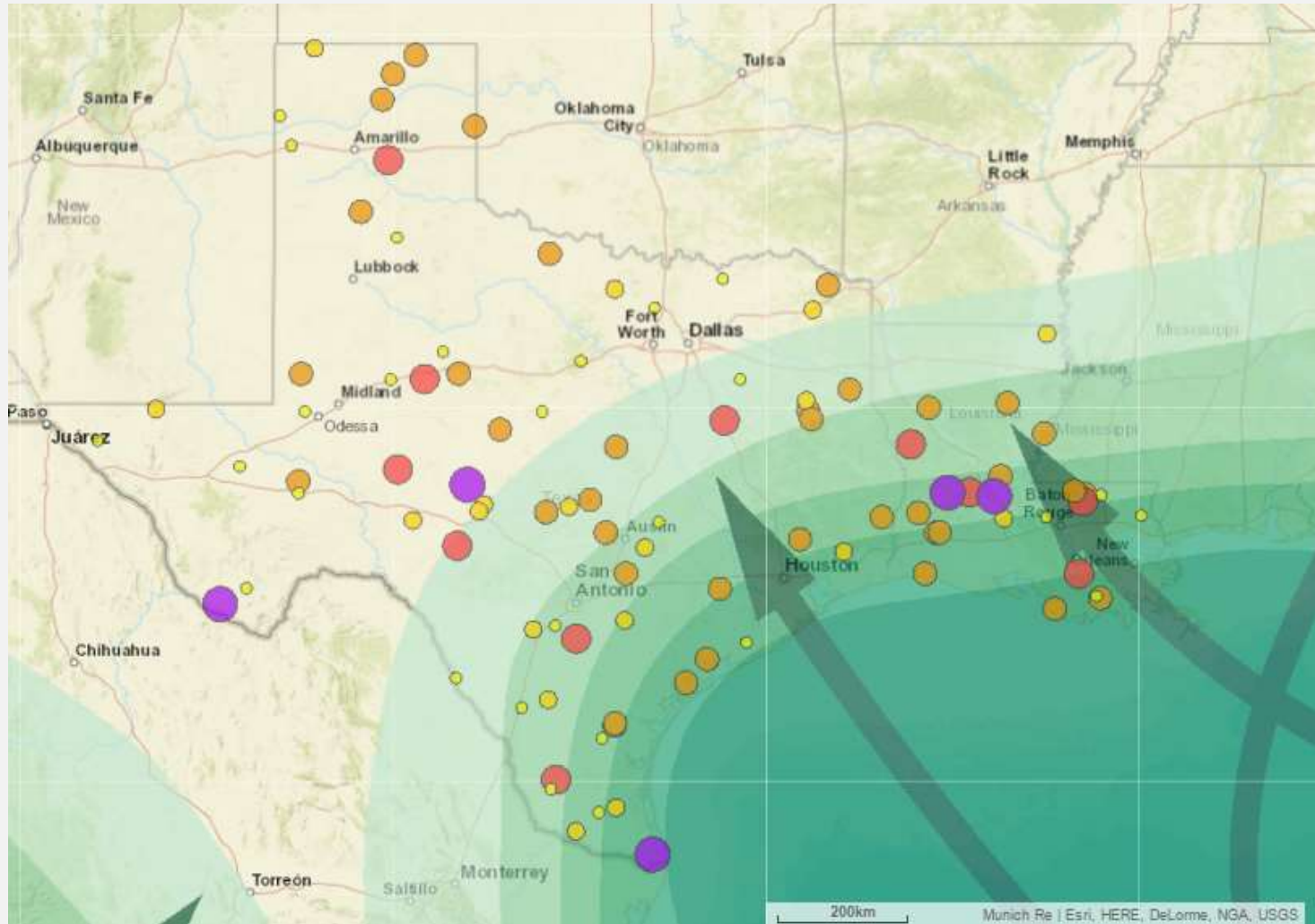
What / How many / how much?

Step 2:
Identify where my **main** risks are located

Map Legend

Location

-  0 - 100000
-  100000 - 500000
-  500000 - 1000000
-  1000000 - 5000000
-  > 5000000

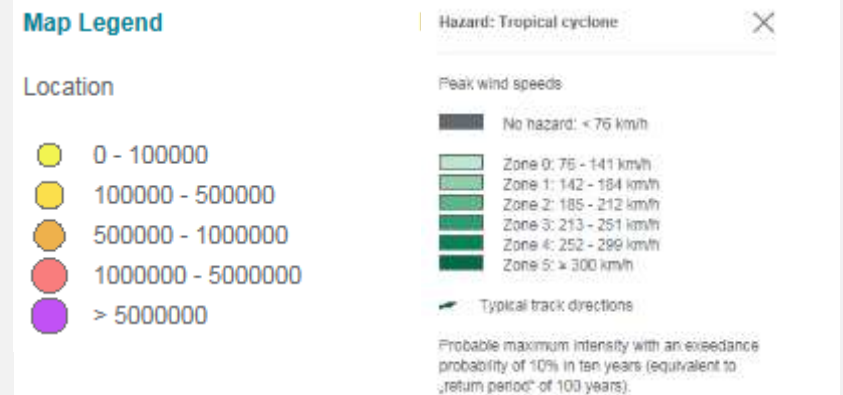


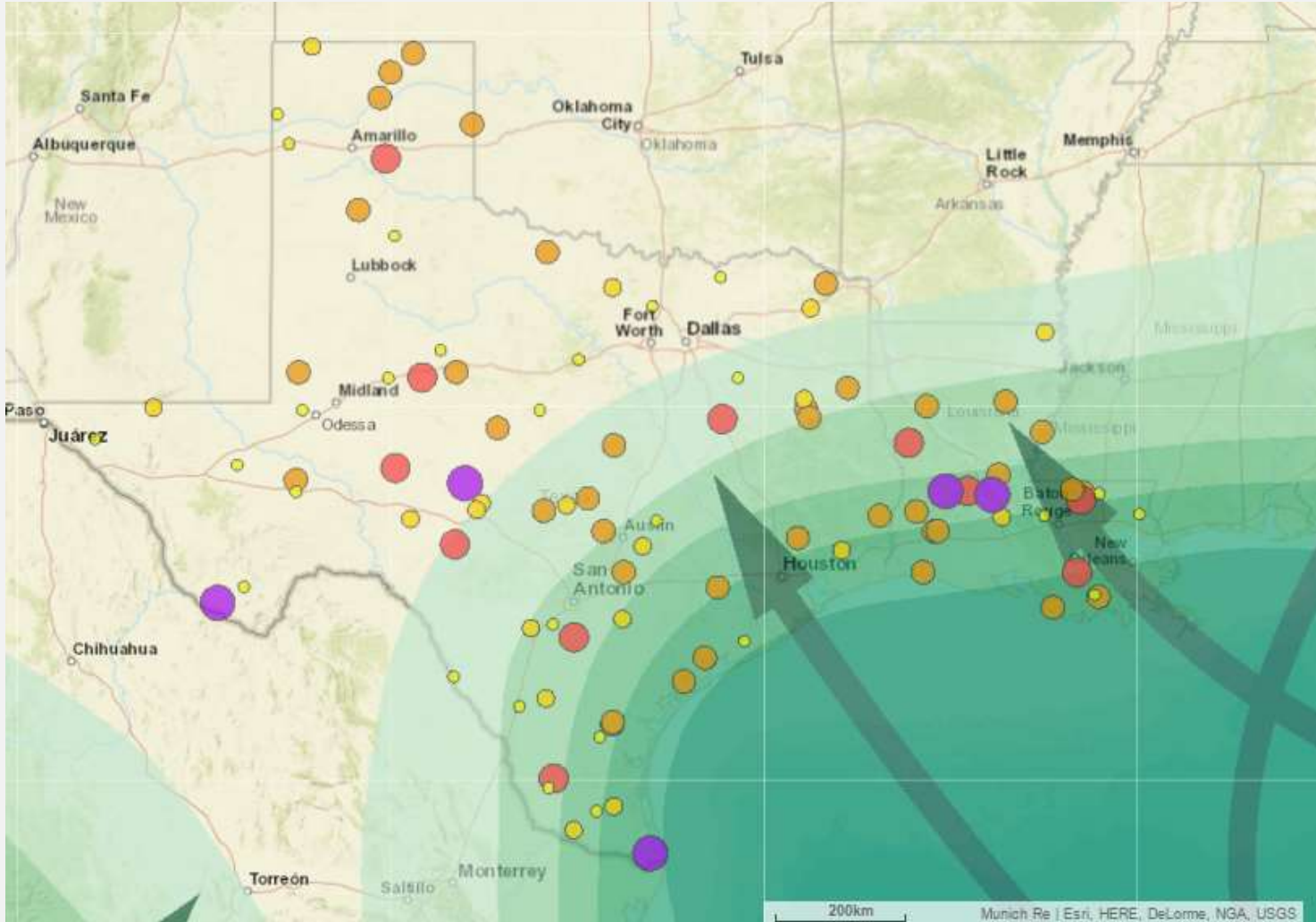
Where (in relationship to a hazard)?

AND

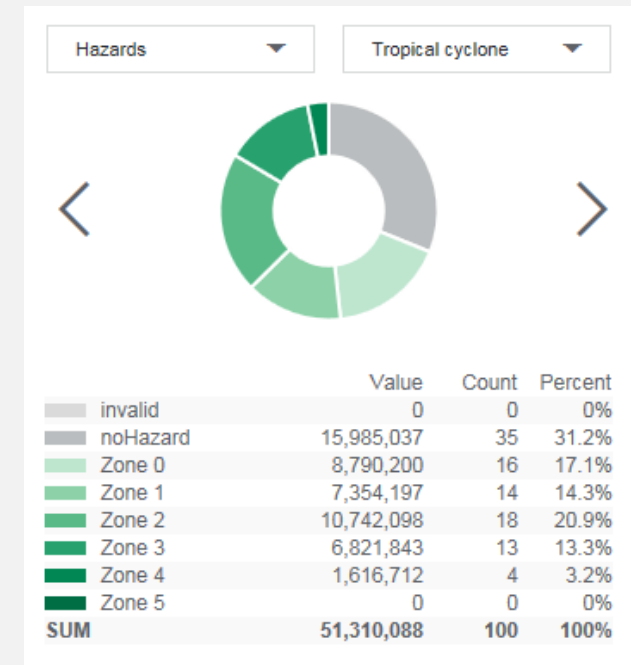
What / How many / how much?

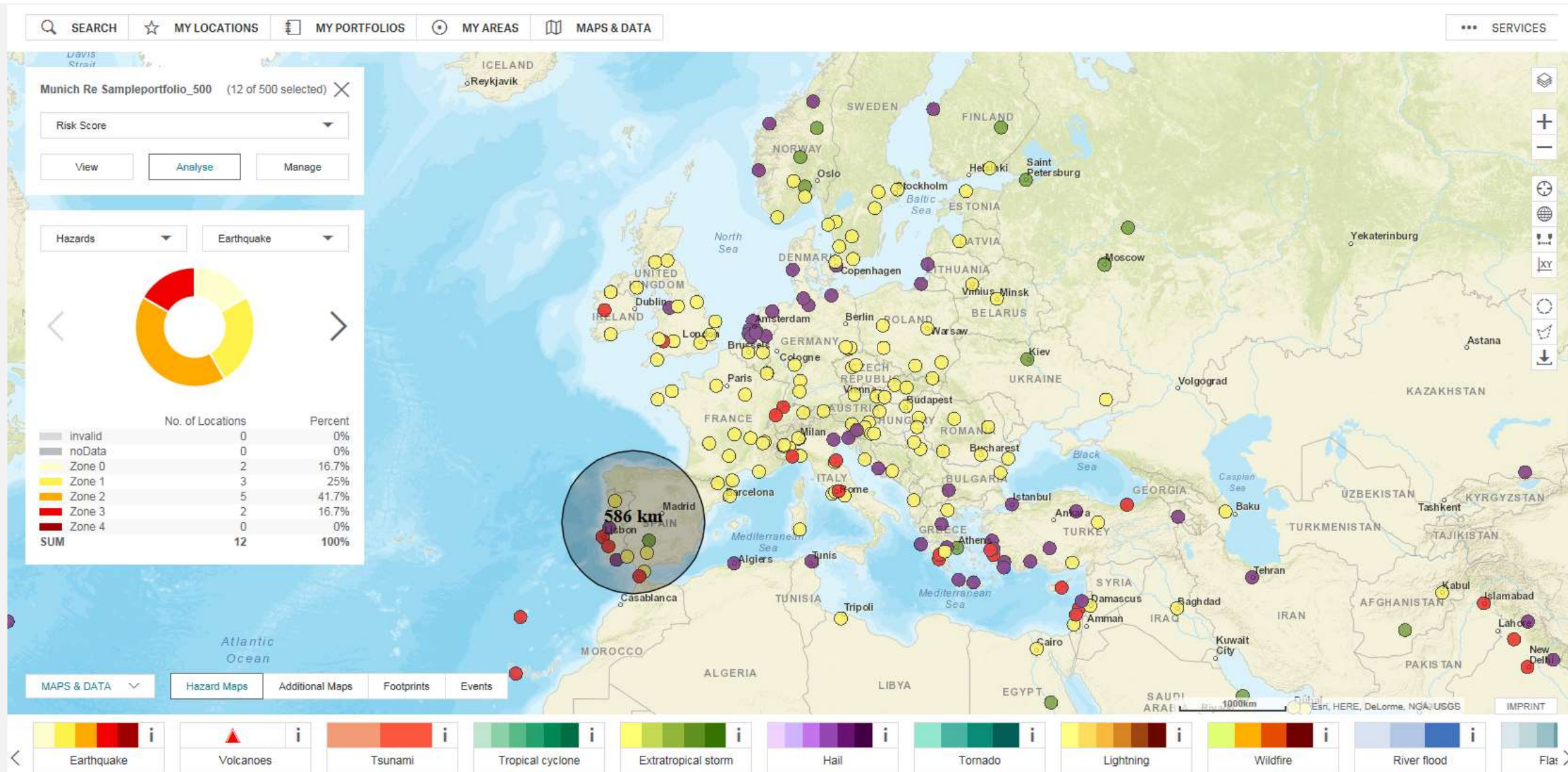
Step 3:
Identify where my (main) risks are located
in relationship to a hazard

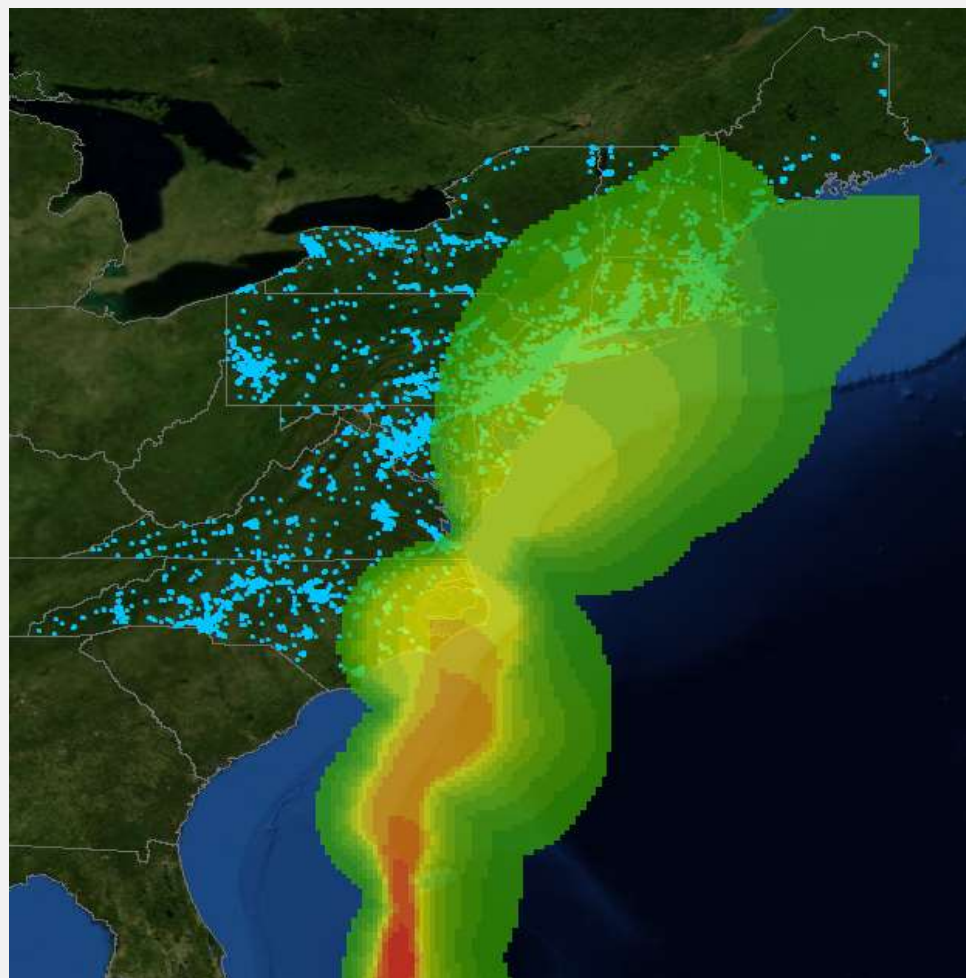




Step 4:
Combine Geointelligence with
Business intelligence to get
new insights in Risk assessment!







Source: Earthstar Geographics, Esri, Munich Re

Demo Footprint Analysis Hurricane Irene (August 2011)

	Number of Risk Locations	Percentage
Affected by Irene	14.000	58 %
Not affected by Irene	10.000	42 %
Sum	24.000	100 %

04 Nathan Risk Suite Overview



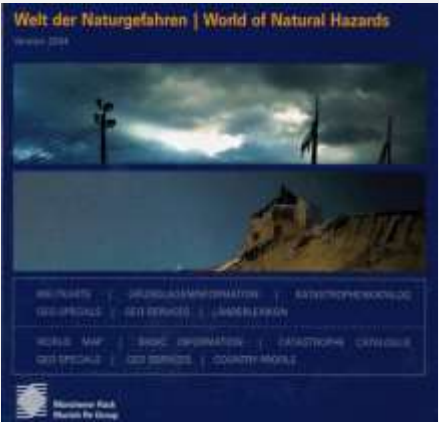
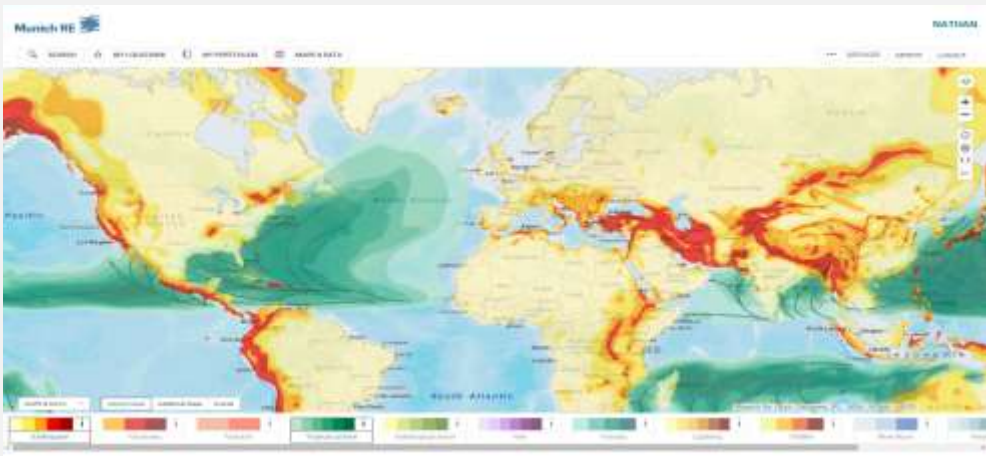
Dynamic Solutions

From paper wall maps to mobile applications

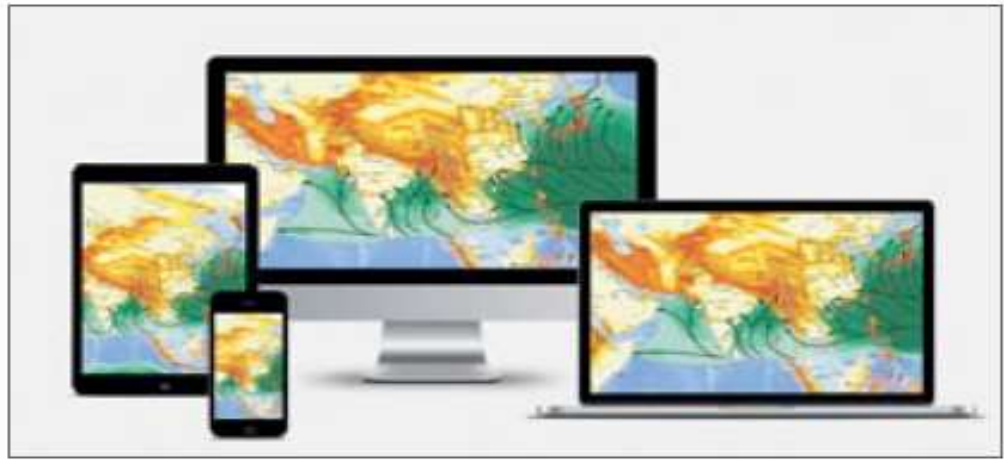
1978 / 1988 / 1998 / 2009 / 2011



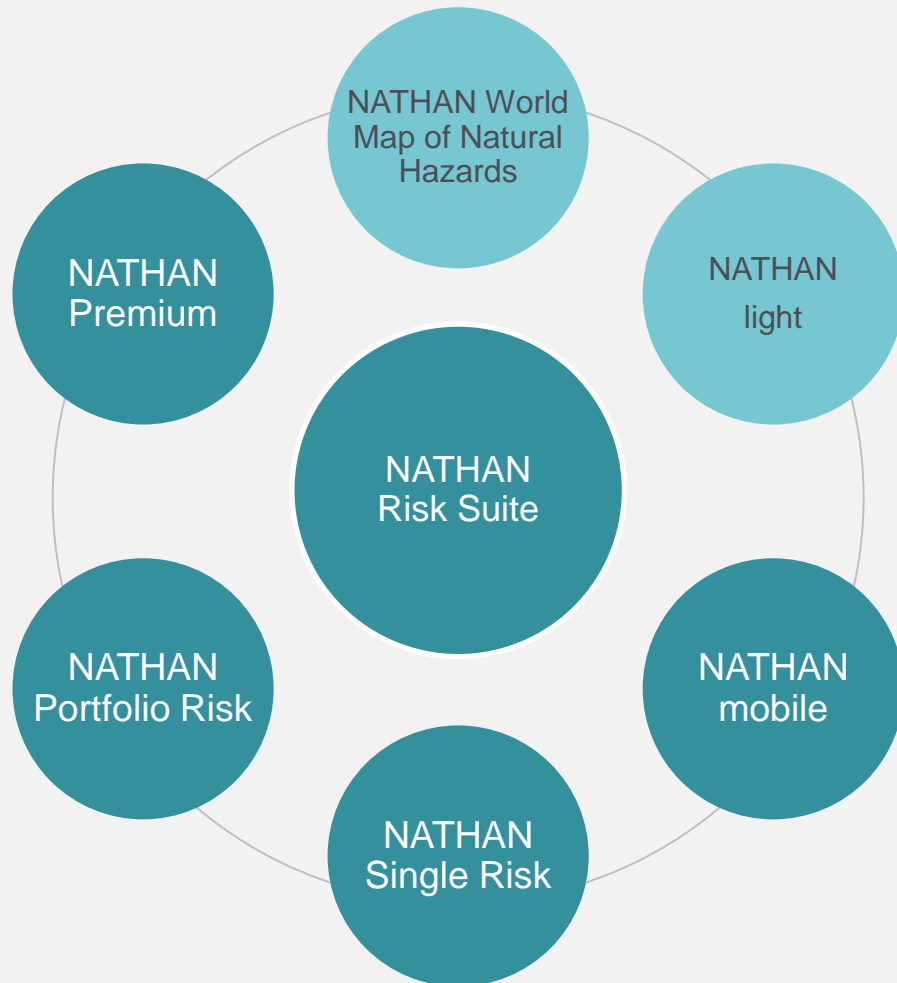
2012 / 2014 / 2015



Quelle: Munich Re



The **NAT**ural Hazards **Asses**sement **Net**work (NATHAN) Worldwide consistent Natural Hazards zoning system



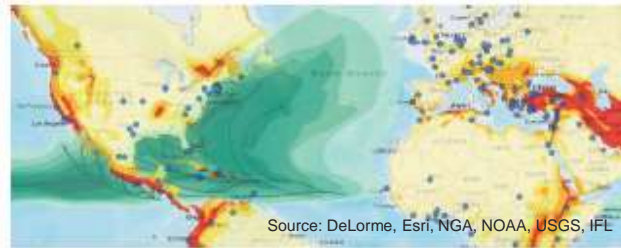
Munich Re's Geo Services are grouped together in the **NATHAN Risk Suite** product family:

- **NATHAN – World Map of Natural Hazards**
The wall map illustrates the natural hazards distribution – free of charge for clients
- **NATHAN light**
A web version with limited content and functions replaces the former CD & DVD versions
- **NATHAN mobile**
Makes the well known NATHAN Service globally available on all mobile devices
- **NATHAN Single Risk and Portfolio Risk**
The tools supply essential NatCat expertise for underwriting purposes online on connect.munichre
- **NATHAN Premium**
The service for an efficient NatCat risk assessment and is integrated directly into clients' workflow (Web Service)

Input data

ISO3_Country	CITY	STREET	POSTCODE
DEU	Dresden	Bertolt-Brecht-Allee	01309
DEU	Radeberg	Hauptstr.	01454
DEU	Regensburg	Wernerwerkstrasse 2	93049
USA	Woonsocket	20 CUMBERLAND HILL RD.	2895
USA	Honolulu	888 South King Street	96813
USA	Tamc	3288 Moanalua Hospital	96819
USA	Redondo Beach	One Space Park	90278
USA	Goleta	340 Storke Road	93117
USA	Blacksburg	3155 State Street,	

Analysis

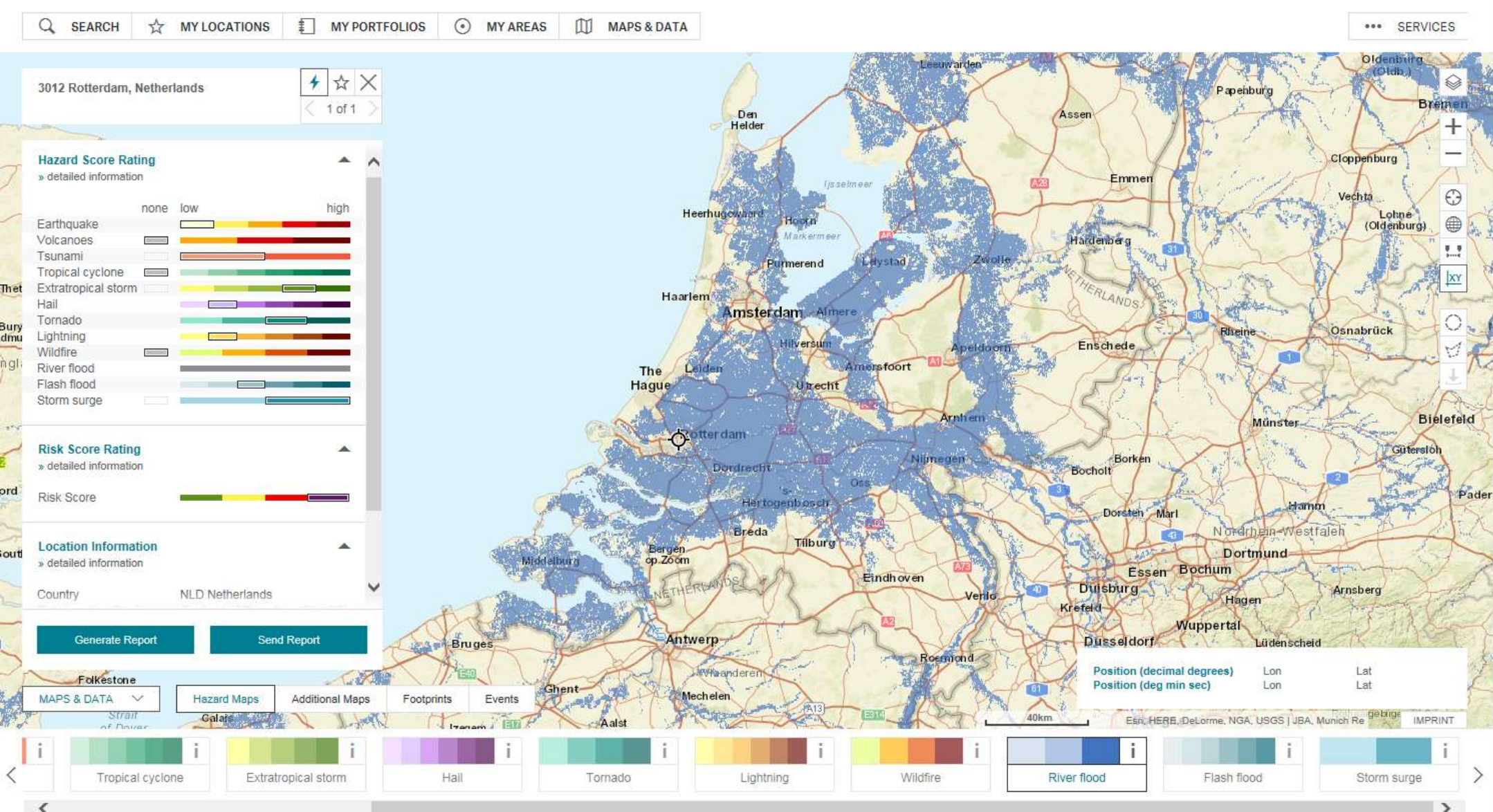


Result data

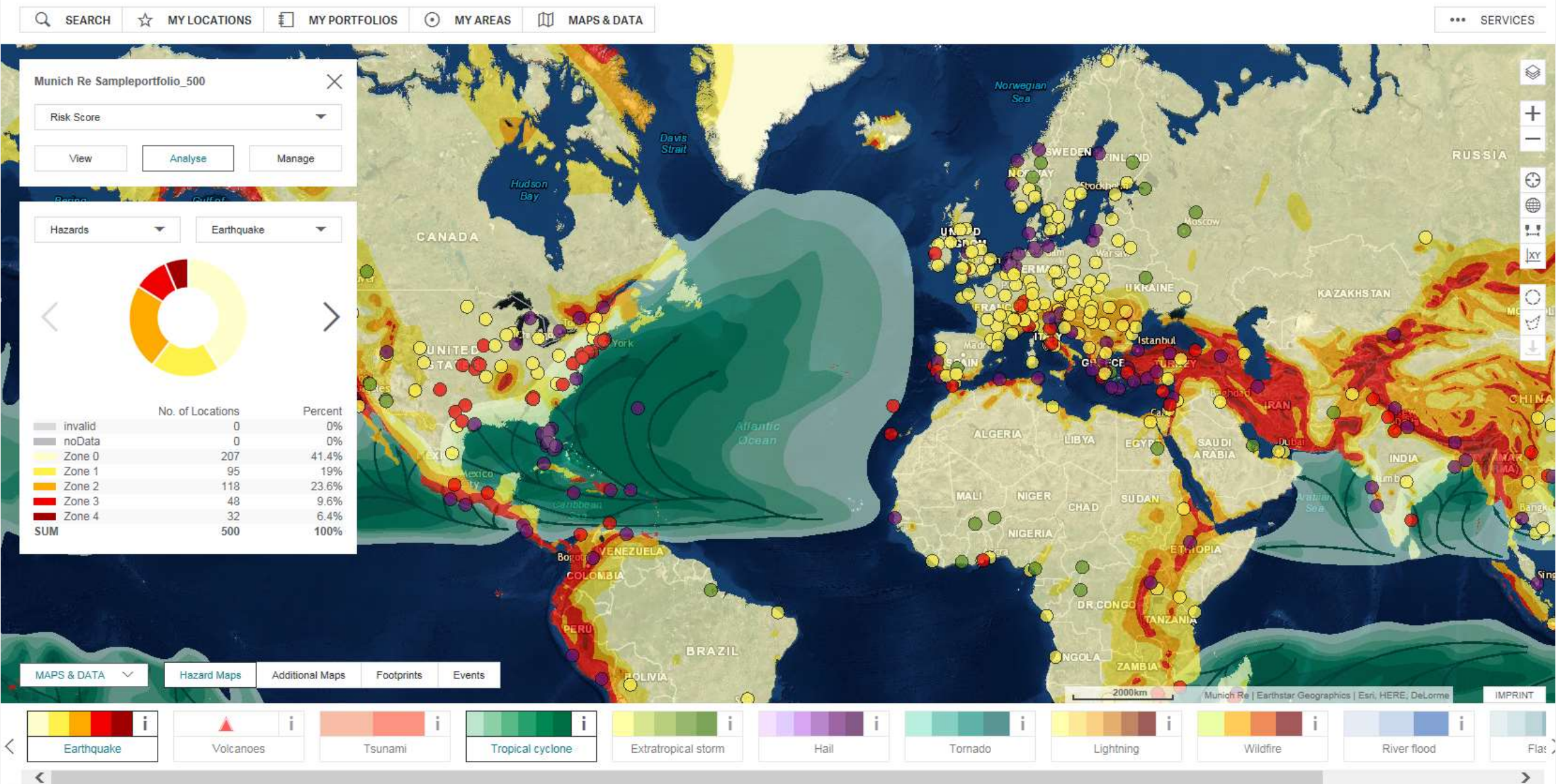
ISO3_Country	CITY	STREET	POSTCODE	Earthquake	Tropical Cyclone
DEU	Dresden	Bertolt-Brecht-Allee	01309	0	-1
DEU	Radeberg	Hauptstr.	01454	0	-1
DEU	Regensburg	Wernerwerkstrasse 2	93049	0	-1
USA	Woonsocket	20 CUMBERLAND HILL RD.	2895	0	2
USA	Honolulu	888 South King Street	96813	1	2
USA	Tamc	3288 Moanalua Hospital	96819	1	2
USA	Redondo Beach	One Space Park	90278	3	-1
USA	Goleta	340 Storke Road	93117	4	-1
USA	Blacksburg	3155 State Street,		0	0

- Exposure analysis of clients' risk locations or portfolios for windstorm, flood or earthquake – anywhere in the world
- Prevention: Analysis supports site decisions of companies
- Combining **client risk data** with **Munich Re natural hazard zoning** system for efficient premium calculation and identification of unknown accumulations
- Allowing risk capital steering to increase portfolio profitability
- More than **ten million** risk location assessments per year

NATHAN Single Risk Rotterdam



NATHAN Portfolio Risk Worldwide

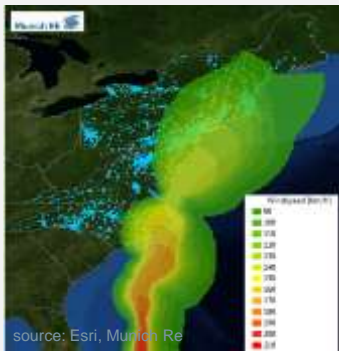


05 Innovative outlook and success criteria



To further expand NATHAN's competitive position various innovations are planned for 2016

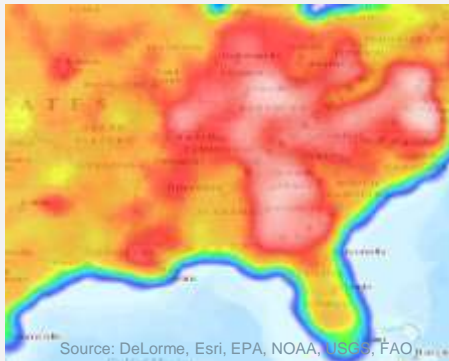
Latest developments and improvements



Major NatCat loss event
Footprints for loss estimations



Mobile solutions



New heat maps and interactive circle for worldwide exposure
and accumulations control



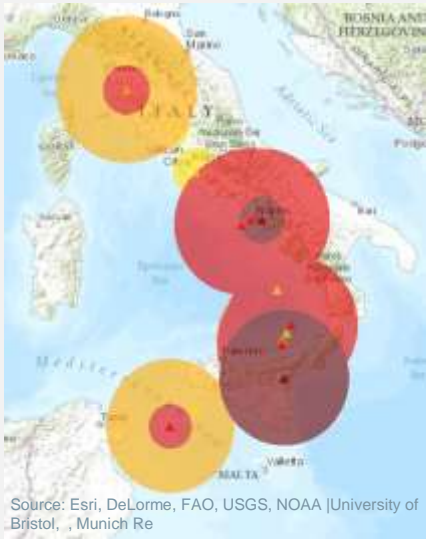
Planned major innovations 2016



Update of global flood maps

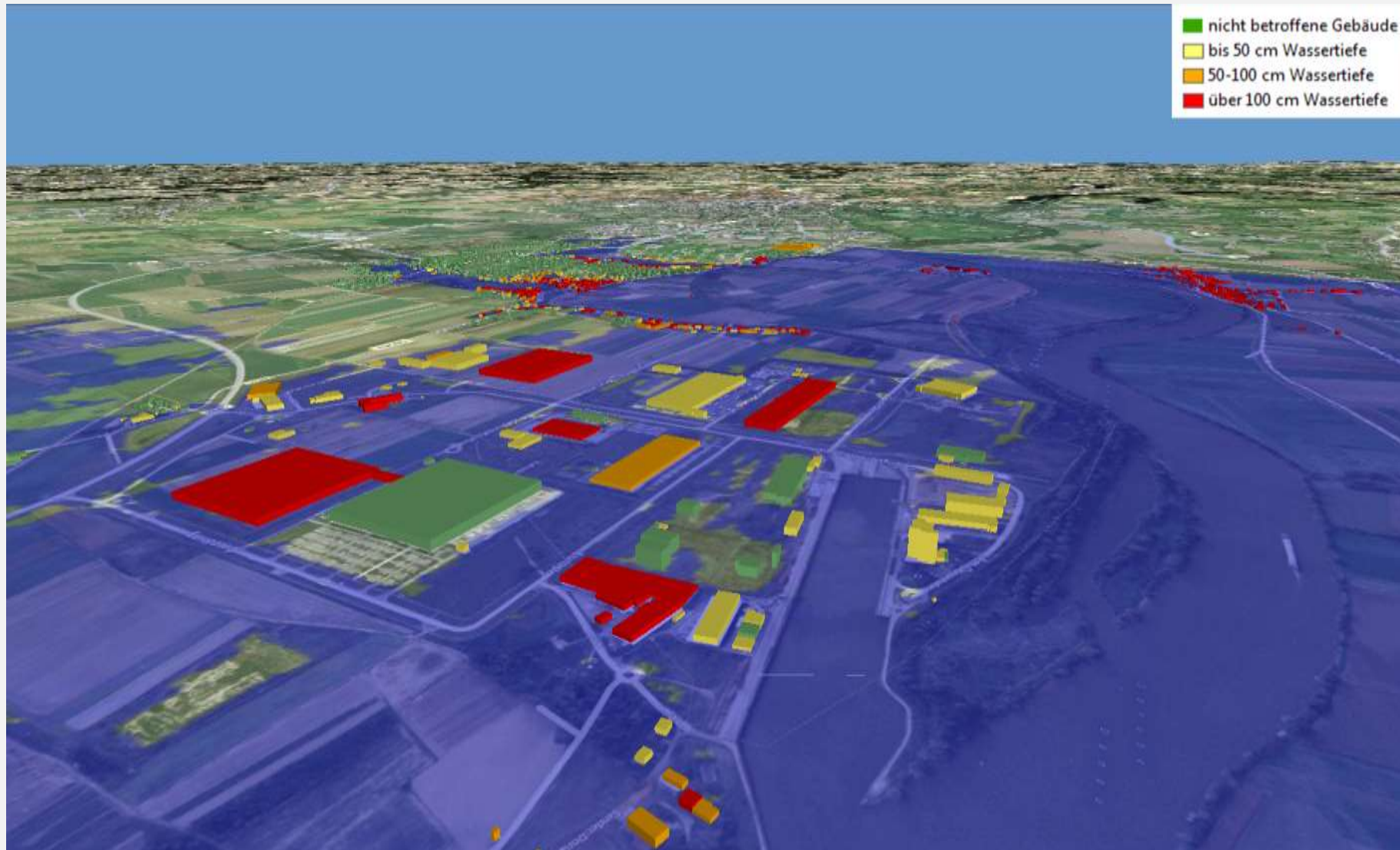


Portfolio display filter



Update of global volcano layer

Higher quality of risk analysis based on 3D-building models



New data sources and distribution channels available

- Live USGS Earthquake Twitter Feed



Quelle: Twitter Inc., 2016

- Earthquake Alert with Twitter



Quelle: New Raleigh, 2011

New technologies offering alternative risk views



Success criteria for the implementation of geointelligence

- Management awareness and commitment
- IT commitment and knowhow
- Workflow understanding (business requirements) from the GIS experts
- Easy integration and maintenance in existing IT landscapes
- Usability and customer friendly
- Data security (eg. cloud discussion)
- Geodata availability and standards (also in global scale); quality and costs

 **Geospatial technology has to be fully integrated in our business model !**



© 2014 Münchener Rückversicherungs-Gesellschaft © 2014 Munich Reinsurance Company

Image: used under license from Shutterstock.com

Thank you very much for your attention!

Dr. Jürgen Schimetschek (Jschimetschek@munichre.com)

Münchener Rückversicherungs-Gesellschaft (Munich Reinsurance Company) is a reinsurance company organised under the laws of Germany. In some countries, including in the United States, Munich Reinsurance Company holds the status of an unauthorised reinsurer. Policies are underwritten by Munich Reinsurance Company or its affiliated insurance and reinsurance subsidiaries. Certain coverages are not available in all jurisdictions.

Any description in this document is for general information purposes only and does not constitute an offer to sell or a solicitation of an offer to buy any product.