



**IUMI**  
International  
Union of  
Marine Insurance



**Swiss Re**

# The Impact of Climate Change on Cargo Underwriting

**IUMI Webinar, June 17, 2021**

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- The political impact
- Conclusion

# Introduction





*Roman Climatic  
Optimum  
Emporer Trajan  
named as 'optimus  
in optimum'*

correlation between  
climate moves and  
human  
development

positive cultural  
developments  
allocated rather to  
warming than to  
cooling periods





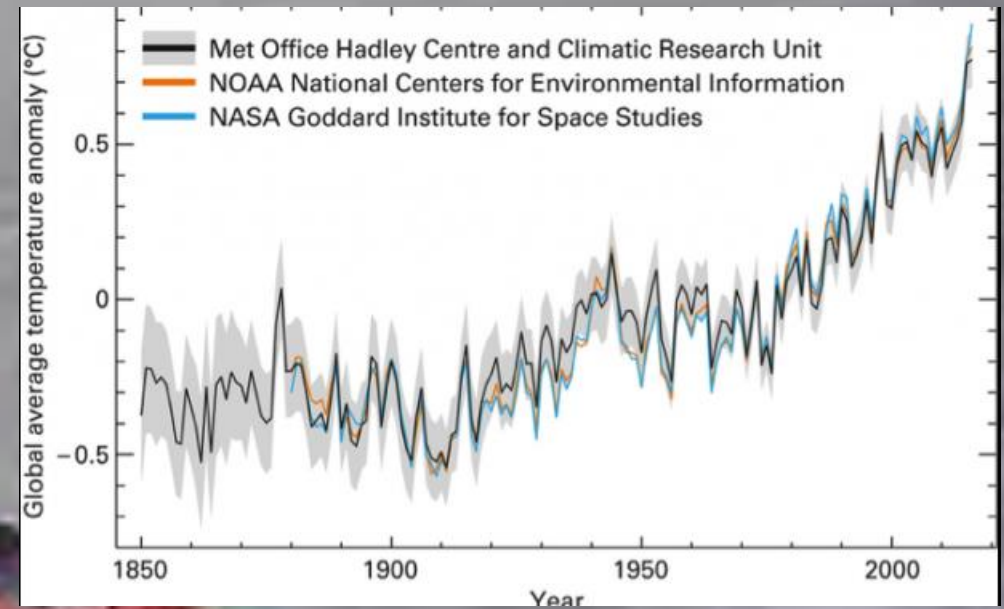
The world has changed since the Roman Empire



Climate has been  
constant move  
but now it moves

***FASTER***

*17 of 18 warmest  
years were  
measured in the  
21<sup>st</sup> century*



*man made  
(anthropogenic) global  
warming assumed to  
happen 100 times  
faster than pure  
natural warmings in  
the past!*



**Frequency of severe weather events will increase**

**Urbanisation happens in coastal areas exposed to extreme weather conditions**

**Cargo turnover in ports and coastal regions will continue to increase**

**Cargo is most vulnerable while in storage – mainly in port areas**



# The Technical Impact



# Technical Impact on Cargo Underwriting

## risk modelling



## product design



## loss prevention



## better response to climate change

- highest possible transparency on static cargo exposure
- create threat maps for your cargo portfolio
- define risk appetite and make reality check
- cooperate with property underwriting

- storage sites controlled by policy holder to be named
- separate premiums for controlled storage sites
- event limits
- knowledge sharing
- named perils vs. all risk
- exclusions

- emergency plans
- defined safety & survey standards
- specific protection of warehouses and ports
- don't forget the other (man made!) perils!

- best possible risk modelling
- portfolio steering along threat zones and commodities (sensitivity of cargo, focus on high value spots, alarm zones)
- inclusion of most likely deteriorations from weather impacts following global warming
- Optimize risk transfer (reinsurance) and capital deployment

➔ Take your stakeholders – i.e. maritime industries - on board!

# Product design: controlled storage sites to be agreed



Non-binding recommendations by the German Insurance Association (GDV)  
for optional use. Other conditions may be agreed.  
In case of deviations the German wording shall prevail

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## DTV Cargo Insurance Conditions 2000/2011

(DTV Cargo 2000/2011)

### I Open Policy Conditions

Standard policy conditions of the GDV

1.2 Notwithstanding the provisions in Clause 9 DTV Cargo 2000/2011, the insurance of storage by order of the Insured during the insured transport **only covers storage facilities agreed with the Insurer prior to the commencement of risk.** If the parties agreed that storage prior to the commencement and after the end of the insured transport shall be covered, sentence 1 applies correspondingly.

#### 6. Premiums

##### 6.1 Individual declaration

Premiums at the agreed rates, plus tax and ancillary costs, are invoiced at the end of each agreed period.

##### 6.2 Summarised declaration

The Insurer is entitled to provisionally invoice a deposit premium for the agreed period. The invoice includes premiums for covering political risks.

A final invoice taking into account the deposit premium already paid is drawn up after the policy year.

Invoices pursuant to Clauses 6.1 and 6.2 are prepared **separately for transport and storage by order of the Insured.**

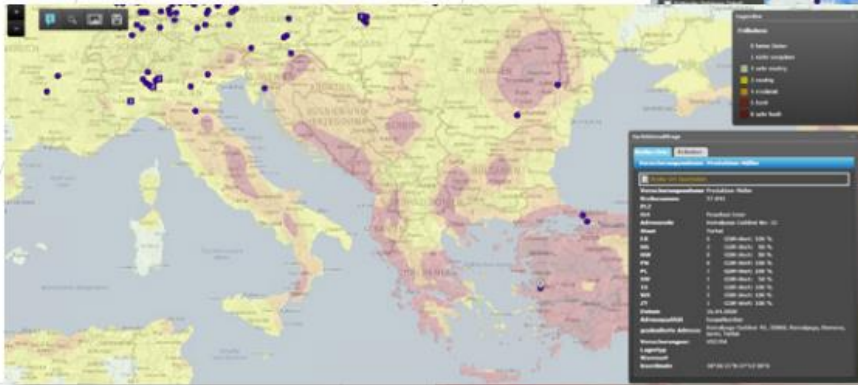
<https://www.tis-gdv.de/tis/bedingungen/avb/ware/ware.html/>



# Risk modelling: create threat / alarm zones

## Examples of threat maps in KIS

Earthquake data and risk analysis for a region



Application interface window showing flood risk maps and analysis for Hamburg



Regional political risks assessment

- Individual storage locations of a cargo portfolio shown in the map
- Specific regions marked from user as threat/alarm zones (red)
- Individual and accumulated sums insured within the alarm zone shown in a table (right & bottom)
- Alarm is triggered once the pre-defined max. accumulated sums insured for a threat zone have been exceeded.

### Your contact for KIS

Peter Prätorius - Produkt Manager KIS

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www.vht-online.com/de/kis

# Loss prevention: define safety & survey standards

Non-binding publication of the German Insurance Association (GDV) for facultative use.  
Other forms may be agreed.



## Storage Questionnaire

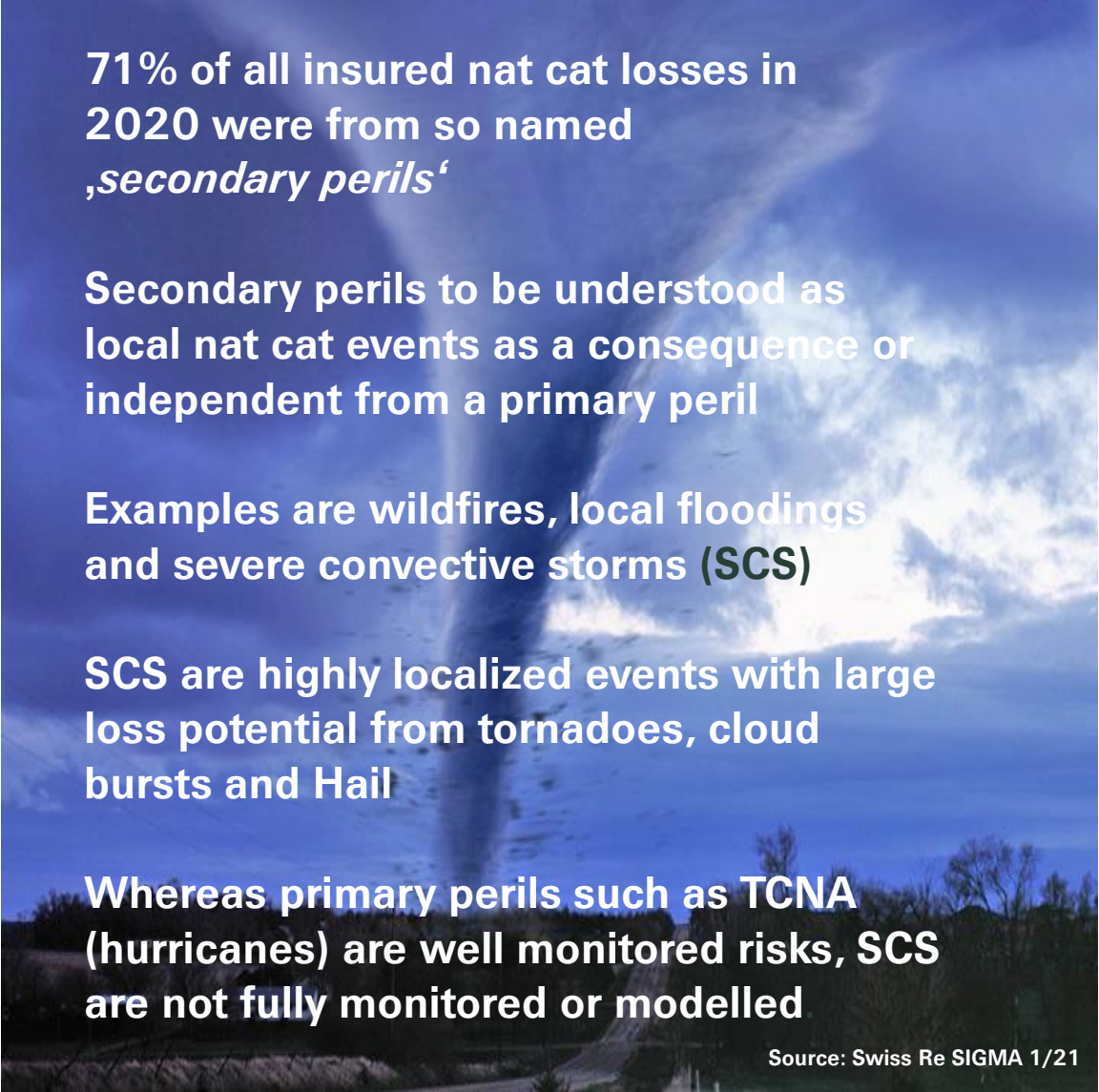
(initial risk recording – basic data)

General Information	Client / insured (policy holder) / assured (third party insured)			
	Address of Storage facility	town / ZIP-Code / street / no. / country		
	Coordinates (Decimal degree)	Lat:	Lon:	year of erection
	Operation of storage facility by third party storage keeper	<input type="radio"/> Yes <input type="radio"/> No if yes, liability of third-party storage keeper <input type="radio"/> based on .... <input type="radio"/> not applicable		
	Last inspection of the storage facility by an expert (surveyor)	at: .... <input type="radio"/> report attached <input type="radio"/> report submitted later		
Stored goods	Type of goods / class of goods			
	Value of the goods /insured value	maximum .....	aggregate .....	
Storage site	Warehouse type	<input type="radio"/> cold storage <input type="radio"/> dry storage <input type="radio"/> fuel depot <input type="radio"/> Silo <input type="radio"/> open space <input type="radio"/> other storage:		
	Size of storage space	..... sqm	maximum height of storage	..... mtr.
	Storage of third-party goods	<input type="radio"/> Yes <input type="radio"/> No If yes, specify: <input type="radio"/> in the storage facility <input type="radio"/> in surrounding area		
	Storage objective	<input type="radio"/> storage only <input type="radio"/> additional activities, namely:		
surrounding	Distance to neighboring building	Directly adjoining: <input type="radio"/> Yes <input type="radio"/> No If yes, type of building: If no, shortest distance: ... mtr.		
	Location plan	<input type="radio"/> attached <input type="radio"/> submitted later		
Security and fire protection (details in initial risk recording – further data)	Fire detection system	<input type="radio"/> Yes <input type="radio"/> No If yes, connected to fire brigade? <input type="radio"/> Yes <input type="radio"/> No		
	Sprinkler	<input type="radio"/> Yes <input type="radio"/> No If yes: <input type="radio"/> automatic <input type="radio"/> manual		
	Intrusion detection system	<input type="radio"/> Ja <input type="radio"/> No If yes, connected to security service? <input type="radio"/> Yes <input type="radio"/> No		
	Loss events in storage facility (claims history):			
	Additional specification			

The undersigned is aware that the above-mentioned information only constitutes basic data in the context of initial risk assessment and that the insurer may request further information about the risks.



## Better response to climate change: include deteriorations from global warming



71% of all insured nat cat losses in 2020 were from so named *‘secondary perils’*


Secondary perils to be understood as local nat cat events as a consequence or independent from a primary peril

Examples are wildfires, local floodings and severe convective storms (SCS)

SCS are highly localized events with large loss potential from tornadoes, cloud bursts and Hail

Whereas primary perils such as TCNA (hurricanes) are well monitored risks, SCS are not fully monitored or modelled

Source: Swiss Re SIGMA 1/21



Avg. frequency of SCS – mainly hail and flash floods – in Germany expected to grow by 25% until 2040 and later by 60% until 2100.

The increase is even higher in southern and eastern regions of Germany. This happens NOW!

The cause of increase is allocated to the rising temperatures of the sea.

Hail comes with local flash floods can have severe impact on cargo storage locations.

Higher frequencies of small to medium local weather events need special attention but are more difficult to model.

Source: DWD & GDV

We are not alone!

***„The maritime industry is changing – ships are getting bigger, trade is growing, climate change is upon us, and technology is fast impacting our operations.“***

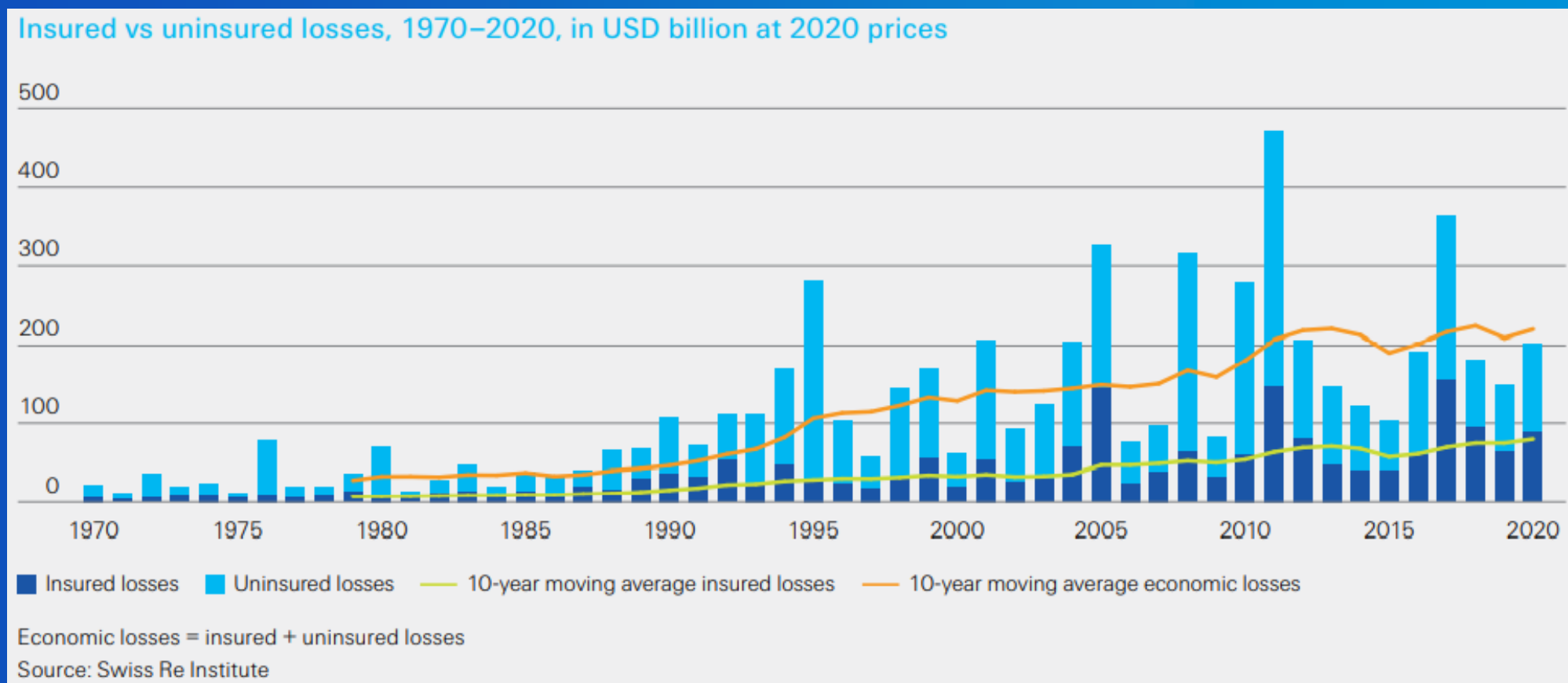
The Port Authority of New York & New Jersey – Port Master Plan 2050



# The Political Impact

# *„Re/Insurance industry has a key role to play in promoting the transformations needed to protect the world from climate change“*

Antonio Guterres, UN Secretary General at Insurance Development Forum (IDF), June 8th, 2021





# (Re)Insurance part of the problem?



project insurance  
*delay in start up*

cargo insurance

*'Our best insurance is to keep fossil fuels in the ground'*

*Unfriend COAL*



**SCORING GRID**

	COUNTRY	COAL INSURANCE		COAL DIVESTMENT		OTHER CLIMATE LEADERSHIP	
		RANK	SCORE	RANK	SCORE	RANK	SCORE
Swiss Re	+	1	4.0	1	5.1	6	3.7
Zurich	+	2	3.6	3	4.3	4	5.3
AXA	+	3	3.2	5	3.6	5	4.5
AXIS Capital	+	4	2.7	9	2.4	25	0.0
Generali	+	5	2.5	7	2.5	7	3.2
QBE	+	6	2.4	10	2.3	8	1.8
Allianz	+	7	2.1	4	4.0	3	5.9
Chubb	+	8	1.7	12	2.0	20	0.7
SCOR	+	9	1.7	2	4.5	13	1.3
Hannover Re	+	10	1.5	6	2.7	22	0.5
HDI Global	+	10	1.5	12	2.0	24	0.3
Aviva	+	12	1.1	15	1.7	2	6.0
Munich Re	+	13	1.1	7	2.5	11	1.6
Mapfre	+	14	0.8	14	1.7	16	0.9
Ping An	+	15	0.6	18	0.6	19	0.7
Lloyd's	+	16	0.0	11	2.2	16	0.9
W.R. Berkley	+	16	0.0	16	1.4	25	0.3
Legal & General	+	n/a	n/a	17	1.0	1	6.4
Tokio Marine	+	16	0.0	19	0.0	9	1.8
Sompo	+	16	0.0	19	0.0	10	1.7
TIAA Family	+	n/a	n/a	19	0.0	12	1.3
MS&AD	+	16	0.0	19	0.0	14	1.1
Samsung FM	+	16	0.0	19	0.0	15	1.0
Prudential	+	n/a	n/a	19	0.0	18	0.8
AIG	+	16	0.0	19	0.0	20	0.7
MetLife	+	n/a	n/a	19	0.0	23	0.4
Berkshire Hathaway	+	16	0.0	19	0.0	25	0.0
FM Global	+	16	0.0	19	0.0	25	0.0
Liberty Mutual	+	16	0.0	19	0.0	25	0.0
Sinosure	+	16	0.0	19	0.0	25	0.0

**KEY**  Multiline insurance  Primarily reinsurance  Primarily life insurance

The maximum score for each column is 10.  
For details of insurers' policies see page 14 and <https://unfriendcoal.com/2019scorecard>.



# (Re)insurance part of the solution!

AFRICATECH NOVEMBER 23, 2015 / 11:05 PM / 3 YEARS AGO

## Allianz to pull funds out of coal businesses -exec to ZDF



*Es ist höchste Zeit, dass Hannover Rück sich ein Beispiel an der Allianz und Munich Re nimmt und aufhört, letzter Rettungsanker der Kohleindustrie zu sein.*

Regine Richter, urgewald

### headlines from 2019

#### LATEST NEWS



MARCH 14, 2019

Uniqqa will stop insuring new coal plants and mines – 10th insurer to ditch coal



MARCH 11, 2019

Spain's Mapfre will stop insuring new coal plants and mines – 9th insurer to restrict underwriting



MARCH 4, 2019

Smart money is jumping the sinking coal ship

**tal anx.**

Talanx defines underwriting policy for coal-based risks

## Swiss Re establishes thermal coal policy to support transition to a low-carbon economy

Swiss Re will not provide re/insurance to businesses with more than 30% thermal coal exposure

02 Jul 2018 , Zurich

Share

“In the individual risk business, where we can see the risks exactly, we will, in the future, in principle no longer insure new coal fired power plants or mines in industrial countries,” says Munich Re CEO Joachim Wenning in a commentary published in German daily newspaper *Frankfurter Allgemeine Zeitung* on Monday.

# Environmental, Social, Governance (ESG) issues

## How will Marine insurers be affected by sustainability issues?





# Conclusion

# Conclusion

**Cargo underwriter will feel increased pressure to better monitor cargo nat exposure.**

**Tools to increase transparency are available to cargo underwriters (IUMI!) – time to implement.**

**Threat maps will allow exposure steering along capital requirements and reinsurance.**

**Secondary perils a challenge for nat cat modelling.**

**ESG requirements will create political pressure. No exception for cargo underwriting.**

**Underwriting process might become more complex.**

# Static cargo most exposed to large loss events - IUMI provides regular expertise

## STORAGE RISK EXPOSURE A REALITY CHECK

Dirk POLFLIET, Manager International Desk, DP SURVEY GROUP



### Superstorm "Sandy" – A Surveyor's and Underwriter's Perspective



Robert Volante, Managing Director  
CSL Group



Sean M. Dalton, Senior Vice President  
Zurich Insurance

16 September 2013



IUMI 2018  
Static Risks in Cargo Insurance

Matthias Kirchner  
AXA Corporate Solutions Germany  
18 September 2018



## Building on Asian Property Expertise to Meet NAT CAT Challenges on Static Cargo

**Joe Venetico**  
Global Underwriting Manager,  
Property & Business Interruption  
Zurich Insurance Company Ltd



# Sources

- Deutscher Wetterdienst DWD
- Gesamtverband der Deutschen Versicherungswirtschaft GDV
- IUMI
- Swiss Re Institute/Sigma
- Verein Hanseatischer Transportversicherer VHT / Kumul Informationsservice KIS
- Unfriend Coal
- Urgewald



Any questions?





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