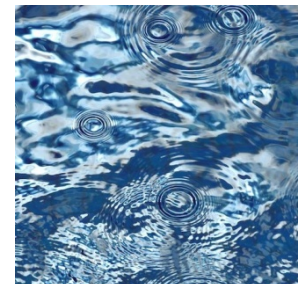
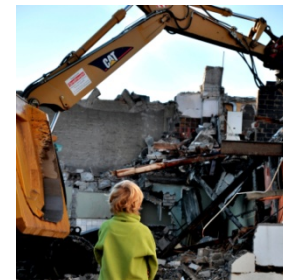
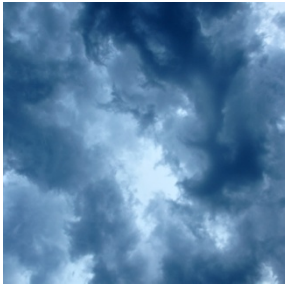


# „STORMY TIMES - CLIMATE CHANGE AND NATURAL DISASTERS AS SOCIETAL CHALLENGES“

Dr Antje Grobe, DIALOG BASIS  
University of Stuttgart



## LOCALLY GROUNDED, INTERNATIONAL ACTIVE

- Foresight Processes
- Think Tanks
- Expert Delphis
- Pro-active Stakeholder Dialogues
- Citizen Conferences 2.0
- Internetplatforms
- Conferences
  - Panel discussions
  - Creative Formats



Source: DHMD, Stiftung Risiko-Dialog, MLR, DIALOG BASIS



## Interdisciplinary Research Unit on Risk Governance and Sustainable Technology Development (ZIRN) University of Stuttgart

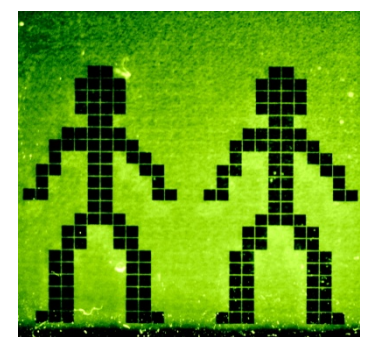
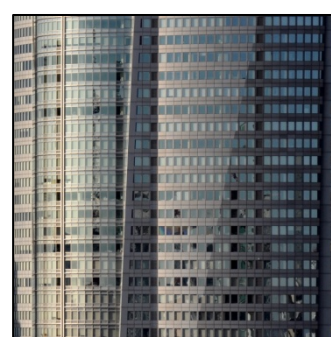
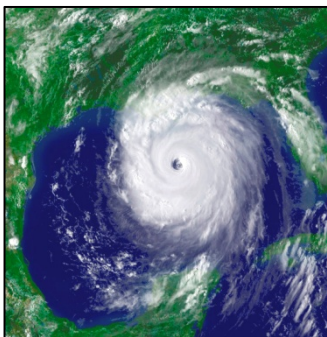
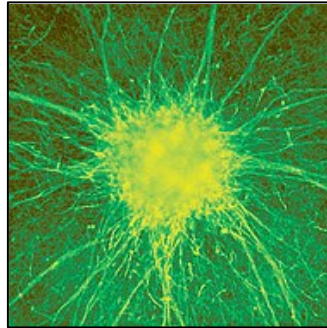
- EU Framework Programme Research Projects
- Expert-Delphis
- Qualitative In-Depth Interview Studies
- Scientific studies on risk perception and risk appraisal
- Advisory opinions on risk perception of different societal issues
- Lecturing Dialogue Management and Professional Skills



# DIALOG BASIS – ISSUES



- Analysis and dialogues on societal conflicts
- Analysis and dialogues on horizontal issues
- Transformation of Scandinavian and Swiss dialogue models



©: Flickr/Global2000, Quatar. visitor, Kenteegarden, Max Klose, BASF, NOAA





# STORMY TIMES - CLIMATE CHANGE AND NATURAL DISASTERS AS SOCIETAL CHALLENGES



## 3-Years Stakeholder Analysis Project

Interdisciplinary research team DE / CH

- DE: DIALOG BASIS  
University of Stuttgart
- CH: Risk Dialogue Foundation  
University of St. Gallen



- **Desk Research**
- **40 In-Depth-Interviews** with stakeholders from academia, industry, political decision makers, media, NGOs, disaster reduction manager, local acteurs, non-organized citizens
- **6 Stakeholder-Workshops**
- **1 Stakeholder- Conference**  
GDV - Innovation Platform Climate Change

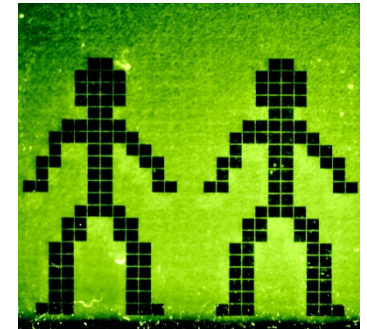
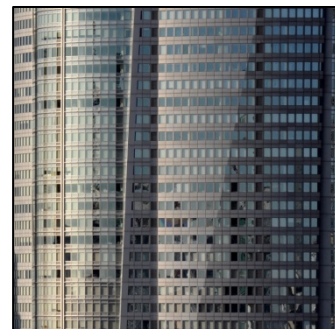
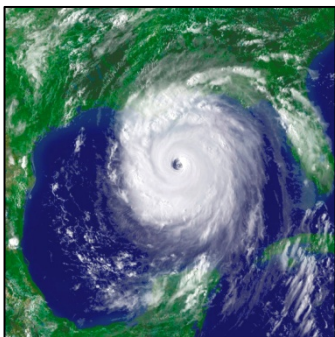
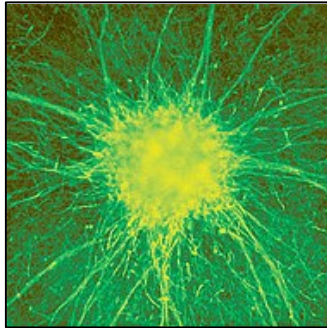


# 1. LESSONS LEARNED

# DIALOG BASIS – ISSUES



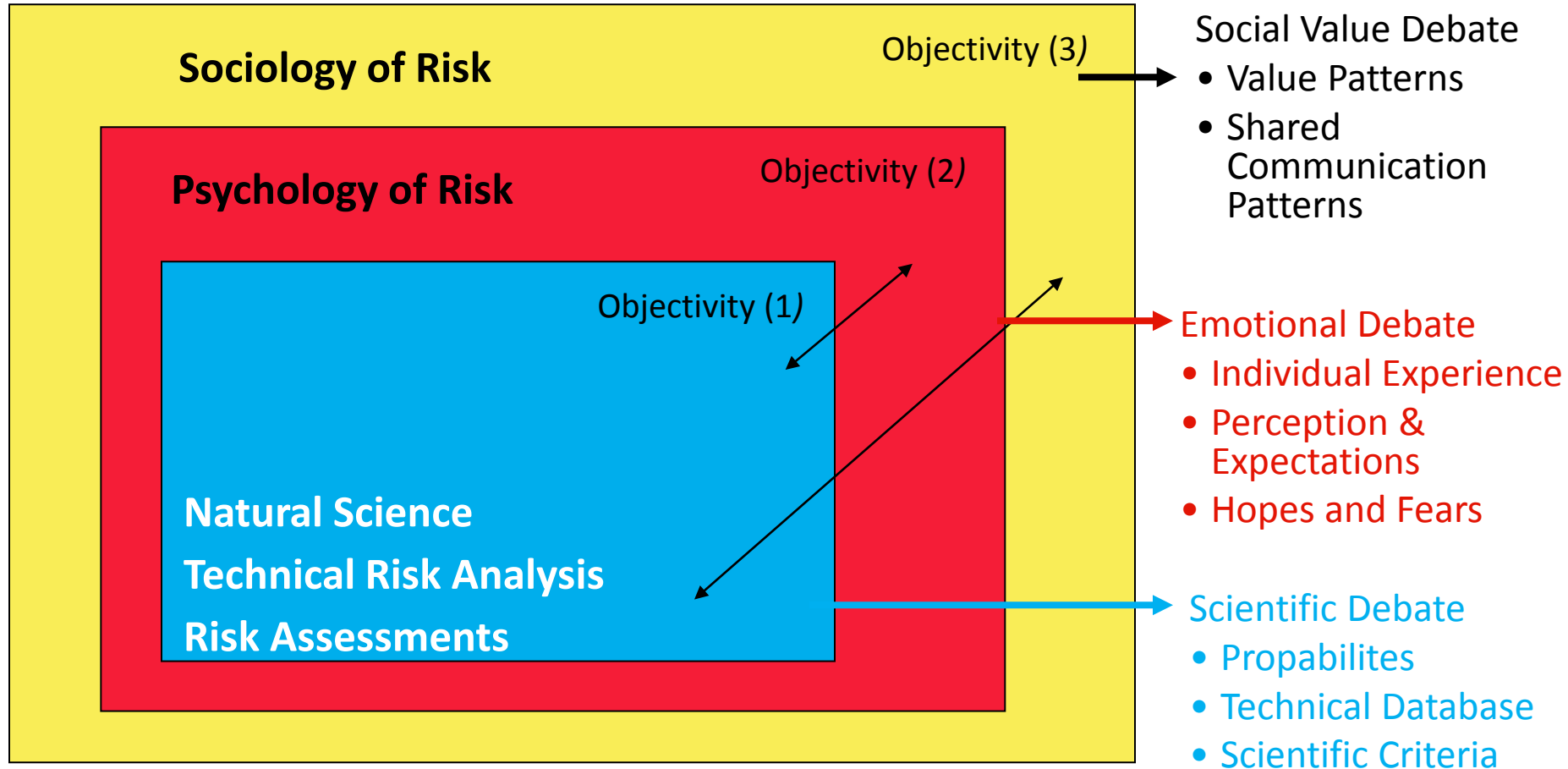
- Analysis and dialogues on societal conflicts
- Analysis and dialogues on horizontal issues
- Transformation of Scandinavian and Swiss dialogue models



©: Flickr/Global2000, Quatar. visitor, Kenteegarden, Max Klose, BASF, NOAA



# 3-LEVEL-MODEL OF RISK PERCEPTION AND RISK COMMUNICATION (M. HALLER 1995)





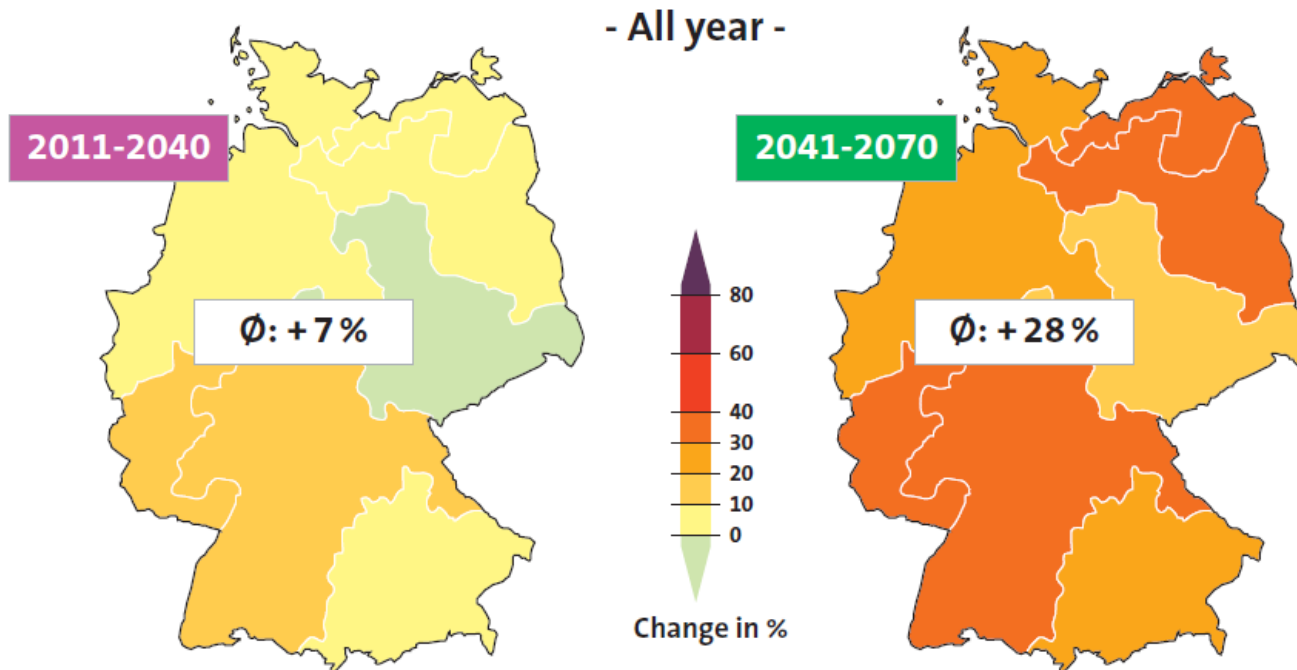
## 2. SCIENTIFIC CLIMATE CHANGE DEBATE

# LOSS SCENARIOS



## Storm/hail loss is becoming more expensive

Mean annual loss ratio 1984-2008 compared with ...



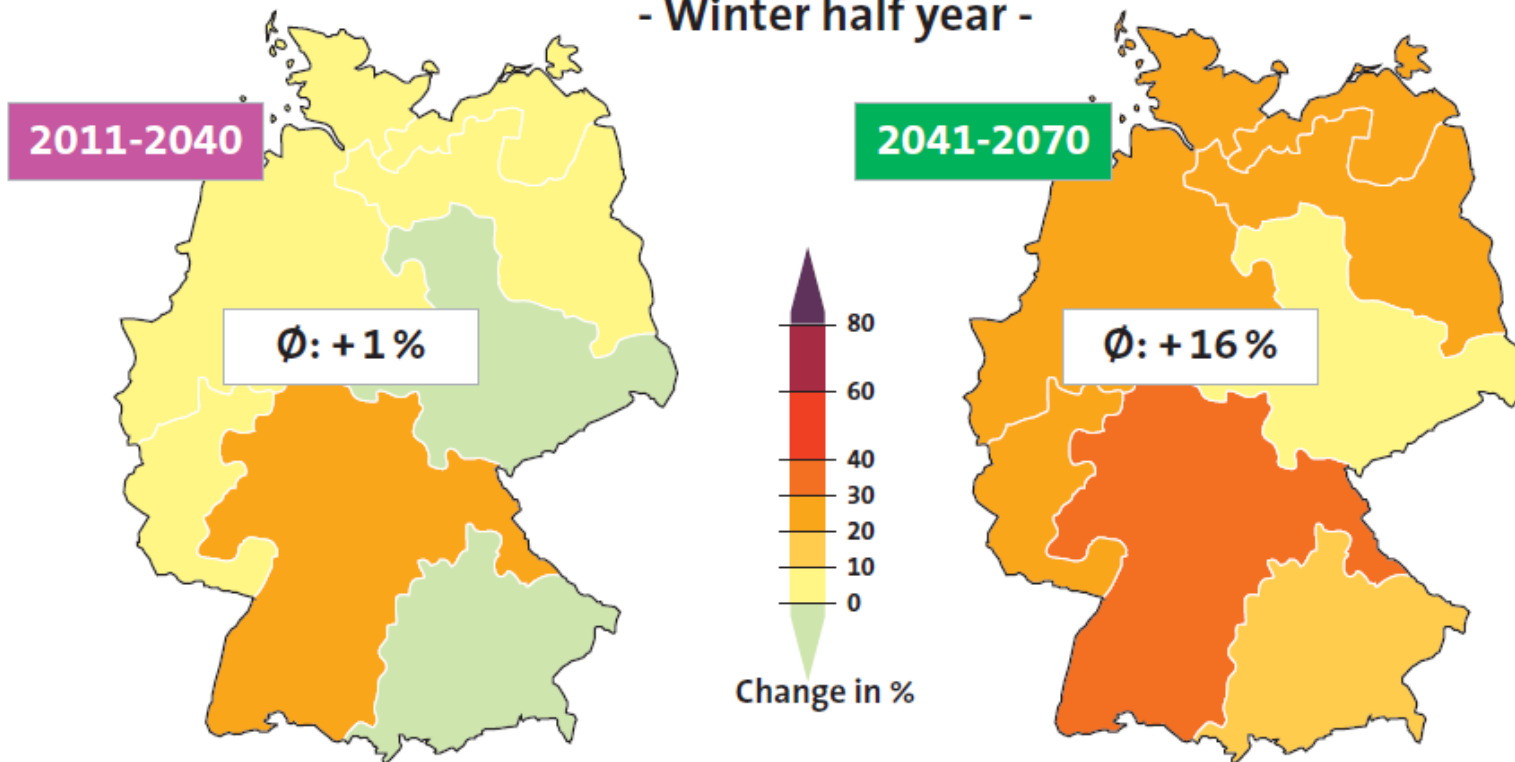
German Insurance Association (GDV): The Climate Challenge. Answers and Demands of German Insurers, p.10.



# LOSS SCENARIOS

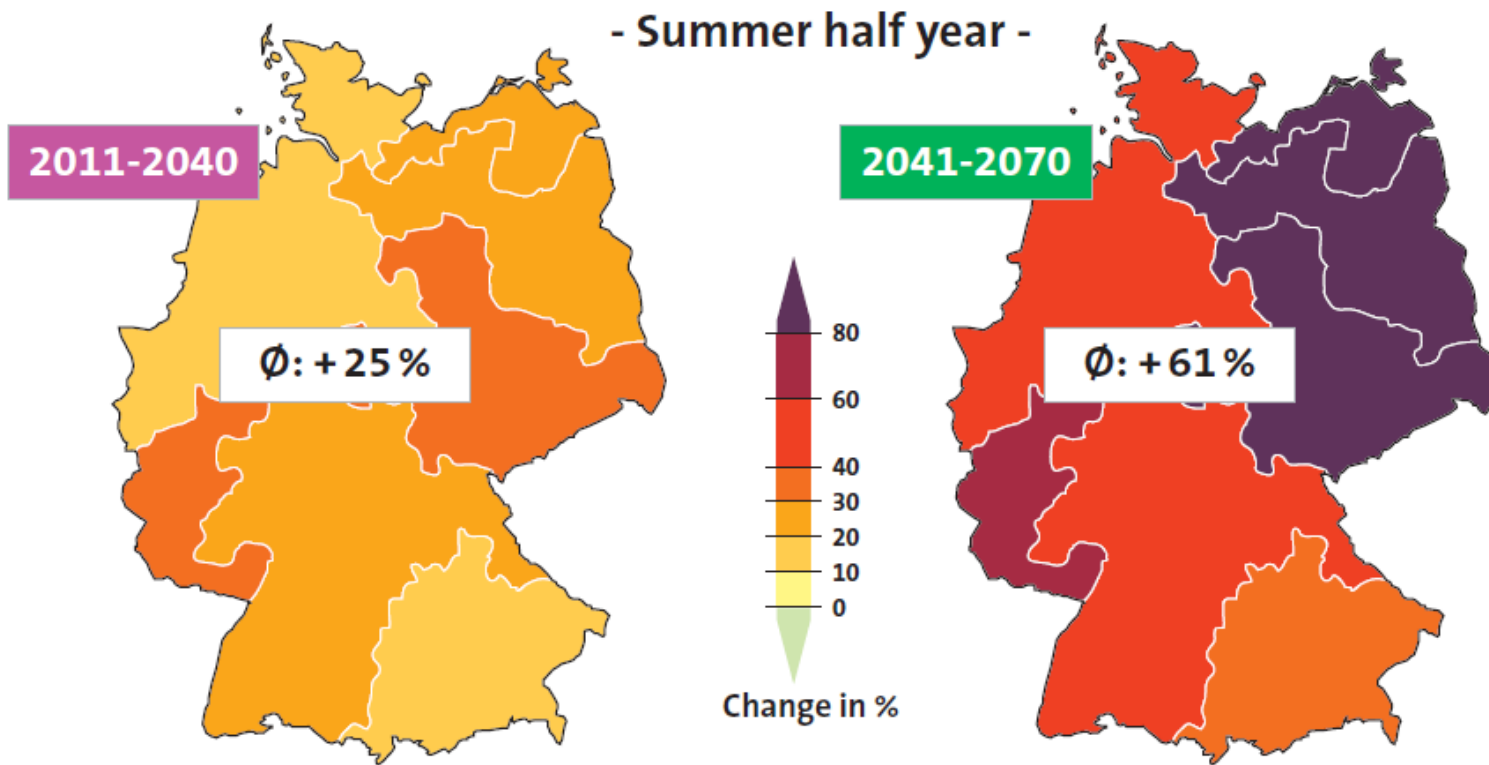


- Winter half year -



German Insurance Association (GDV): The Climate Challenge. Answers and Demands of German Insurers, p.10.

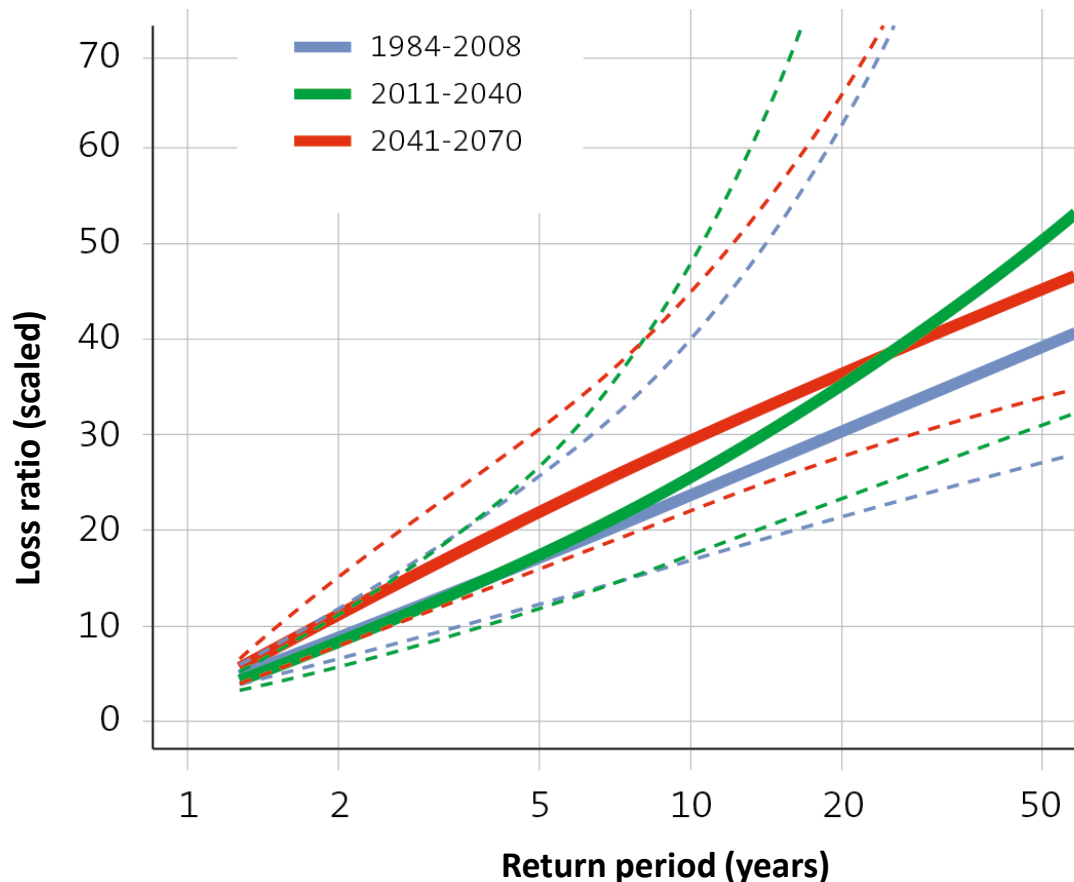
# LOSS SCENARIOS



German Insurance Association (GDV): The Climate Challenge. Answers and Demands of German Insurers, p. 10.



# PIK: STATISTICAL LOSS MODEL FOR STORM/HAIL



- Insured annual losses of the reference period when compared to the future losses under the A1B-scenario
- Dramatic shortening of return periods 1971-2000 vs. 2041-2070:
  - 20-year losses turn to 10 year losses
  - 50-year losses occur every 25 years

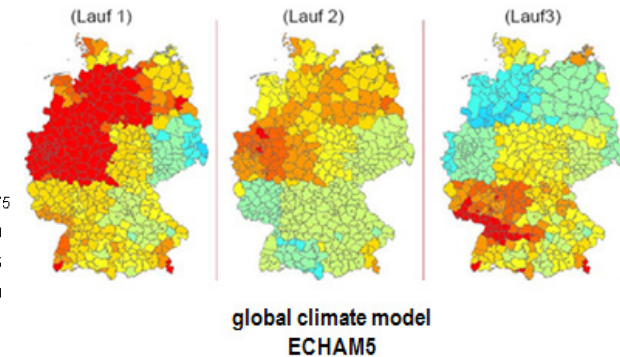
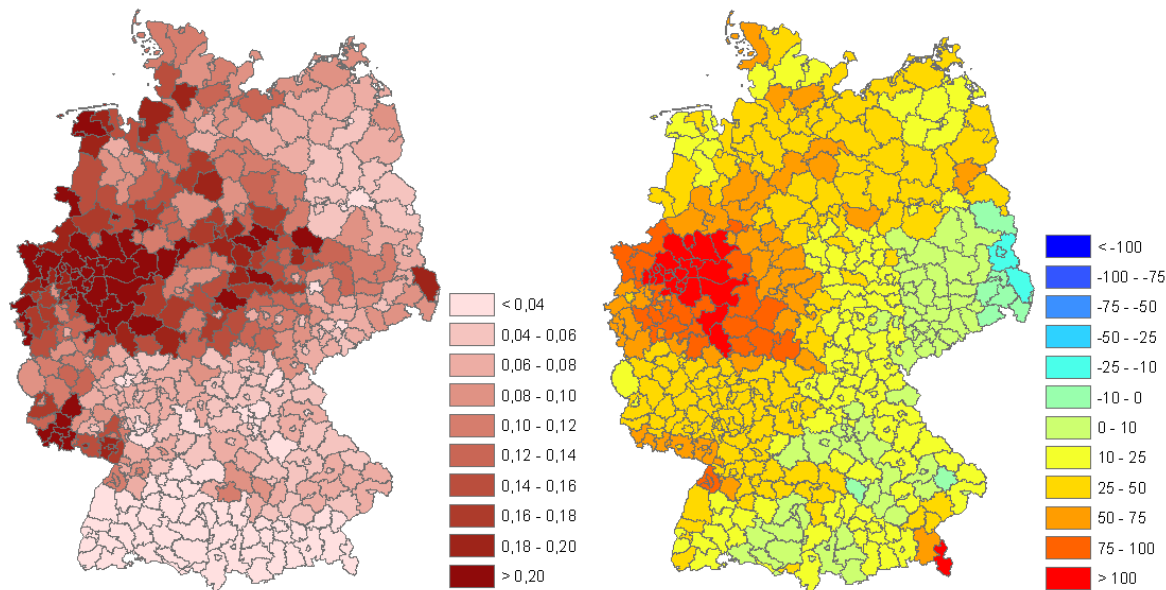
Prof. Dr. Friedrich-Wilhelm Gerstengarbe: Szenarien für Deutschland. Auswirkungen des Klimawandels auf die Schadenssituation in der Versicherungswirtschaft. PIK, Potsdam / German Insurance Association (GDV).



# FU BERLIN: DYNAMIC STORM LOSS MODEL

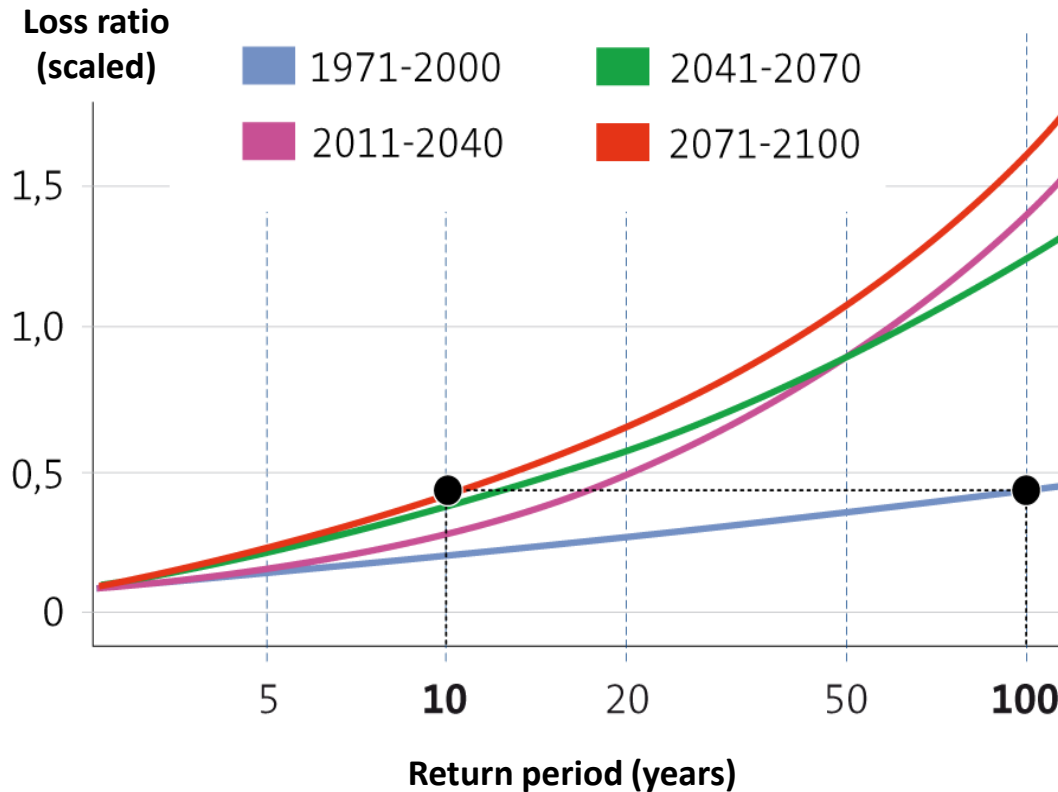


- Statements of future changes in winter storm losses
- Relative changes in 2071-2100 under the A1B scenario when compared to simulated loss ratio 1961-2000
- Changes compared to today: by up to 100 %



Prof. Dr. Friedrich-Wilhelm Gerstengarbe: Szenarien für Deutschland. Auswirkungen des Klimawandels auf die Schadensituation in der Versicherungswirtschaft. PIK, Potsdam / German Insurance Association (GDV).

# FU BERLIN: DYNAMIC STORM LOSS MODEL

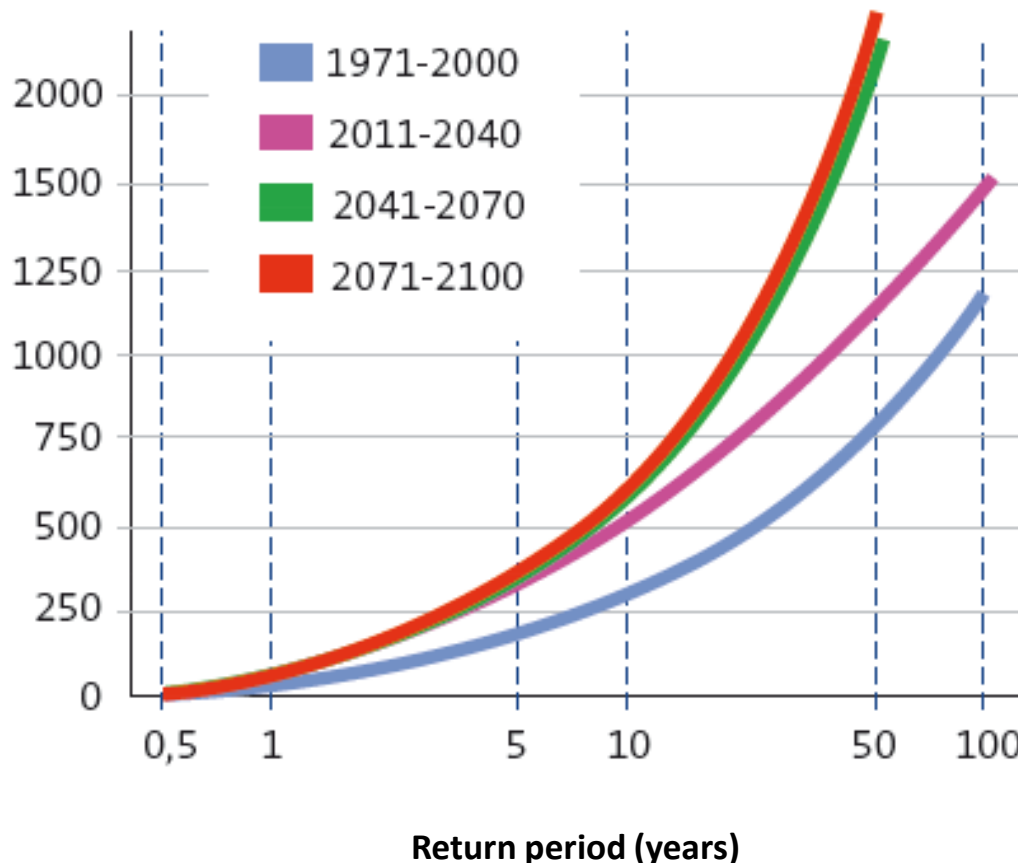


- Insured annual losses of the reference period when compare to the future losses up to 2100 under the A1B-scenario.
- Dramatic shortening of return periods 1971-2000 vs. 2071-2100:
  - 20-year losses turn to 6-year losses
  - 50-year losses turn to 9-year losses
  - 100-year losses turn to 12-year losses

Prof. Dr. Friedrich-Wilhelm Gerstengarbe: Szenarien für Deutschland. Auswirkungen des Klimawandels auf die Schadenssituation in der Versicherungswirtschaft. PIK, Potsdam / German Insurance Association (GDV).



# PIK: FLOOD LOSS MODEL



- Mean loss per return period: mean value of several hydrological models. Data in m €.
- Flood losses, which now return every 50 years and cause losses of approx. 750 m €, could become twice as expensive in the future.

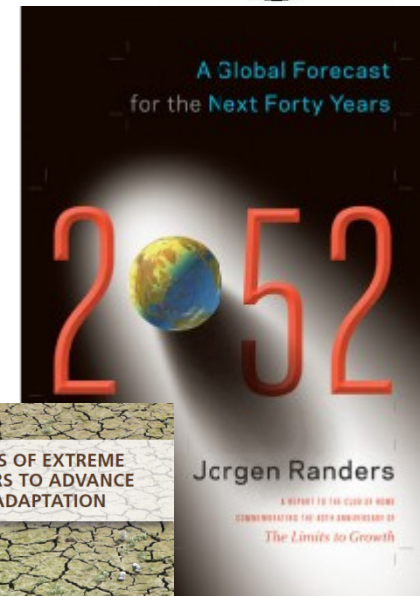
Prof. Dr. Friedrich-Wilhelm Gerstengarbe: Szenarien für Deutschland. Auswirkungen des Klimawandels auf die Schadenssituation in der Versicherungswirtschaft. PIK, Potsdam / German Insurance Association (GDV).

# SCIENTIFIC CONSENSUS ON RISKS



We should prepare ourselves for risks though

- Club of Rome (2012): CO<sub>2</sub> concentrations will continue to grow and cause +2°C until 2052 and +2.8°C until 2080, which may trigger self-reinforcing climate change
- IPCC (2012): Evidence suggests that climate change has already led to changes in climate extremes such as heat waves and heavy rains – also in Europe



# CLIMATE CHANGE SCEPTICISM IN THE MEDIA

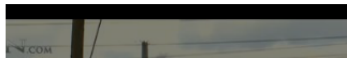


## Researchers Find Climate Change Not Man Made

CBNnews.com

Tuesday, March 27, 2012

8 Comment(s)



A new Syracuse University study indicates climate change is natural and not caused by man.



Home | News | U.S. | Sport | TV&Showbiz | Femail | Health | **Science** | Money | RightMinds

Science Home | Pictures | Gadgets Gifts and Toys Store

## Climate change fears 'have been exaggerated' and doomsday predictions are overestimates, say scientists

By FIONA MACRAE  
UPDATED: 19:20 GMT, 25 November 2011



## Global warming? It doesn't exist, says Ryanair boss O'Leary

Outspoken airline chief says climate change is a plot by scientists seeking research cash

BY MARTIN HICKMAN, CONSUMER AFFAIRS CORRESPONDENT | FRIDAY 10 SEPTEMBER 2010



## The Telegraph



HOME » EARTH » ENVIRONMENT » CLIMATE CHANGE

## Climate change is 'natural not man-made'

Climate change is "natural and not man-made", according to a report that lists "100 reasons why" to back the theory.

05/14/2010



The Climategate Chronicle

## How the Science of Global Warming Was Compromised

By Axel Bojanowski



Universität Stuttgart



# OVER ALL ...



- Huge Complexity Of Data
- Range Of Possible Results From The Scenarios
- Difficulties To Describe Concrete Local Effects
- Difficulties To Appraise Potential Hazards

**SCIENTIFIC CLIMATE CHANGE DEBATE**

**CREATES**

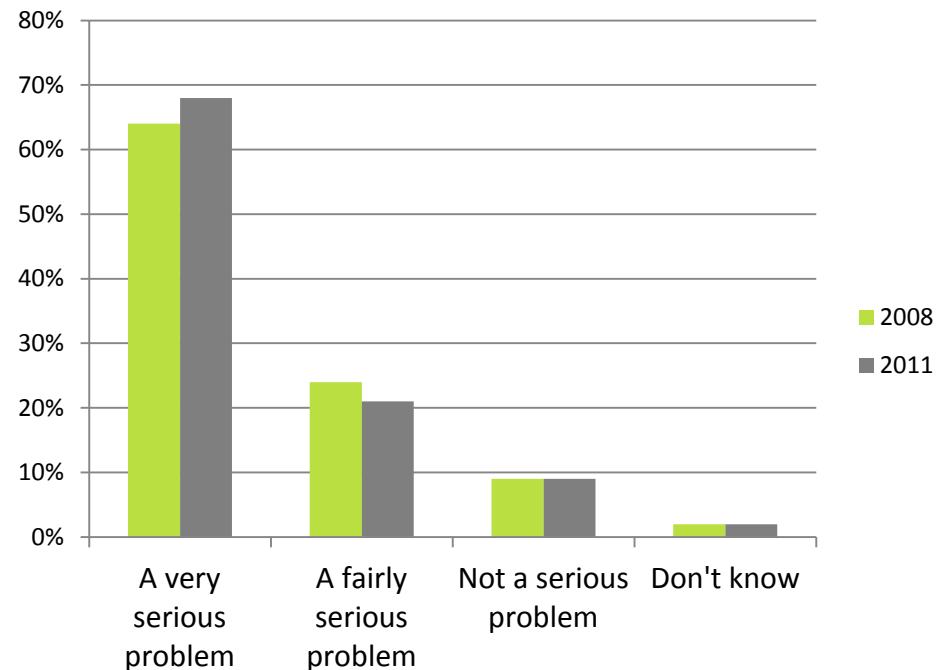
**COMPLEXITY, UNCERTAINTY, AMBIGUITY**

## 3. PATTERNS OF PERCEPTION

- **Climate Change one of the key problems globally**
- **Overlapping effect of the financial crisis**

- Eurobarometer 2011: 68 percent of Europeans see climate change as a very serious problem
- Only nine percent are not worried at all
- The figures have remained constant in the last years

Q: And how serious a problem do you think climate change is at the moment?



European Commission 2011: Special Eurobarometer 372. Climate Change, p. 14.



- „...we know enough to make good decisions about managing climate-related disasters. Sometimes we take advantage of this knowledge but many times we do not“ Chris Field, Co-Chair IPCC Working Group 2

Randers, Jorgen 2012: 2052: A Global Forecast for the Next Forty Years. Club of Rome.





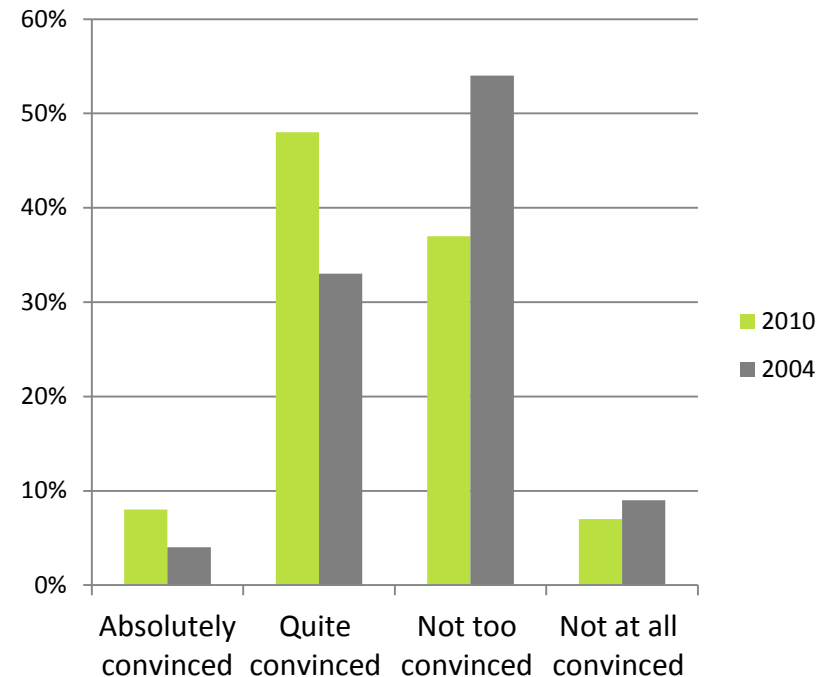
# PUBLIC PERCEPTION OF RISKS



Yet, in the western countries people are prone to think that the problems arise somewhere else

- In Germany, the majority (56%) is convinced that the German society can handle future climate impacts without too many problems
- In the last years, people have even become more confident

Q: How convinced are you that we in Germany can manage the problems that arise with climate change?



German Federal Ministry for the Environment & Federal Environment Agency  
2010: Umweltbewusstsein in Deutschland 2010, 33.

- „...The awareness of the broader public about the seriousness of climate change issues in Germany is comparatively high. However, that doesn't mean that this knowledge has practical consequences for the daily life. This process of changing behavioral patterns is much slower.“ Grobe et al. 2012

Randers, Jorgen 2012: 2052: A Global Forecast for the Next Forty Years. Club of Rome.

# OVERLAPPING EMOTIONAL DEBATE



**Focus 2011 / 2012:**

## **Energy Transformation and Mitigation Activities**

- Highly Involved Political Acteurs in Germany after Fukushima
- Traditional Conflict Structures
- Increasingly Diverse Field of Opponents



**ADAPTATION OUT OF PUBLIC FOCUS**

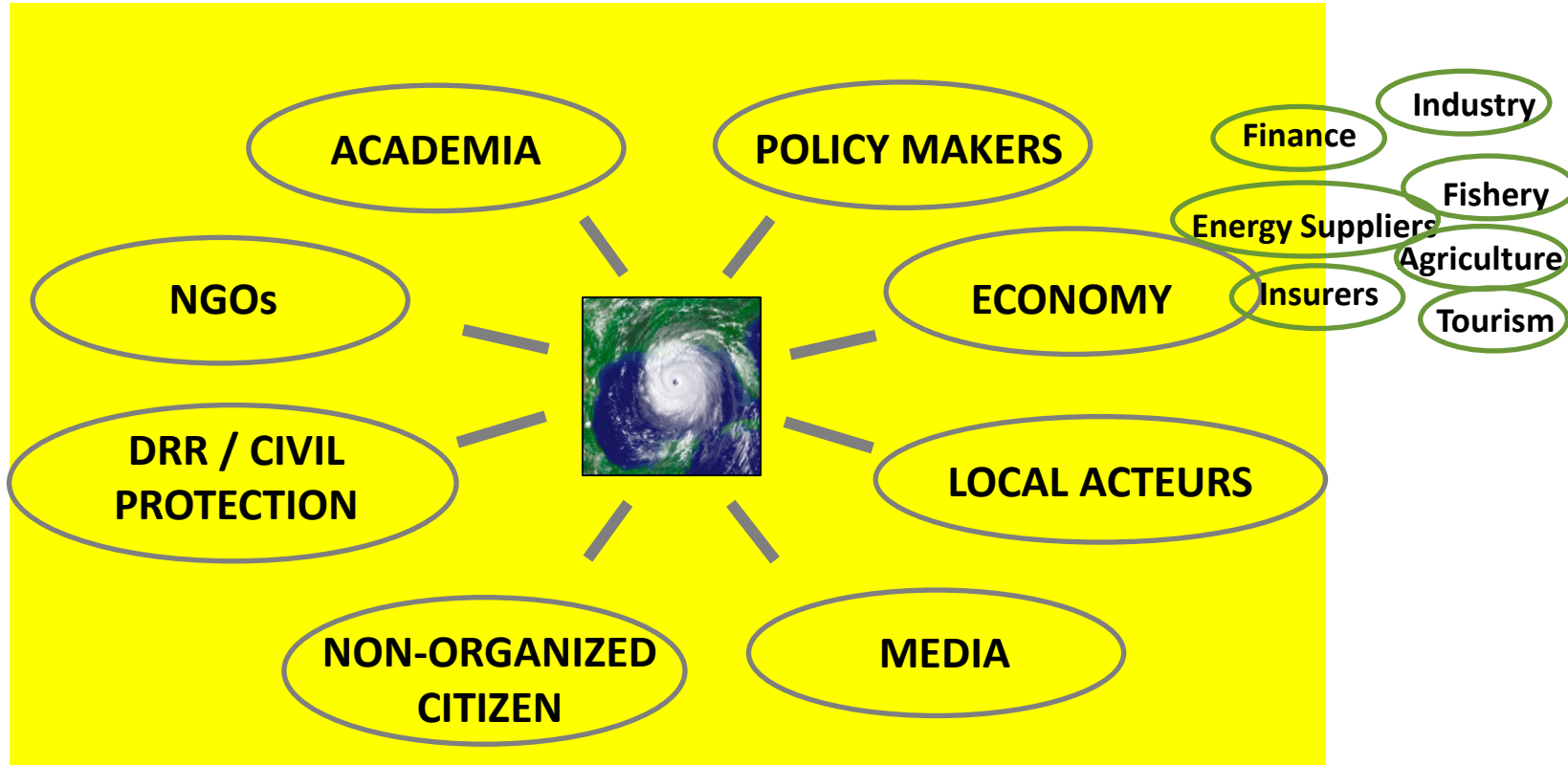
**UNPREDICTABILITY OF PERCEPTION**

**AMBIVALENCE IS INCREASING**

## **4. SHARED SOCIETAL PATTERNS FOR MANAGING CLIMATE CHANGE**



# DIFFERENTIATED STAKEHOLDER SUBSYSTEMS



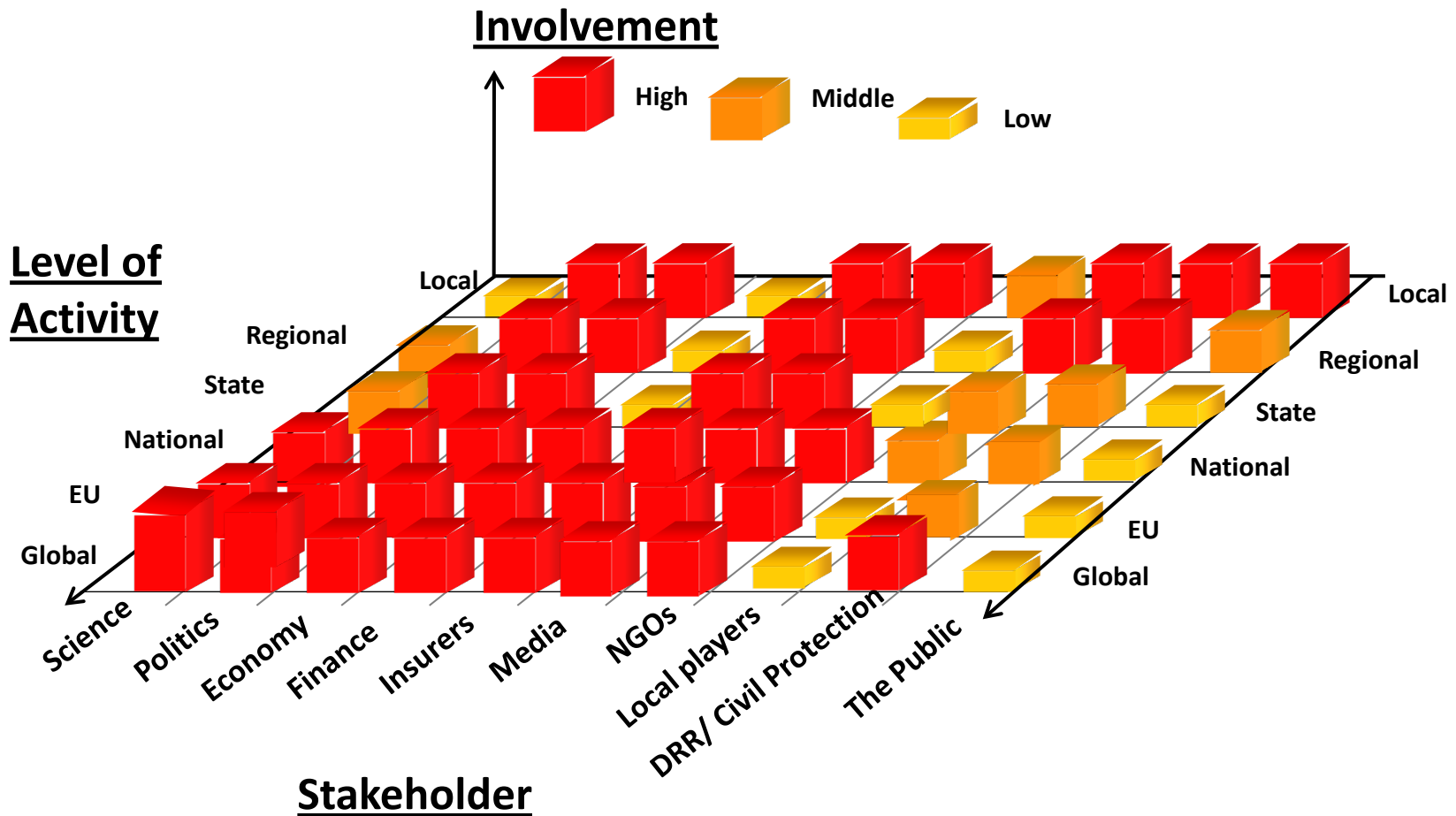
# EACH A MICRO COSMOS WITH SPECIAL CODES WITH DIFFERENT TIME FRAMES



Source: Freiwillige Feuerwehr WB, InnoCNT, Max Klose, NOAA, Thomas Imo/ photothek



# CLIMATE CHANGE: A MULTI-LEVEL STAKEHOLDER ISSUE



# FADING OUT EFFECT OF IDENTITIES



- The more Climate Change is getting in the focus of all acteurs,
- the more identities will fade out,
- the more „new“ forms of building identity will occure.



***DIE LINKE.***



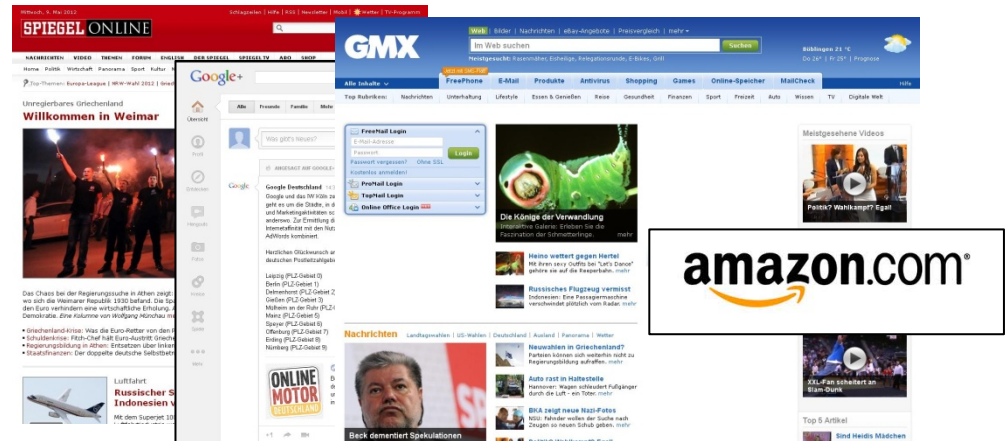
# CHANGE OF INFORMATIONAL BEHAVIOR (5 Y)



- From TV, Printmedia and Internet



- To Social Media and Custom Made Information



- Volatile informational behavior



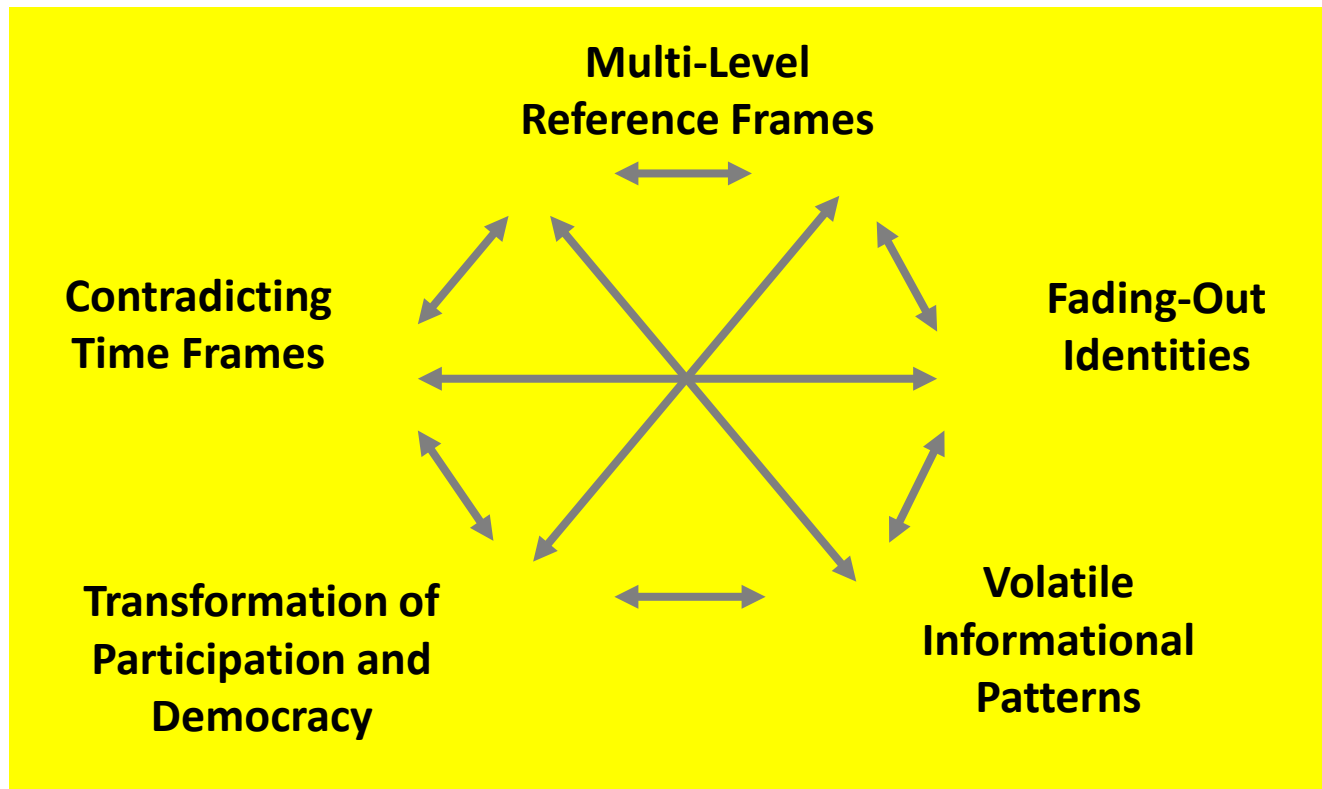
# NEW UNDERSTANDING OF PARTICIPATION AND DEMOCRACY



- Integrating new forms of information
- Dialogues instead of information
- Decentralization of decision making



# ACCELERATING SOCIETAL CHALLENGES





**NOT ONLY THE CLIMATE IS CHANGING**

# STORMY TIMES - CLIMATE CHANGE AND NATURAL DISASTERS AS SOCIETAL CHALLENGES



## 3-Years Stakeholder Analysis Project

### Providing:

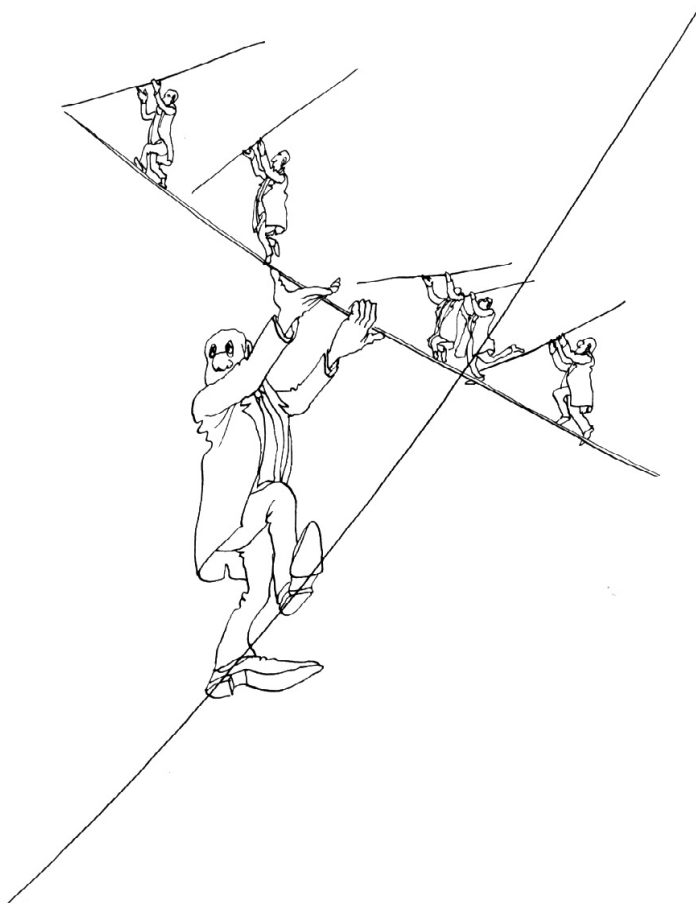
- Analysis of current change in each of the subsystems
- Collating best practice examples
- Taking up recommendations from each of the stakeholders



- Published in September 2012



# THERE IS NO ALTERNATIVE TO GO ON



Contact:  
Dr. Antje Grobe M.A.  
Managing Director

**DIALOG BASIS**  
Breitwasenring 15  
DE - 72135 Dettenhausen /  
Tuebingen  
Tel: ++49 (0)7157 721 331 -0  
Fax: ++49 (0)7157 721 185 0  
Mobil: ++49 (0)171 45 18 18 6  
[antje.grobe@dialogbasis.de](mailto:antje.grobe@dialogbasis.de)  
[www.dialogbasis.de](http://www.dialogbasis.de)

Source: Risk Dialogue Foundation

