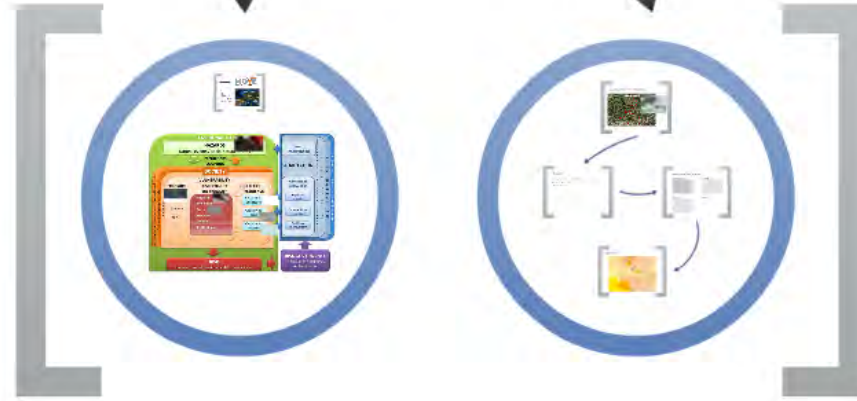


MOVE

Konzept

Umsetzung



Einführende, unreflektierte Gedanken zu Resilienz

Räumliche Modellierung von Vulnerabilität

Integration von Suszeptibilität und Resilienz

UNIVERSITÄT SALZBURG

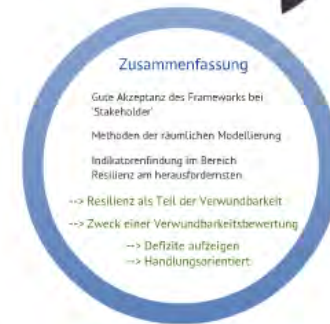
ZGIS

Dr. Stefan Kienberger
Interfakultäre Fachbereiche für Geoinformatik - Z_GIS | Universität Salzburg, Österreich
stefan.kienberger@sbq.ac.at | www.zgis.at

Vielen Dank



Fazit



Zusammenfassung

- Gute Akzeptanz des Frameworks bei 'Stakeholder'
- Methoden der räumlichen Modellierung
- Indikatorenfindung im Bereich Resilienz am herausfordernsten
- > Resilienz als Teil der Verwundbarkeit
- > Zweck einer Verwundbarkeitsbewertung
- > Defizite aufzeigen
- > Handlungsorientiert

Räumliche Modellierung von Vulnerabilität

Integration von Suszeptibilität und Resilienz



Dr. Stefan Kienberger

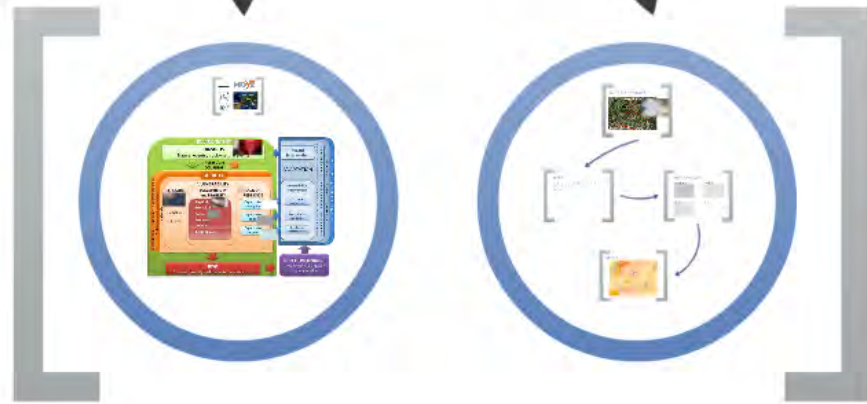
Interfakultärer Fachbereich für Geoinformatik - Z_GIS | Universität Salzburg, Österreich
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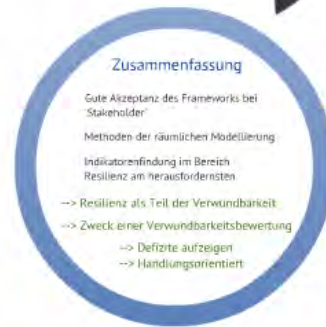
MOVE

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Räumliche Modellierung von Vulnerabilität

Integration von Suszeptibilität und Resilienz

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Vielen Dank



...das nächste Schlagwort
...die Herde zieht weiter...

...und nun sogar Cutter
[Cutter 2008]

...phonetisch schöner...

...wir erklär' ich das nun meinen
"Stakeholdern"...

...wie kann Konzept umgesetzt werden?

...bouncing back?

...Nutzen?

...wenn man das eine nicht versteht,
nimmt man das nächste...

...auf alle Fälle in den nächsten Antrag rein...



Definitions

ISDR

Resilience Alliance

The slide contains definitions for 'ISDR' and 'Resilience Alliance'. The 'ISDR' section includes a definition of disaster risk and a list of related terms. The 'Resilience Alliance' section includes a definition of resilience and a list of related terms.

...das nächste Schlagwort
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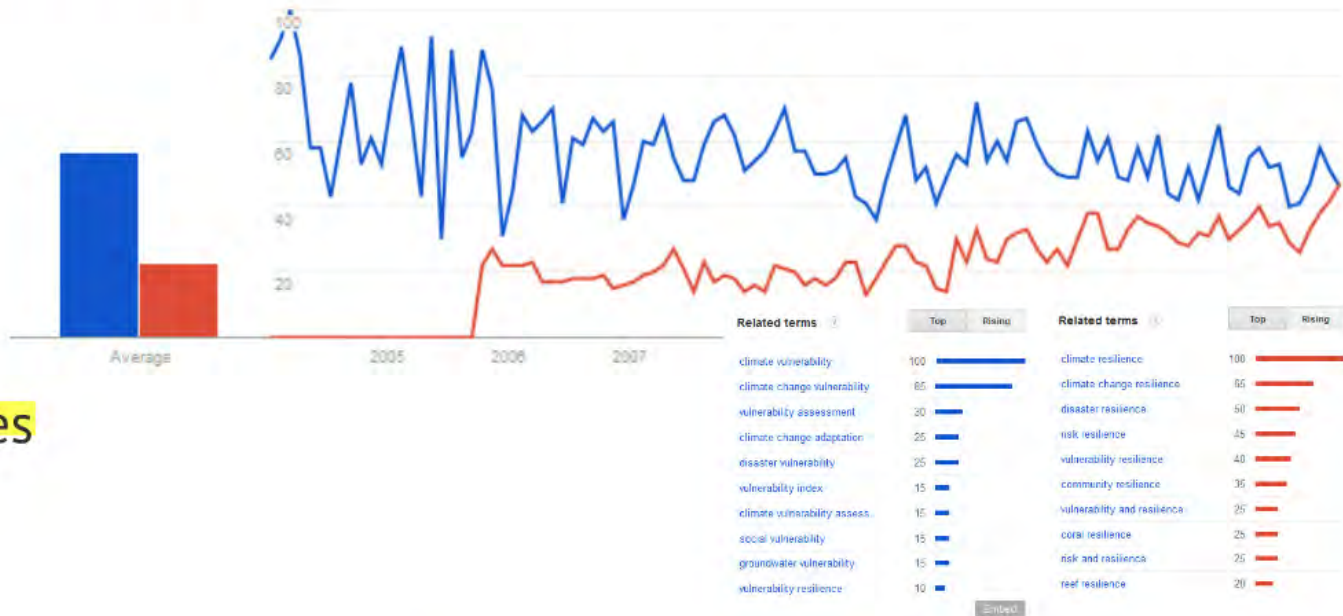
Google Trends

Search terms ?

- ×
- ×
- + Add term
- Other comparisons

Limit to

Earth Sciences

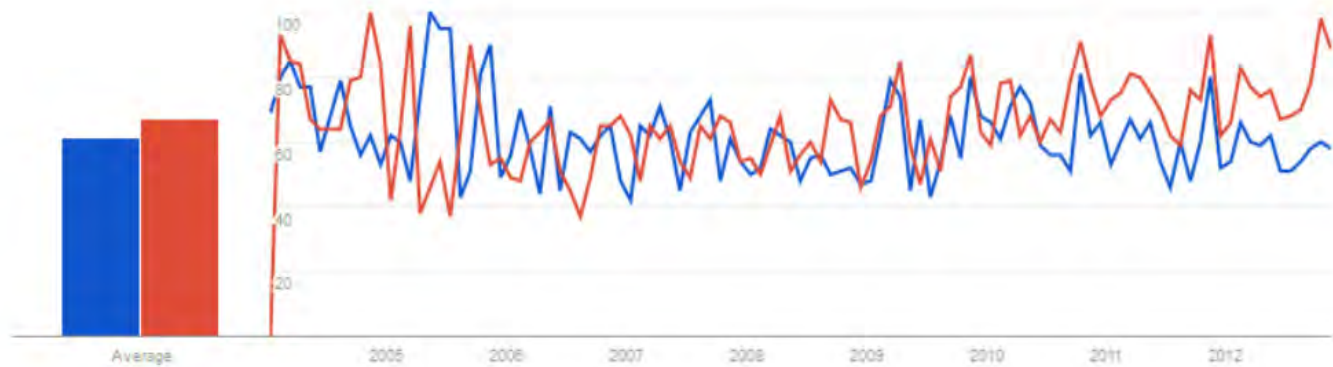


Search terms ?

- ×
- ×
- + Add term
- Other comparisons

Limit to

Environment & Ecology





Related terms ?

climate vulnerability	100	<div style="width: 100%;"></div>
climate change vulnerability	85	<div style="width: 85%;"></div>
vulnerability assessment	30	<div style="width: 30%;"></div>
climate change adaptation	25	<div style="width: 25%;"></div>
disaster vulnerability	25	<div style="width: 25%;"></div>
vulnerability index	15	<div style="width: 15%;"></div>
climate vulnerability assess...	15	<div style="width: 15%;"></div>
social vulnerability	15	<div style="width: 15%;"></div>
groundwater vulnerability	15	<div style="width: 15%;"></div>
vulnerability resilience	10	<div style="width: 10%;"></div>

Embed

Related terms ?

climate resilience	100	<div style="width: 100%;"></div>
climate change resilience	65	<div style="width: 65%;"></div>
disaster resilience	50	<div style="width: 50%;"></div>
risk resilience	45	<div style="width: 45%;"></div>
vulnerability resilience	40	<div style="width: 40%;"></div>
community resilience	35	<div style="width: 35%;"></div>
vulnerability and resilience	25	<div style="width: 25%;"></div>
coral resilience	25	<div style="width: 25%;"></div>
risk and resilience	25	<div style="width: 25%;"></div>
reef resilience	20	<div style="width: 20%;"></div>



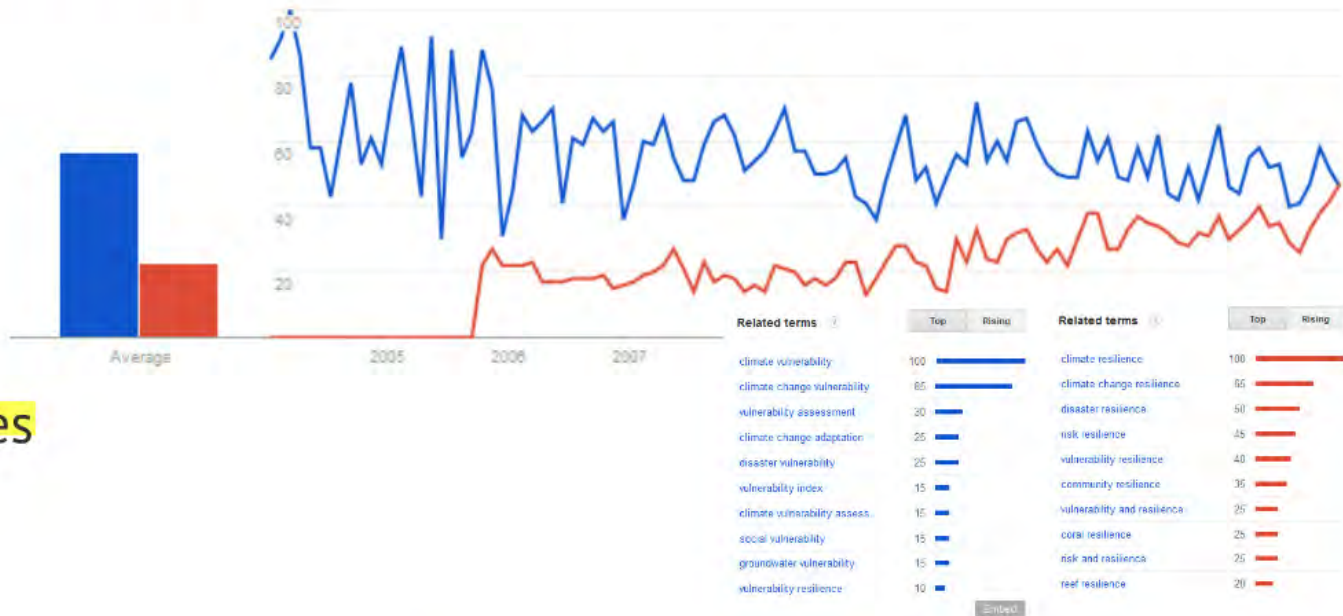
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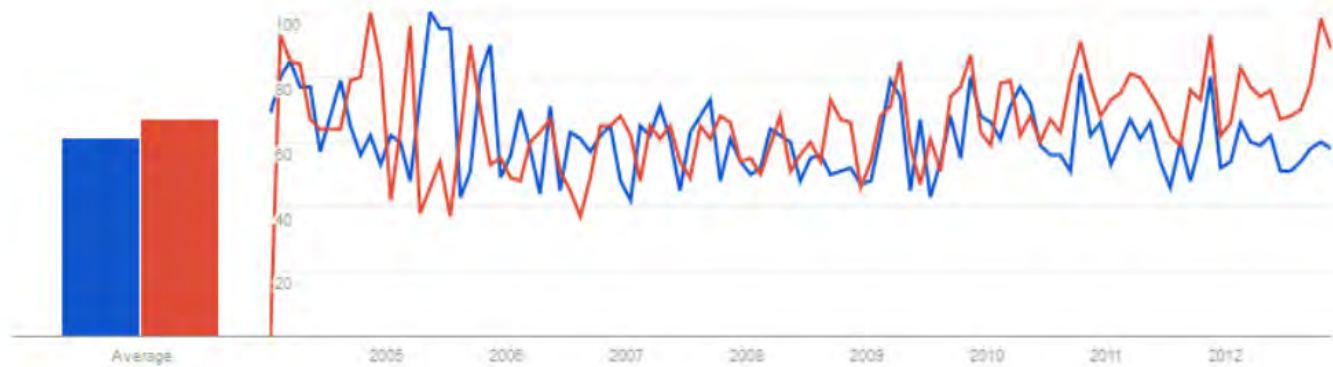


Search terms ?

- ×
- ×
- + Add term
- Other comparisons

Limit to

Environment & Ecology



Definitions

IFRC

For the IFRC, resilience is defined as:

The ability of individuals, communities, organisations, or countries exposed to disasters and crises and underlying vulnerabilities to:

- ↘ *anticipate,*
- ↘ *reduce the impact of,*
- ↘ *cope with,*
- ↘ *and recover from the effects of adversity without compromising their long-term prospects.*

ISDR

Resilience

The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.

Comment: Resilience means the ability to “resile from” or “spring back from” a shock. The resilience of a community in respect to potential hazard events is determined by the degree to which the community has the necessary resources and is capable of organizing itself both prior to and during times of need.

Resilience Alliance

Term

Resilience

Definition

Resilience is the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks.

Source

Walker, B., C. S. Holling, S. R. Carpenter, and A. Kinzig. 2004. Resilience, adaptability and transformability in social-ecological systems. *Ecology and Society* 9(2): 5. [online] URL: <http://www.ecologyandsociety.org/vol9/iss2/art5/>

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Resilience Alliance

Team

ISDR

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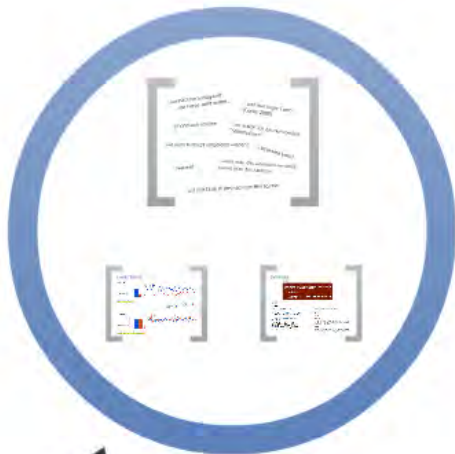
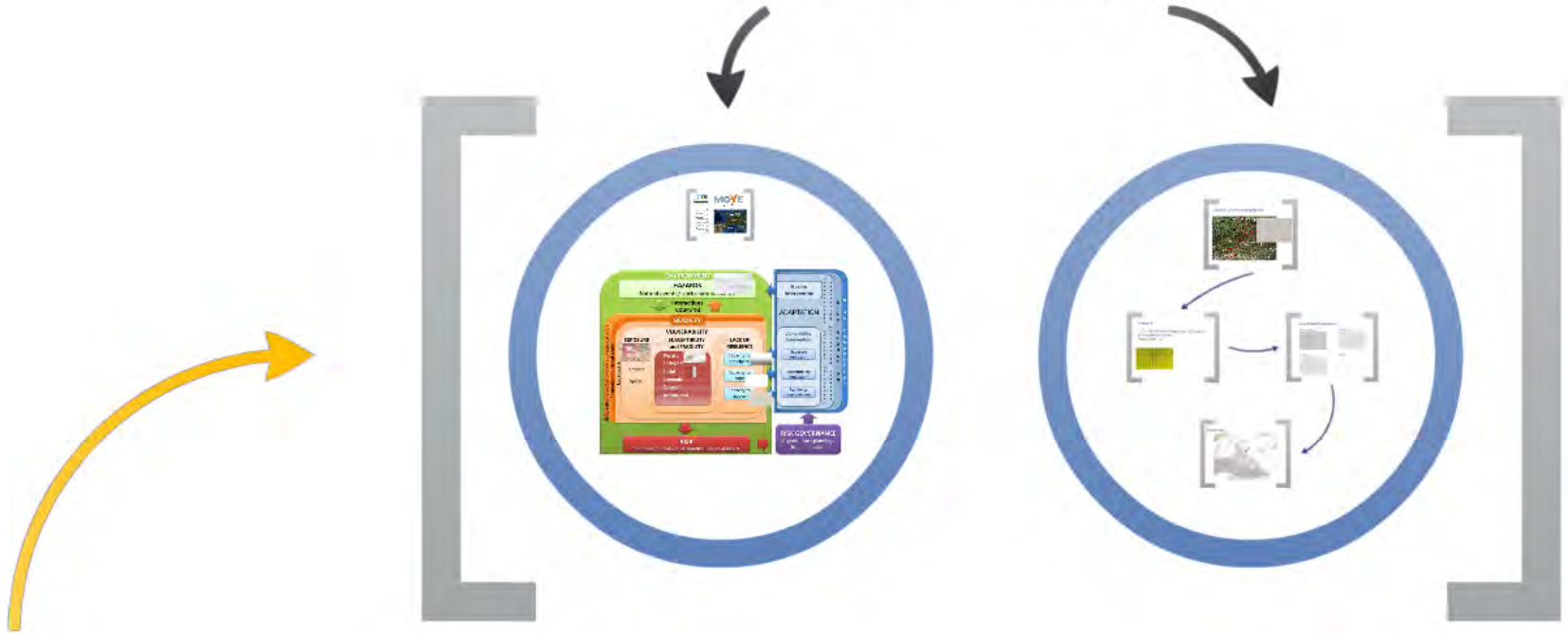
Source

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MOVE

Konzept

Umsetzung



Räumliche Modellierung von Vulnerabilität

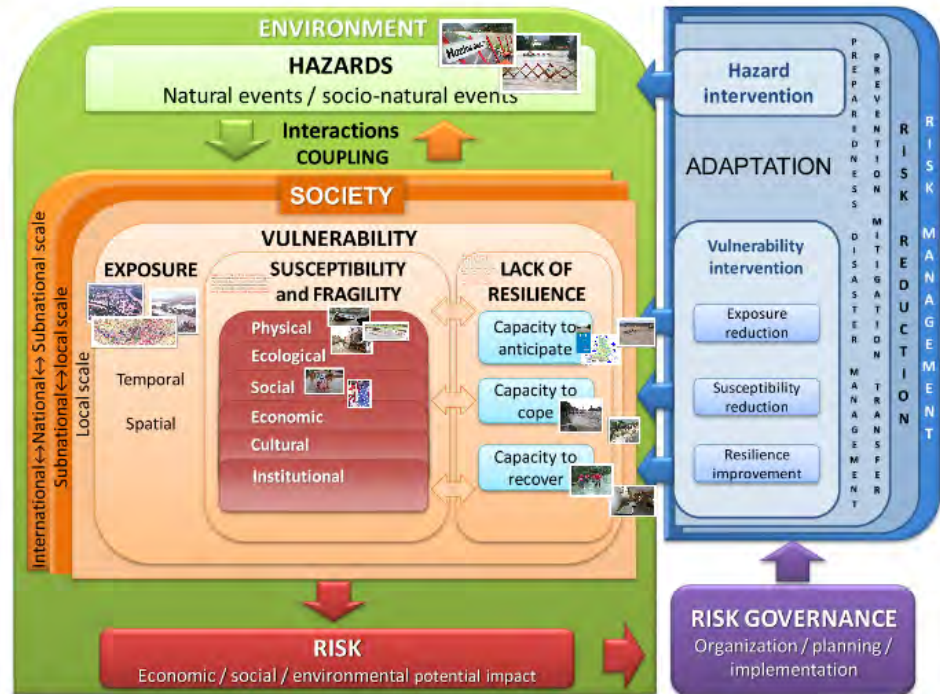
Integration von Suszeptibilität und Resilienz



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Vielen Dank





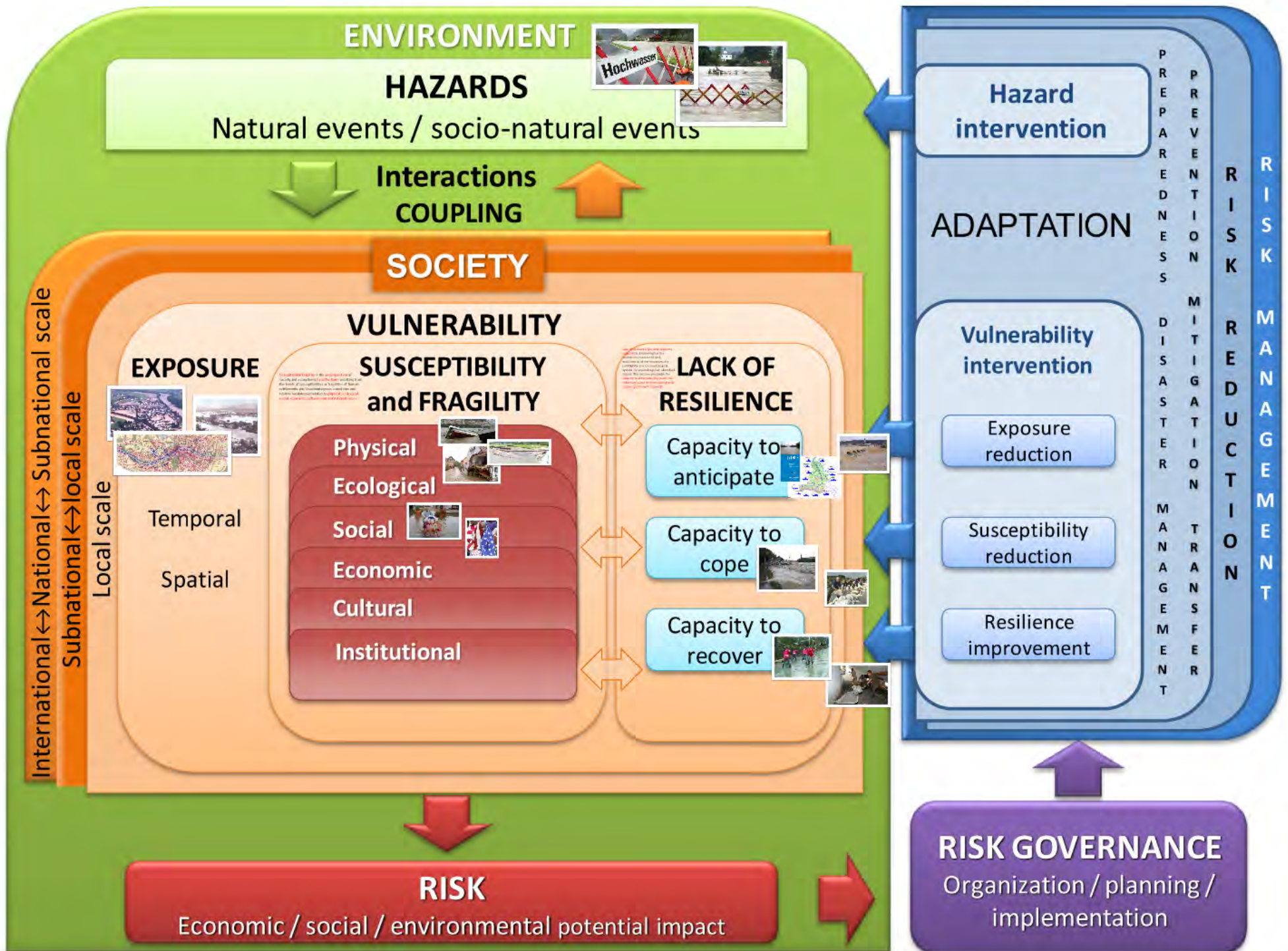
<http://www.move-fp7.eu/>
 Duration: 10/2008 – 09/2011

MOVE

Methods for the Improvement of
 Vulnerability Assessment in Europe

- University of Florence, ITALY, www.unifi.it 
- BRGM French geological Survey, FRANCE, www.brgm.fr 
- Centre for Geoinformatics, University of Salzburg, AUSTRIA, www.zgis.at 
- EURAC (European Academy, Institute of Applied Remote Sensing), ITALY www.eurac.edu 
- Atlas Innoglobe Tervező és Szolgáltatás Kft., HUNGARY www.atlasco.hu 
- King's College, University of London, UNITED KINGDOM, www.kcl.ac.uk 
- Norwegian Geotechnical Institute (NGI), NORWAY, www.ngi.no 
- Rupprecht Consult Forschung und Beratung GmbH, GERMANY, www.rupprecht-consult.eu 
- CIMNE, International Centre for Numerical Methods in Engineering, Barcelona, SPAIN, www.cimne.upc.es 
- United Nations University, Institute for Environment and Human Security, GERMANY, www.ehs.unu.edu 
- Dortmund University of Technology, GERMANY, www.tu-dortmund.de 
- University of Oporto, Faculty of Arts, PORTUGAL, www.letras.up.pt 
- University of Vienna, AUSTRIA, www.geomorph.univie.ac.at 





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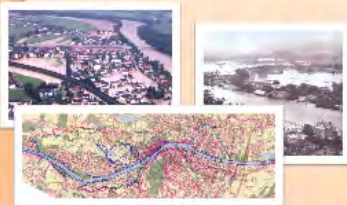


Interactions COUPLING

SOCIETY

VULNERABILITY

EXPOSURE



Susceptibility/fragility is the propensity of society and its systems to suffer harm resulting from the levels of susceptibility or fragilities of human settlements and their associated conditions and relative weaknesses related to physical, ecological, social, economic, cultural, and institutional factors.

SUSCEPTIBILITY and FRAGILITY

Physical



Ecological

Temporal

Social



Economic

Spatial

Cultural

Institutional

LACK OF RESILIENCE

Large-scale resilience (social response capability) is determined by the availability to access to and use of resources of a community or a sub-system of a system. It is related to its ability to absorb the disturbance and its ability to reorganize to maintain its basic structure and functions.

Capacity to
anticipate



Capacity to
cope



Capacity to
recover



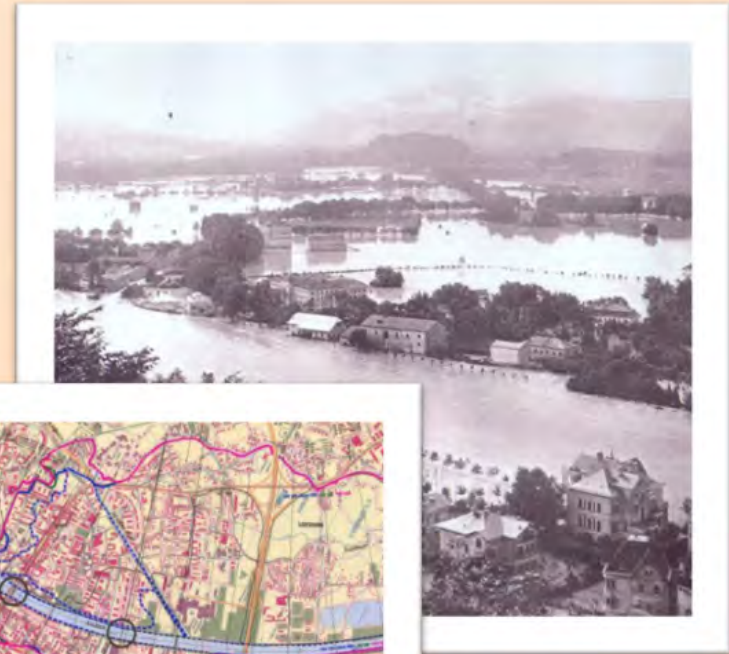
International ↔ National ↔ Subnational scale

Subnational ↔ local scale

Local scale



EXPOSURE



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Susceptibility/Fragility is the predisposition of society and ecosystems to suffer harm resulting from the levels of susceptibilities or fragilities of human settlements and disadvantageous conditions and relative weaknesses related to physical, ecological, social, economic, cultural, and institutional issues.

SUSCEPTIBILITY and FRAGILITY

Physical



Ecological

Social



Economic

Cultural

Institutional

Lack of resilience (societal response capacity) is determined by the limitations in access to and mobilization of the resources of a community or a social-ecological system in responding to an identified hazard. The resilience includes the capacity to anticipate (pre-event risk reduction), cope (in-time coping) and recover (post-event recovery).

LACK of RESILIENCE

Capacity to anticipate

Capacity to cope

Capacity to recover



Susceptibility/Fragility is the **predisposition** of society and ecosystems **to suffer harm** resulting from the levels of susceptibilities or fragilities of human settlements and disadvantageous conditions and relative weaknesses related to **physical, ecological, social, economic, cultural, and institutional issues**.

and FRAGILITY

Physical



Ecological



Social



Economic

ERABILITY

PTIBILITY

RAGILITY

nal

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LACK OF RESILIENCE

Capacity to anticipate

Capacity to cope

Capacity to recover



Vulnerable
interventions

Exposure
reduction

Susceptibility
reduction

Resilience
improvement

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TY

reducing, cope (in-time coping) and recover (post-event recovery).

RESILIENCE

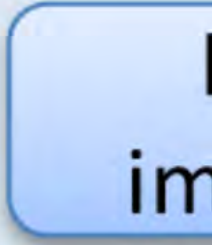
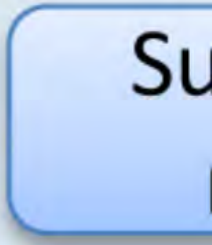
Capacity to anticipate

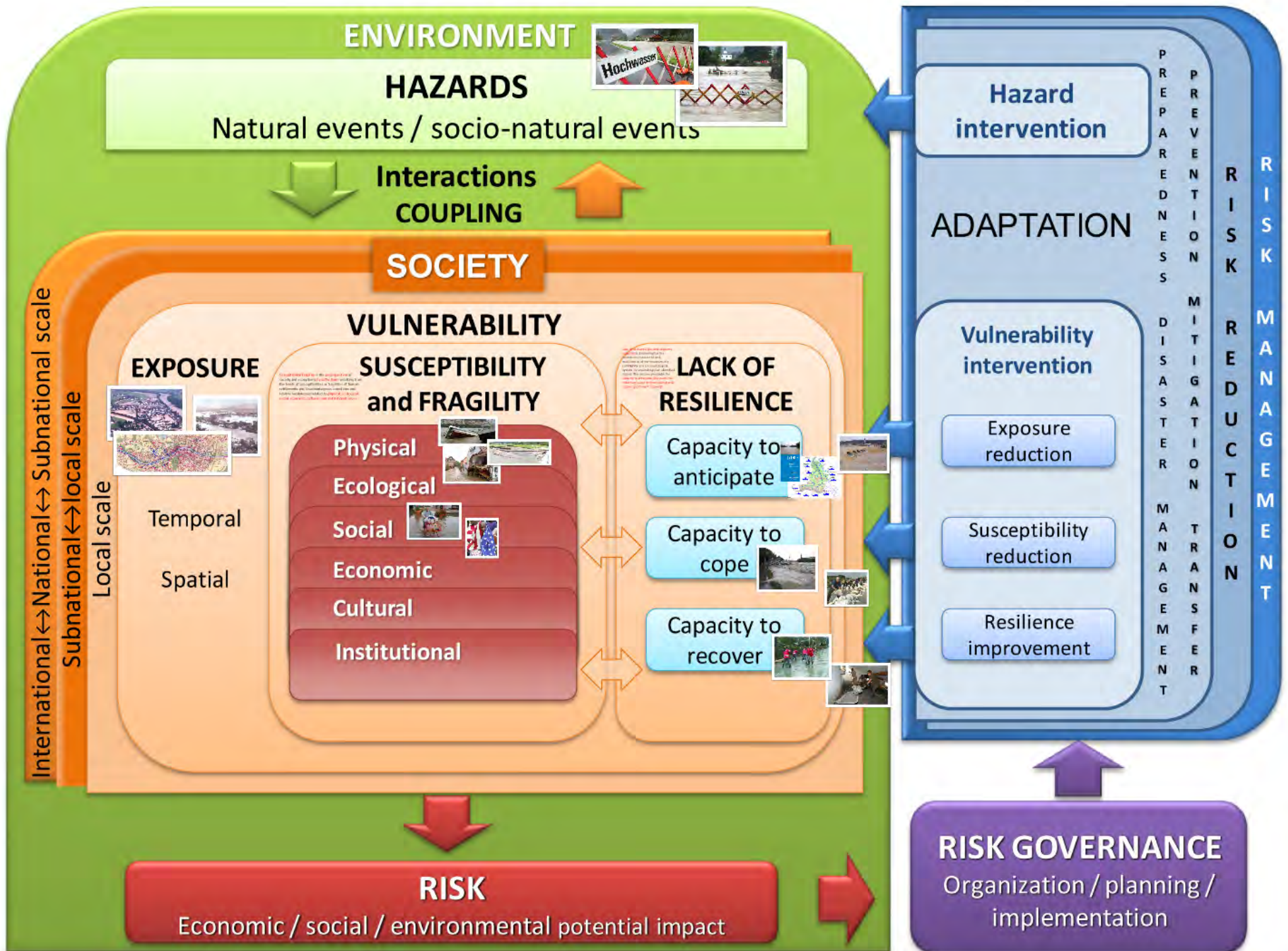


Capacity to cope



Capacity to recover

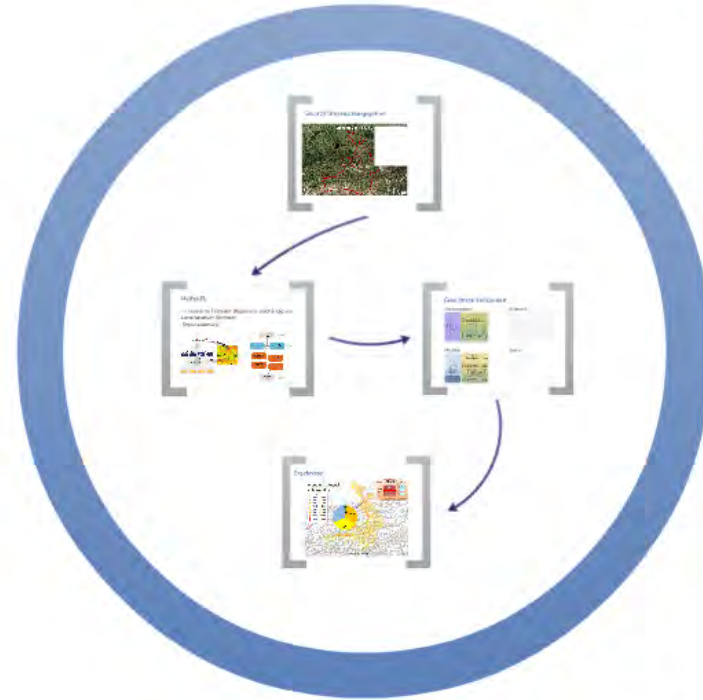




MOVE

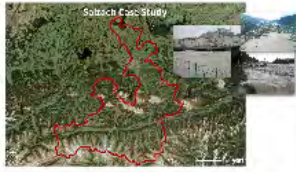
Konzept

Umsetzung



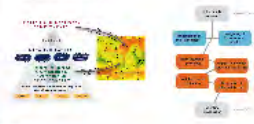


Salzach Untersuchungsgebiet



Methodik

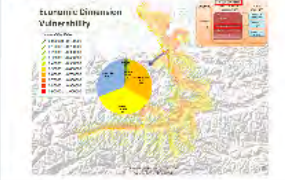
→ räumliche Einheiten (Regionen) unabhängig von administrativen Einheiten "Regionalisierung"



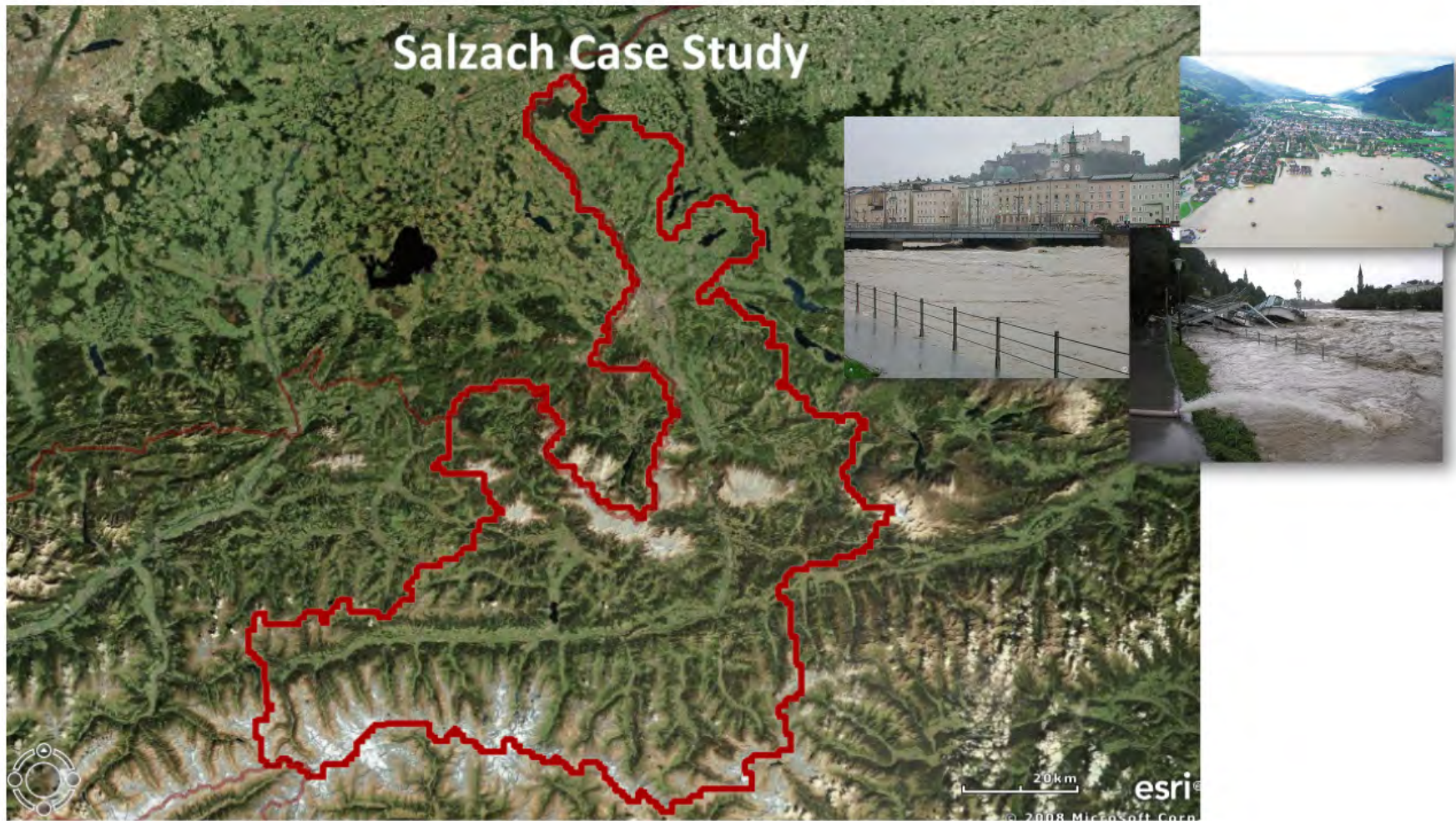
Gewichtete Indikatoren



Ergebnisse

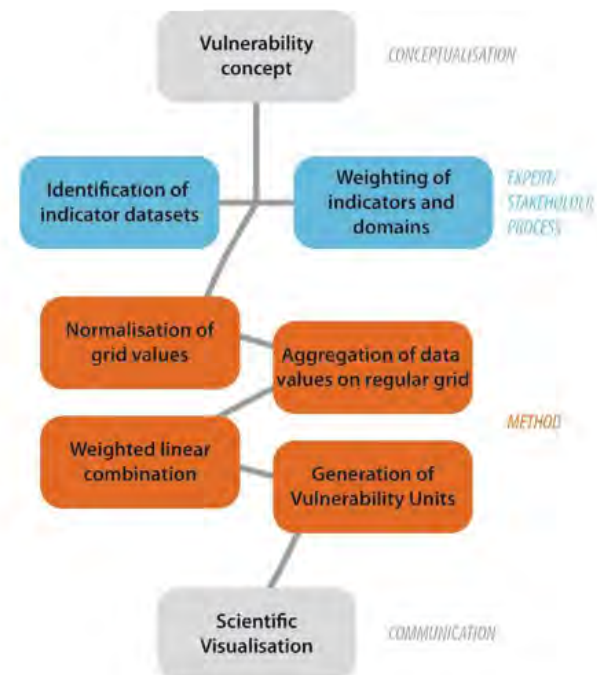
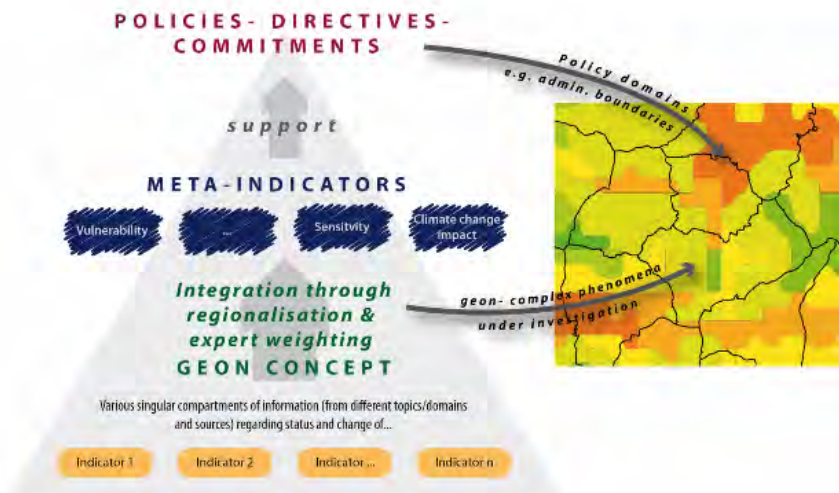


Salzach Untersuchungsgebiet



Methodik

--> räumliche Einheiten (Regionen) unabhängig von administrativen Einheiten
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Gewichtete Indikatoren

Environmental



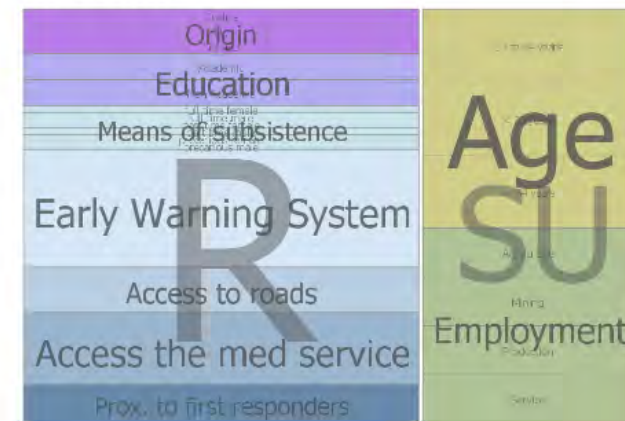
Economic



Physical

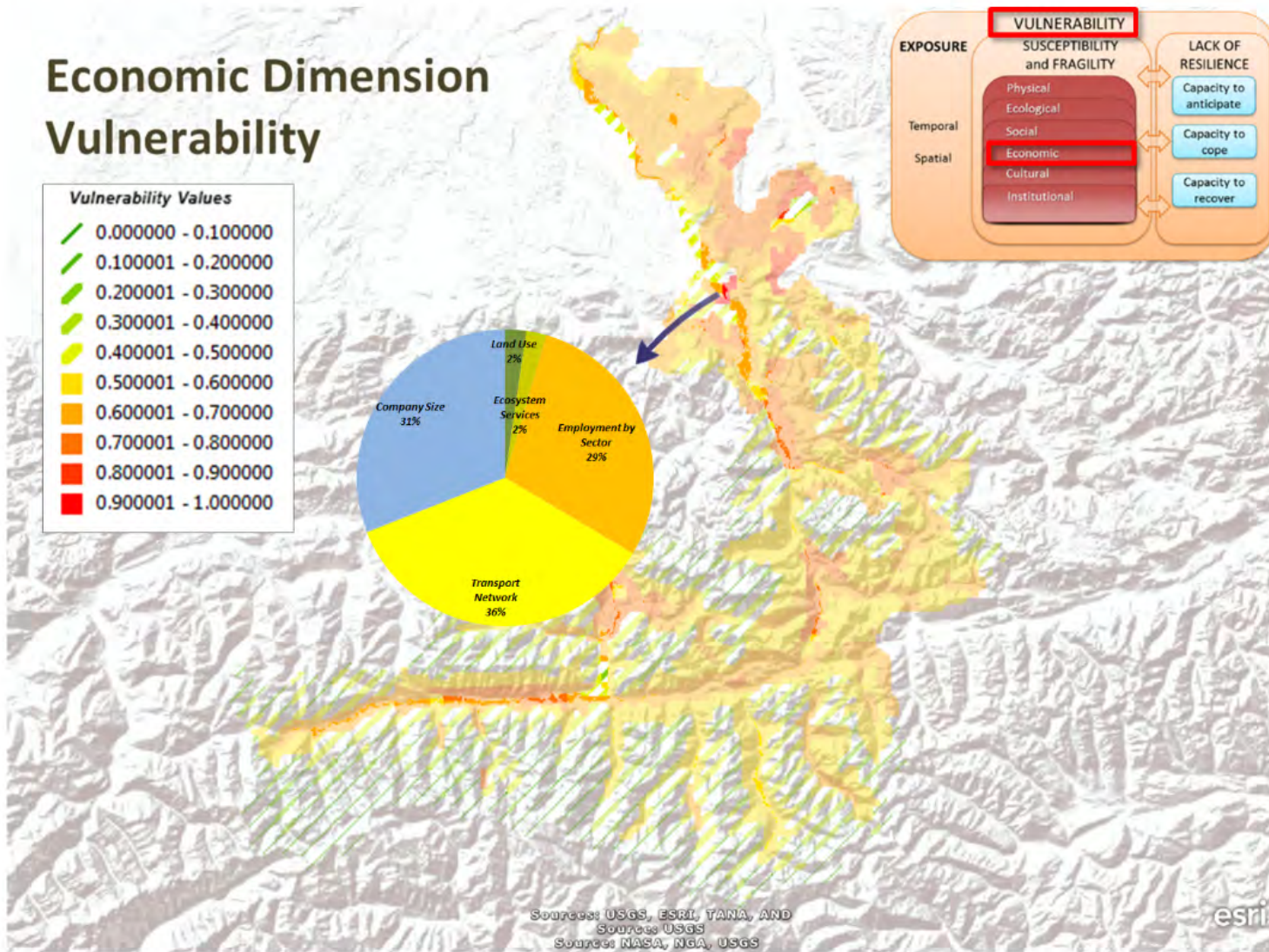
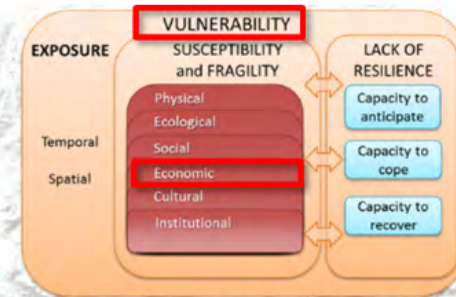
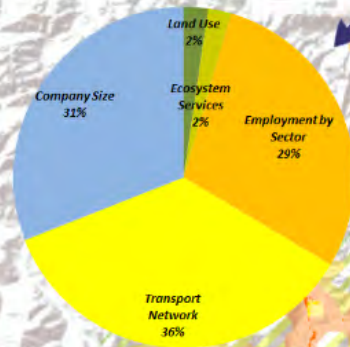
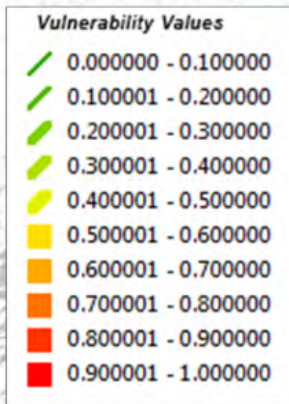


Social



Ergebnisse

Economic Dimension Vulnerability



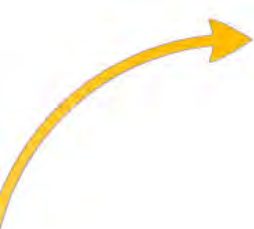
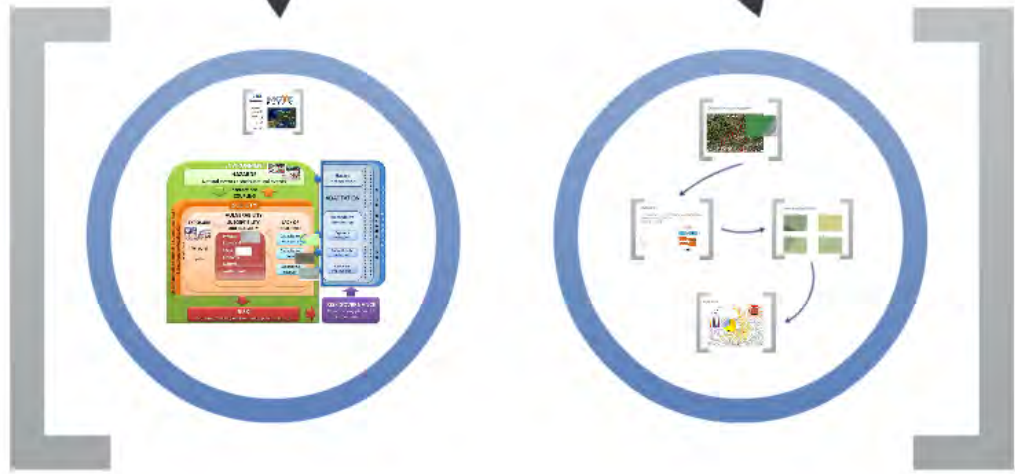
Sources: USGS, ESRI, TANA, AND
 Sources: USGS
 Sources: NASA, NGA, USGS



MOVE

Konzept

Umsetzung



Fazit



Räumliche Modellierung von Vulnerabilität

Integration von Suszeptibilität und Resilienz



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Vielen Dank

führende, unreflektierte
denken zu Resilienz

Zusammenfassung

Gute Akzeptanz des Frameworks bei
'Stakeholder'

Methoden der räumlichen Modellierung

Indikatorenfindung im Bereich
Resilienz am herausforderndsten

--> Resilienz als Teil der Verwundbarkeit

--> Zweck einer Verwundbarkeitsbewertung

--> Defizite aufzeigen

--> Handlungsorientiert

Räumliche Modellierung von Vulnerabilität

Integration von Suszeptibilität und Resilienz



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