

LIFE – Center for Climate, Energy & Society

Franz Pretenthaler, Director JR-LIFE



Climate change – From science to policy to application, 14.09.2016

2

LIFE – Center for Climate, Energy & Society

- Scientific research with a clear societal mission
 - Increase resilience vis á vis weather and climate risks
 - Facilitate transition towards a low carbon society

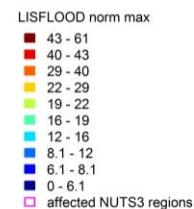
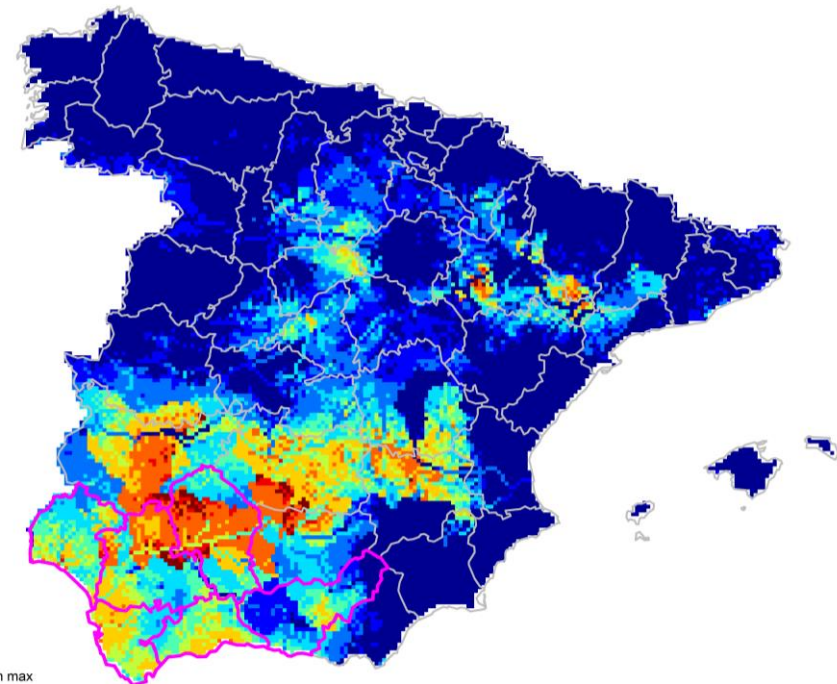
- We use satellite data for
 - Climate impact research (vulnerability assessment)
 - designing adaptation options
 - informing the mitigation battle



Spain

3

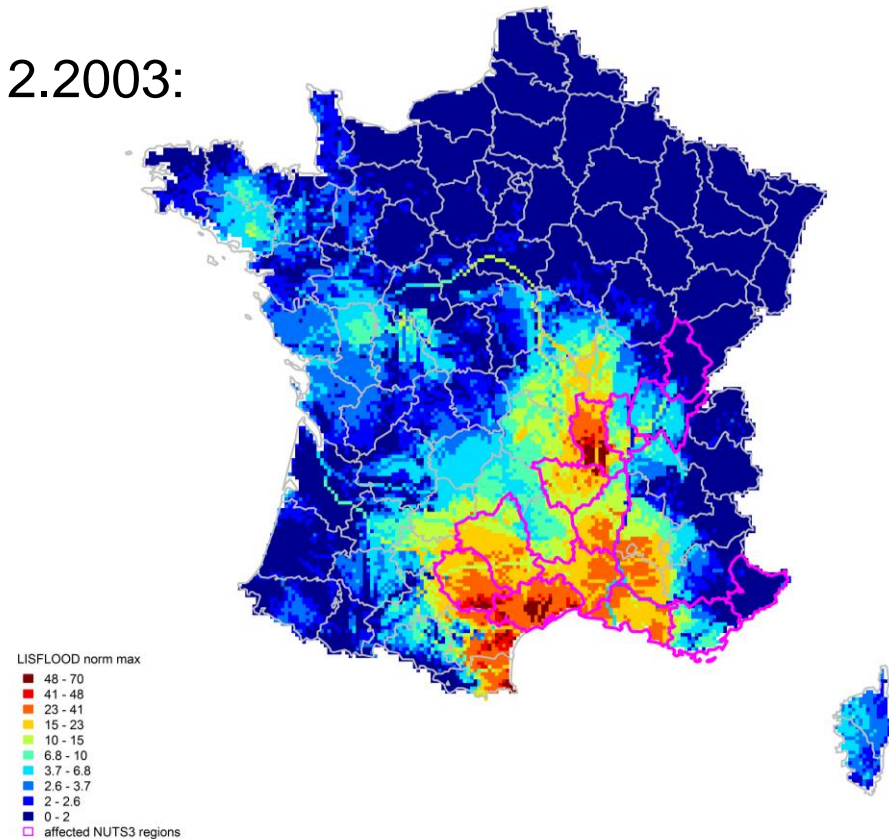
- Maximal total damages:
1280 Mio Euro (1996)
- Event from 13.12.1996
to 23.12.1996:
1280 Mio Euro



France

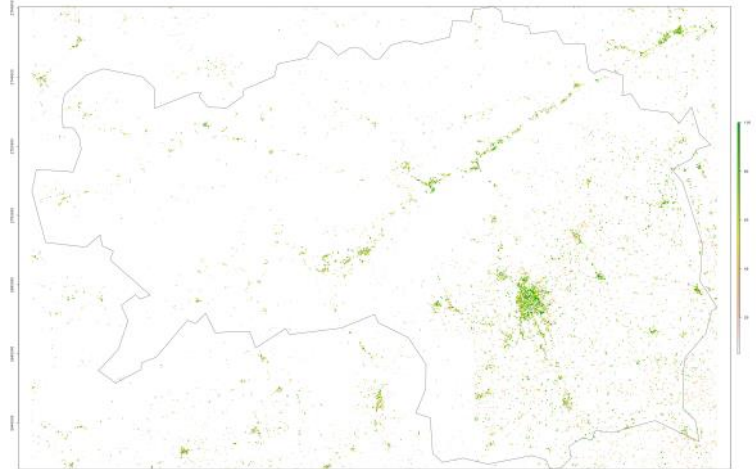
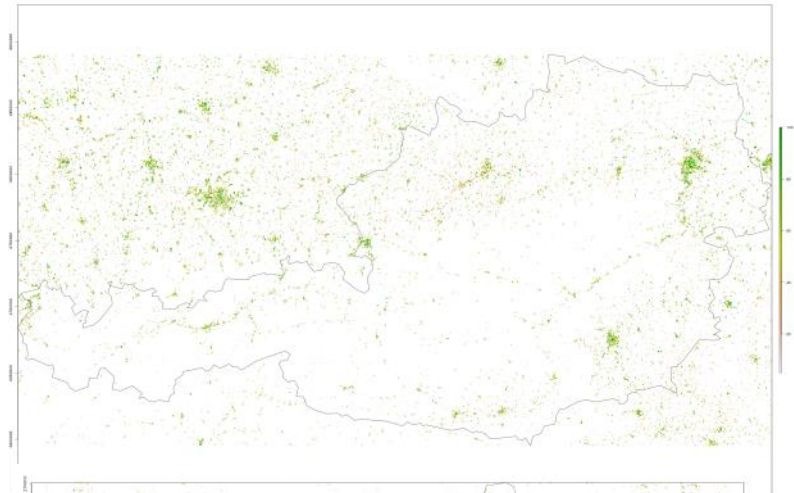
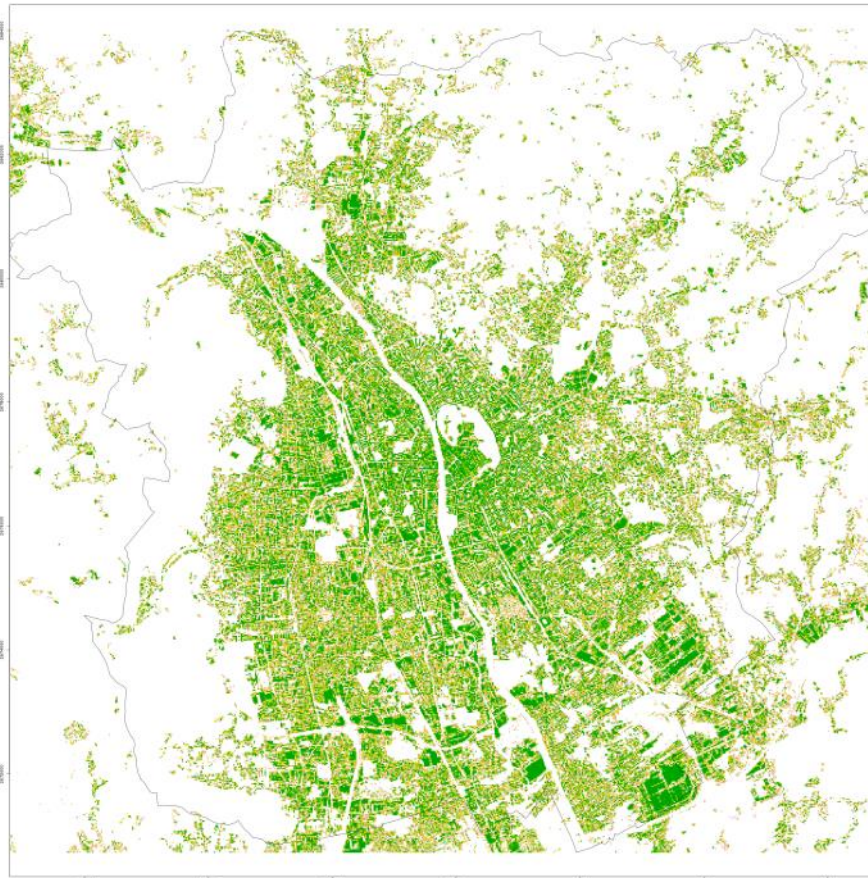
4

- Maximal total damages:
1660 Mio Euro (2003)
- Event from 2.12.2003 to 4.12.2003:
1660 Mio Euro



CC Impact assessment: Uniform building value data base

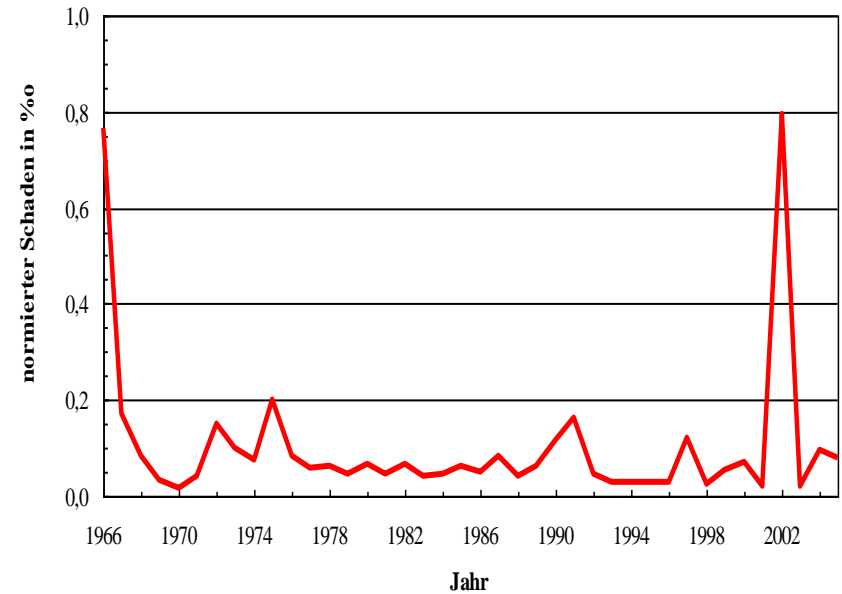
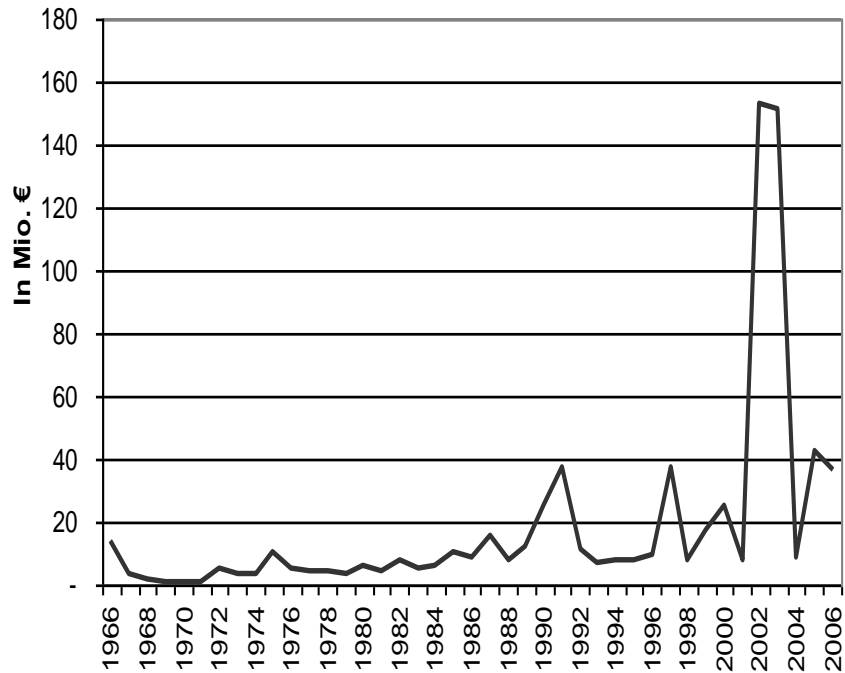
5



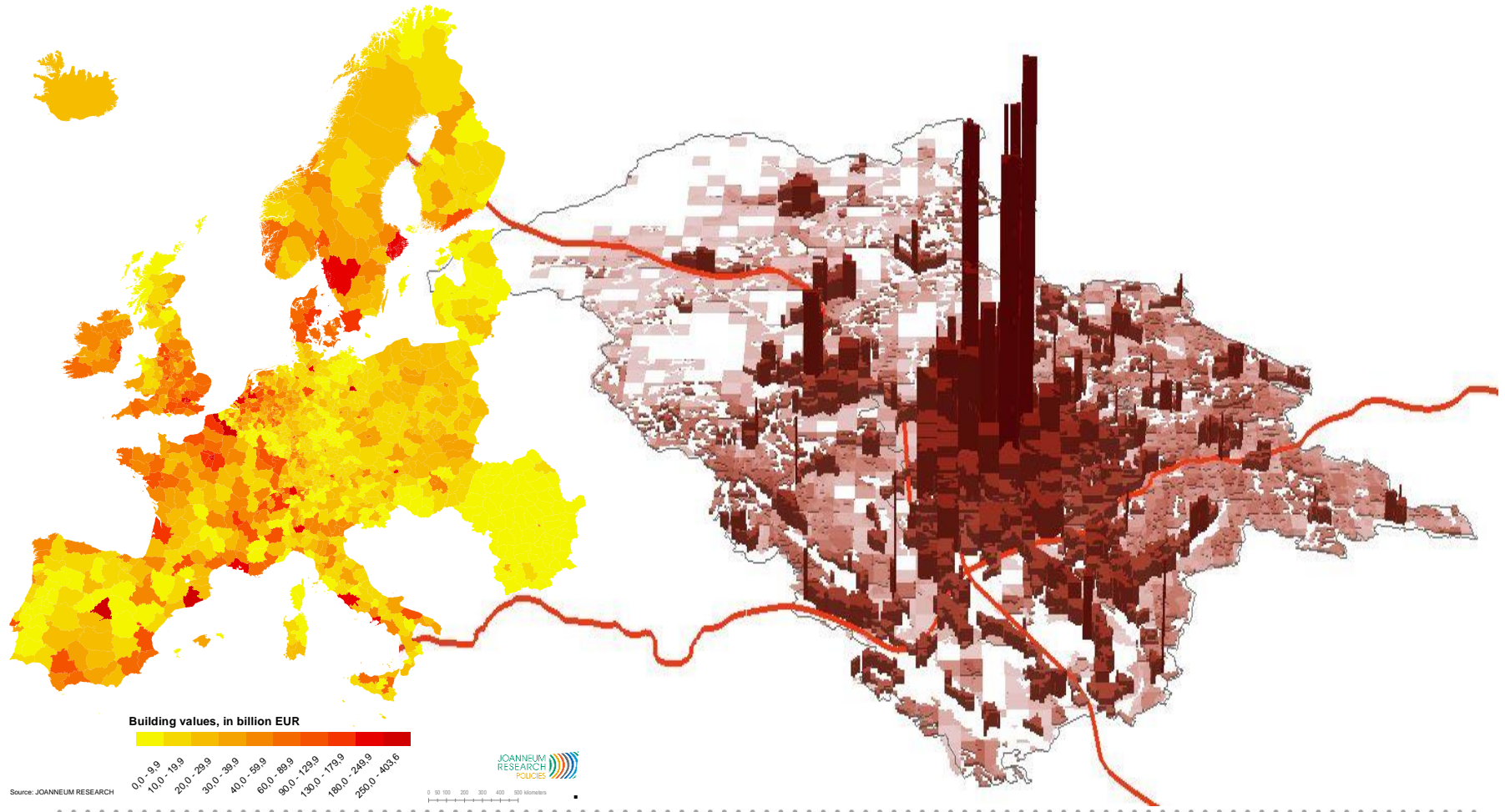
Source: COPERNICUS EMS (SPOT 5, SPOT 6)

Temporal normalization matters

6

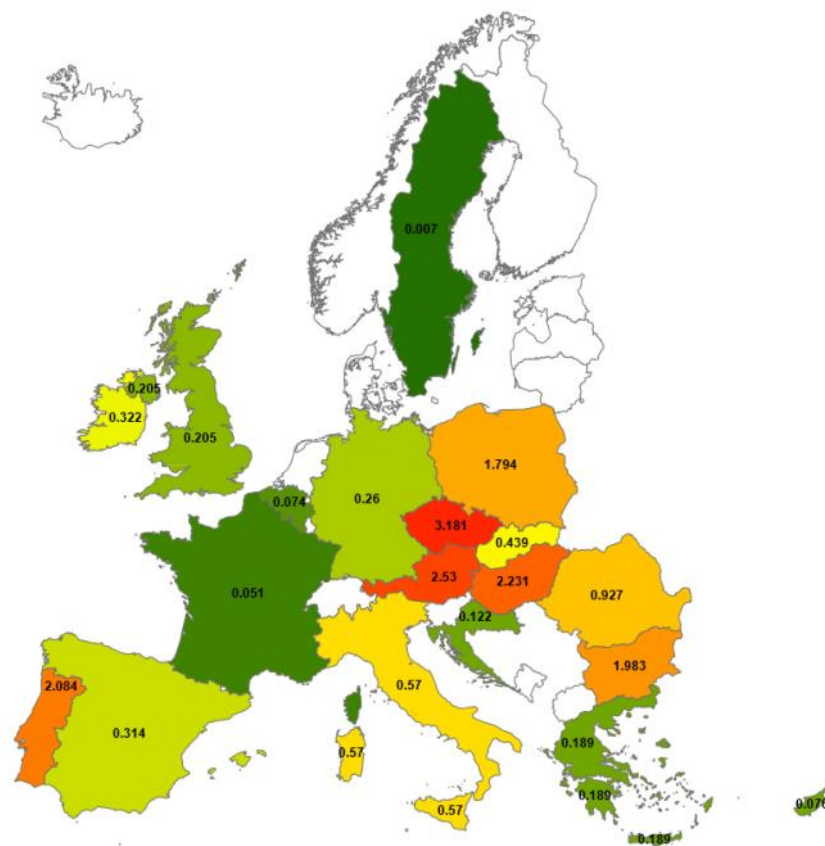


Start taking vulnerability serious



CC Impact assessment: Uniform building value data base

8

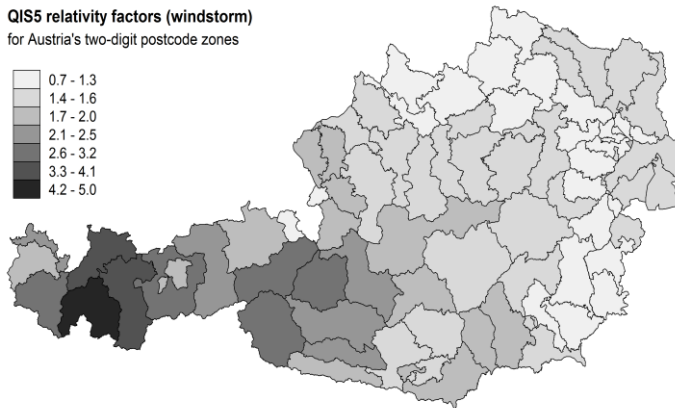
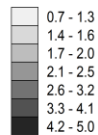


Source: Pretenthaler et al NHaz 2016

Results of neglecting socio-economics

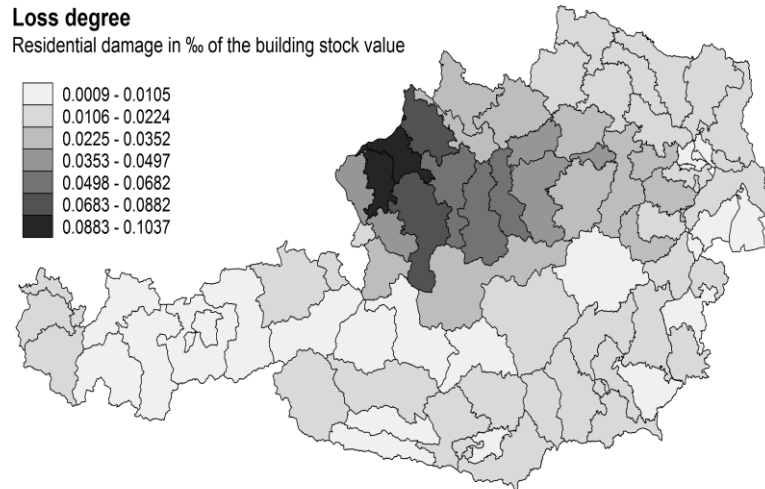
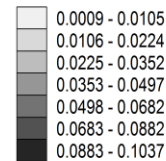
- Normalized damage based risk modelling is under-developed in Europe
 - Global vs regional scale based modeling
 - Damage and exposure data make the difference

QIS5 relativity factors (windstorm)
for Austria's two-digit postcode zones



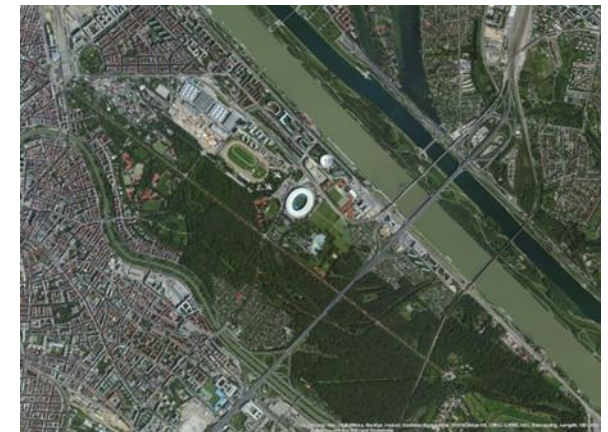
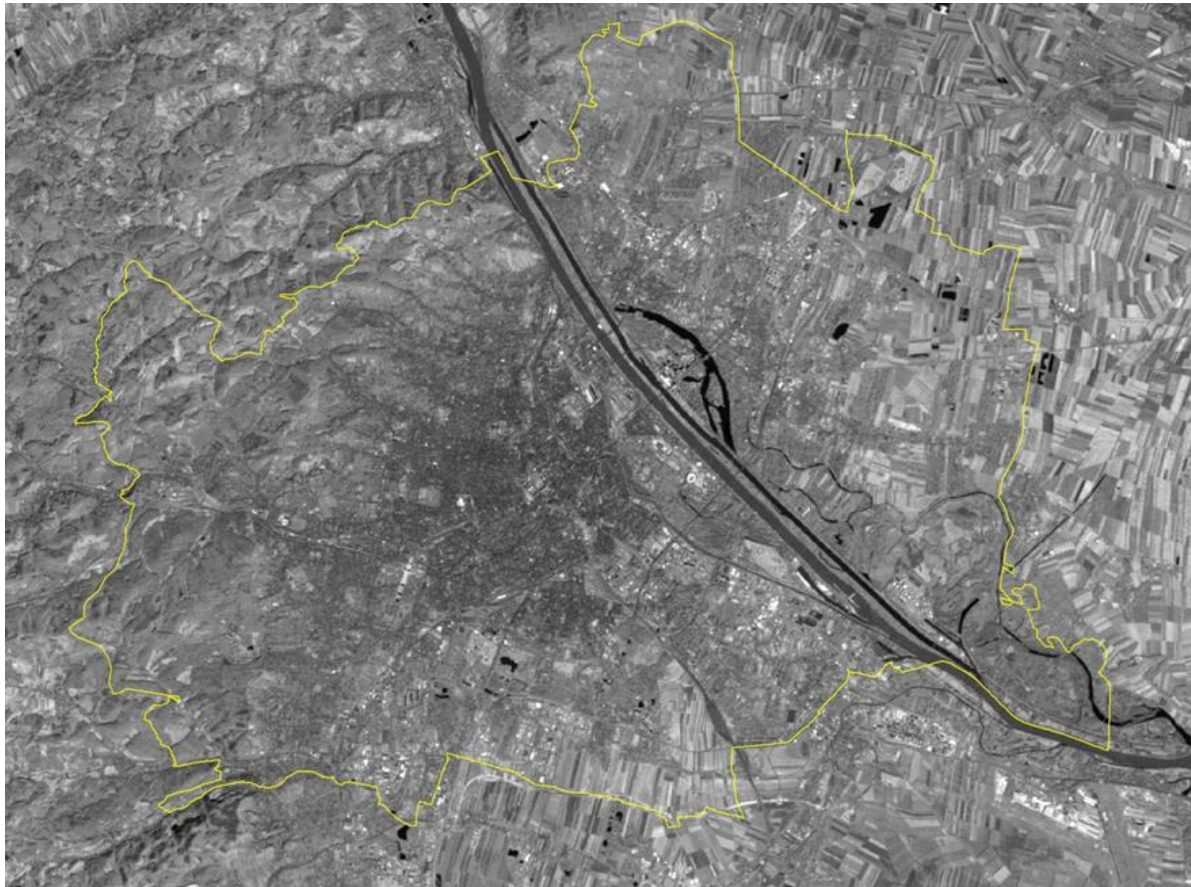
Loss degree

Residential damage in % of the building stock value



Adaptation: MODIS-Landsat: Albedo Data Vienna

10



Projekt KELVIN

Reduktion städtischer Wärmeinseln durch Verbesserung der Abstrahleigenschaften von Gebäuden und Quartieren

Quelle: NÖM



JOANNEUM RESEARCH

DI Dr. Hannes Schwaiger, DI Heinz Gallaun,
Neil Bird, MSc



ZAMG - Zentralanstalt für Meteorologie und Geodynamik
DI Dr. Maja Zuvela-Aloise



Federal Ministry
for Transport,
Innovation and Technology

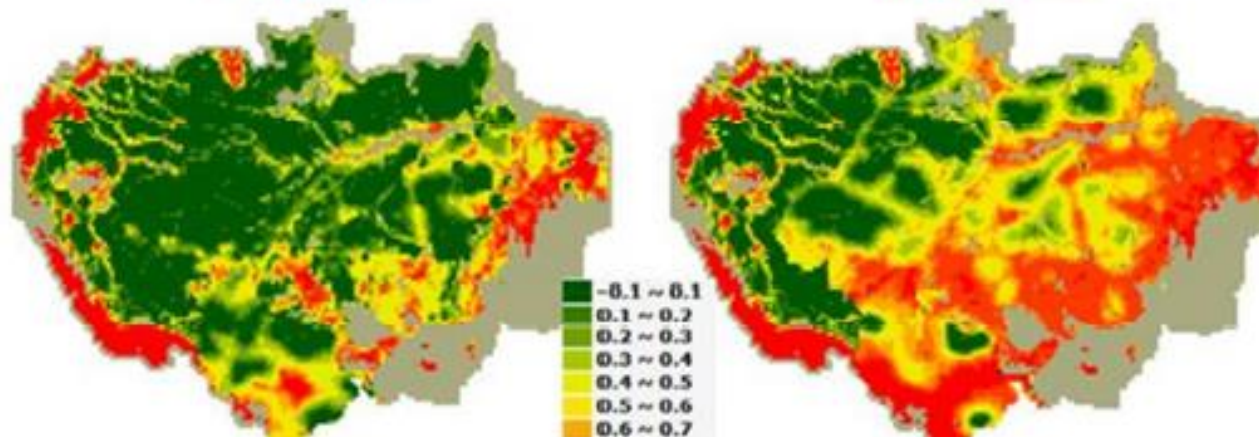
Wien, 26. November 2015

THE INNOVATION COMPANY

Mitigation battle: Detecting deforestation

Scenario A 2100
Deforestation

Scenario C1 2100
Deforestation



Projected hotspots of deforestation in the Amazon.
Source: AMAZALERT
Progress Report,
January 2015



Thank you for your attention



JOANNEUM RESEARCH
Forschungsgesellschaft mbH
**LIFE – Zentrum für Klima, Energie und
Gesellschaft**

Leonhardstraße 59, 8010 Graz

+43 316 876-6700

life@joanneum.at

www.joanneum.at/life