



INTACT Project: Guiding The User

Final Dissemination Event INFRARISK, Madrid, Spain

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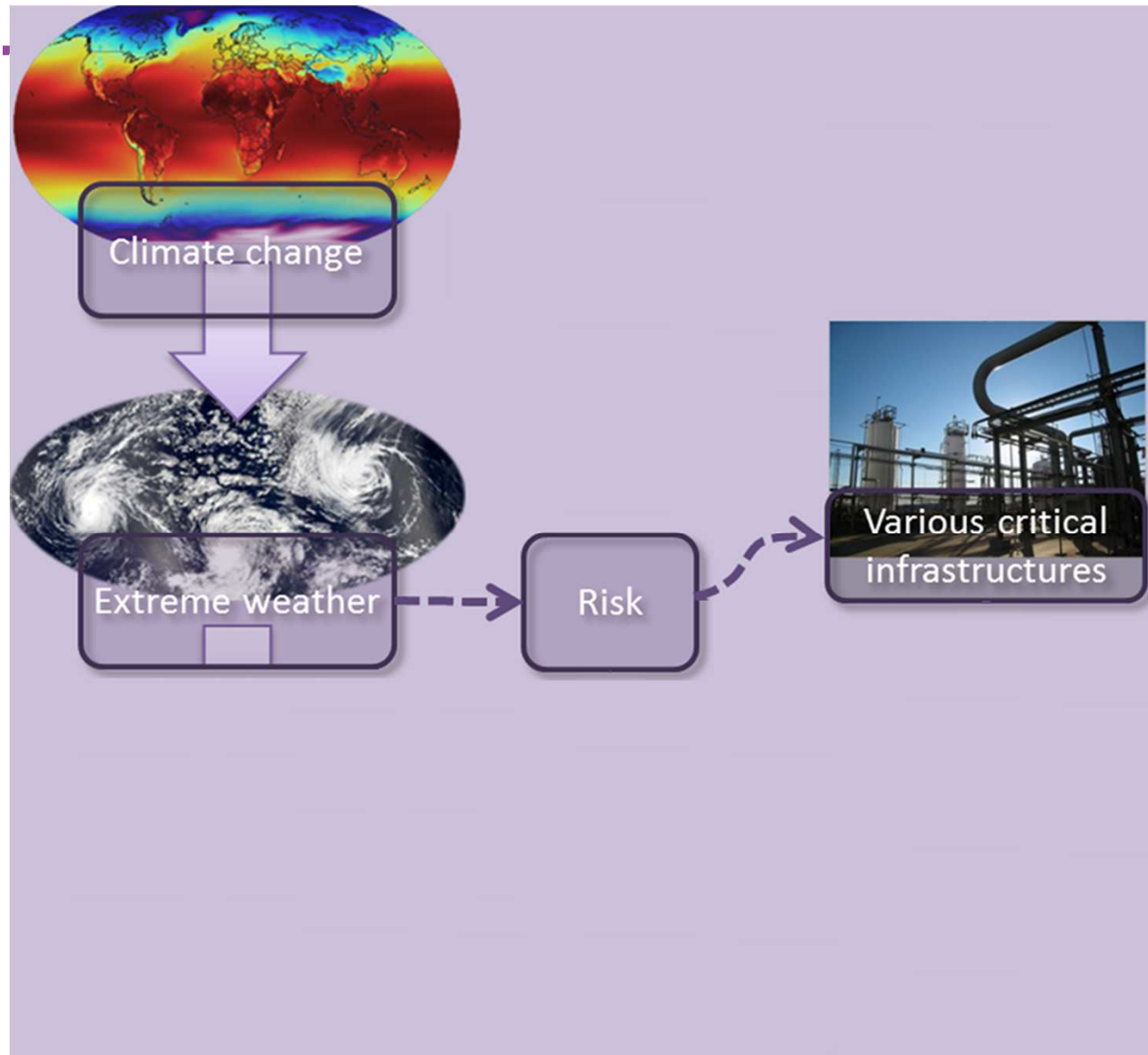
This research has received funding from the European Union Seventh Framework Programme under grant agreement no 606799. The information and views set out in this presentation are those of the author(s) and do not necessarily reflect the official opinion of the European Union.

INTACT Objectives

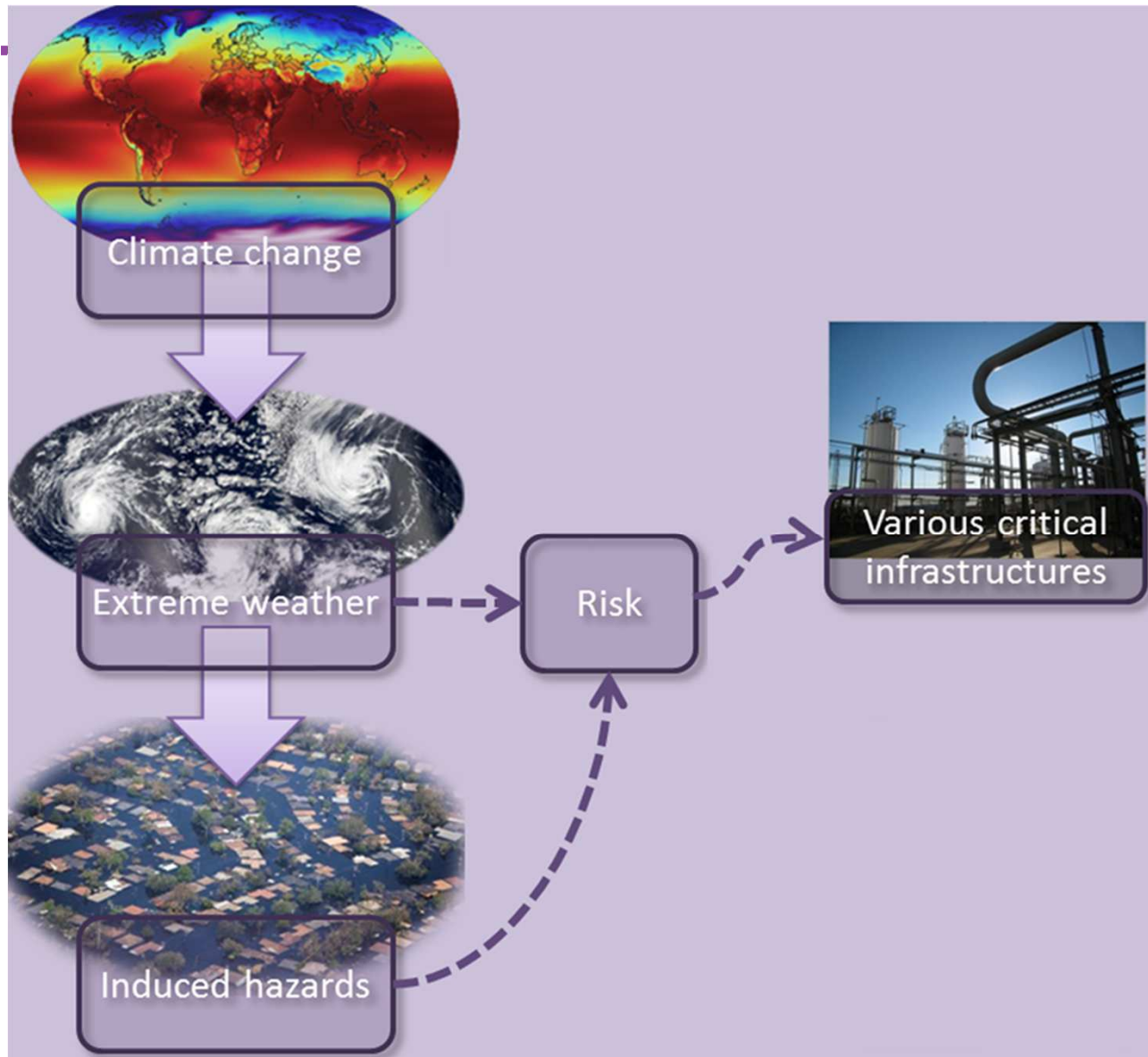
INTACT is an EU FP7 project which aims
to offer **Decision Support**
to **CI operators and policy makers**
regarding **Critical Infrastructure Protection (CIP)**
against **changing Extreme Weather Event (EWE) risks**
caused by **climate change**



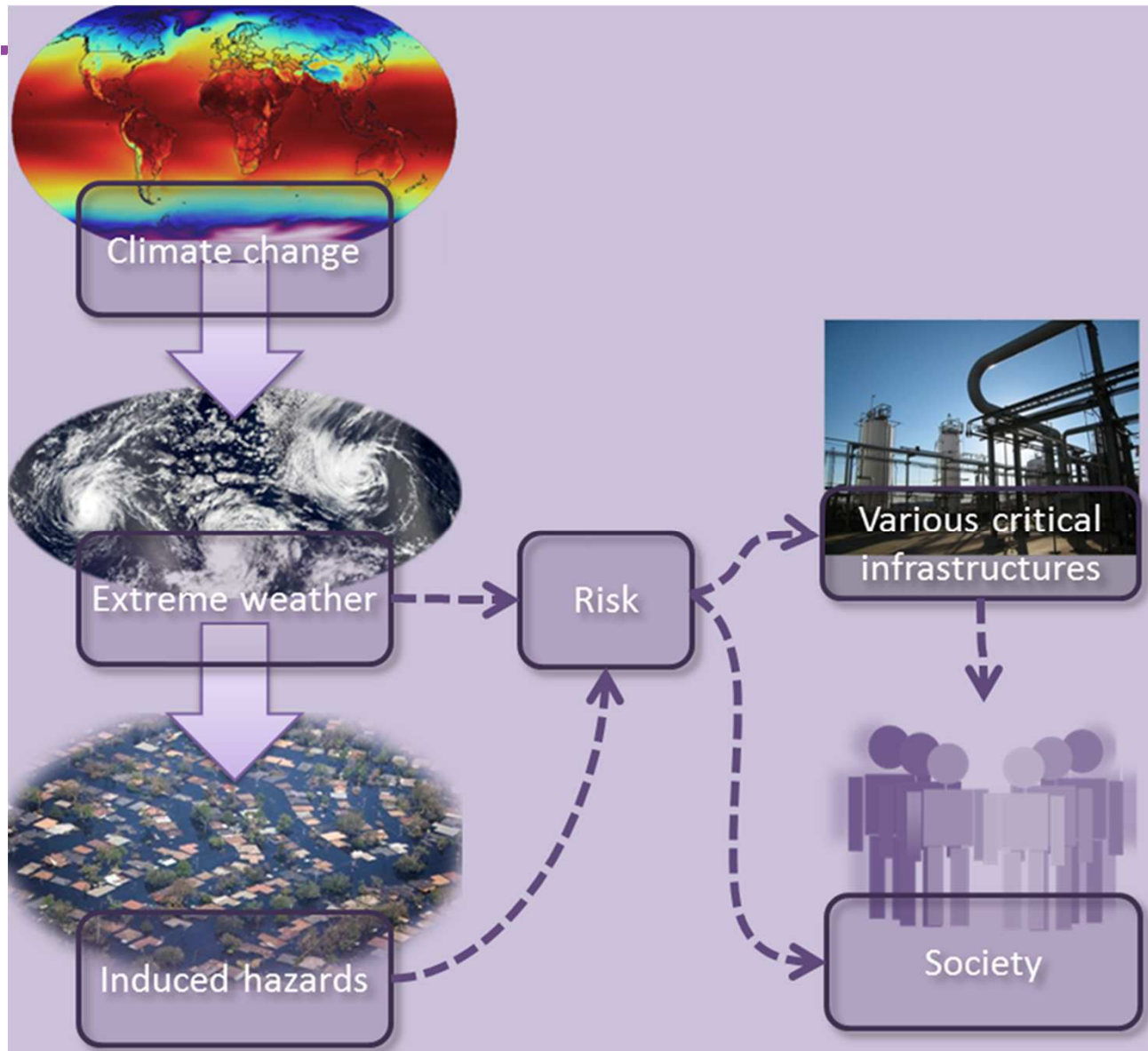
INTACT main concept



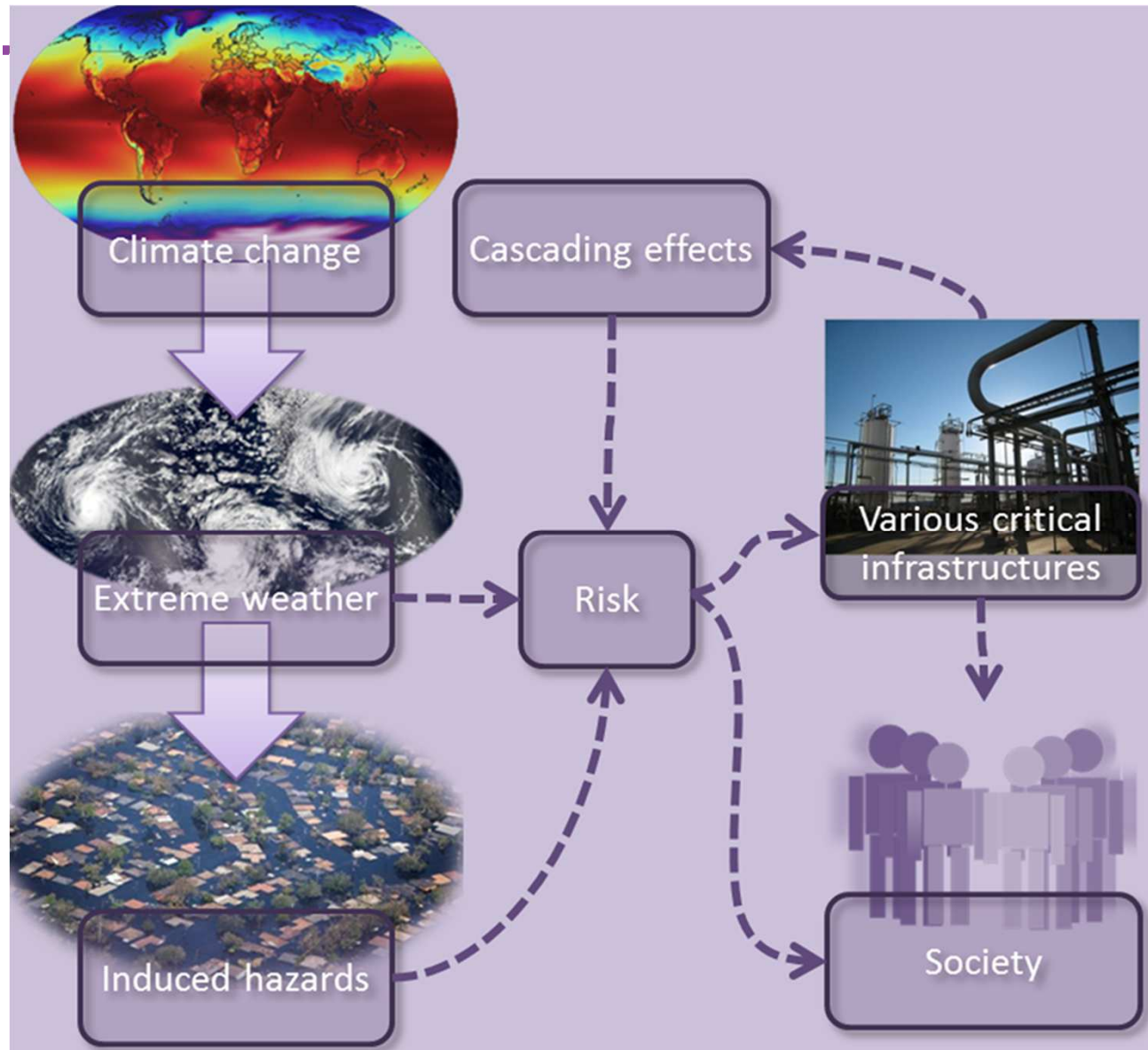
INTACT main concept



INTACT main concept



INTACT main concept

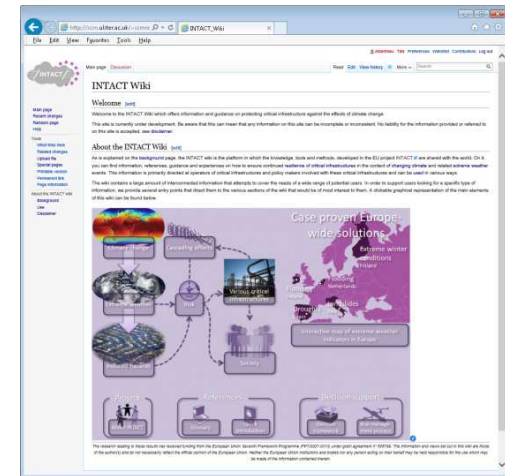


INTACT main results: Wiki (1/2)

www.intact-wiki.eu

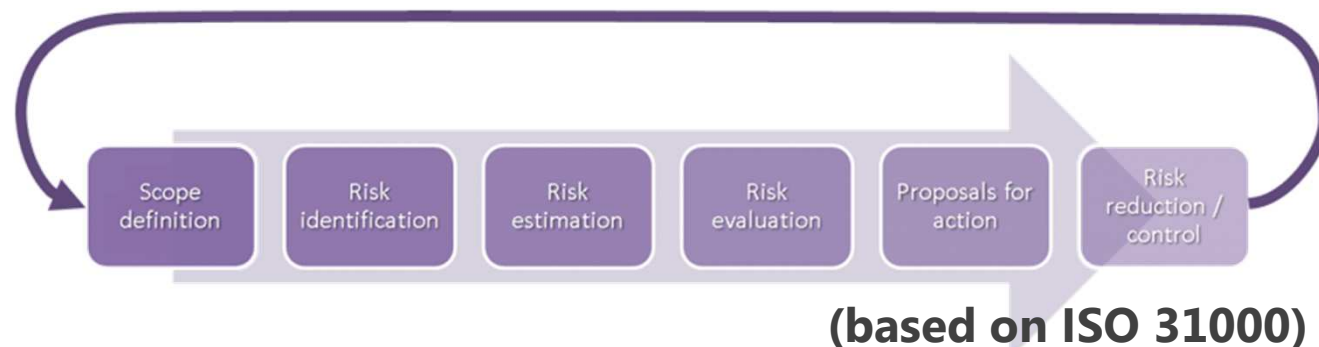
The **INTACT Wiki** is:

- A platform in which the knowledge, tools and methods, developed in the project are shared with the world.
- On it, you can find information, references, guidance and experiences on how to ensure continued resilience of CIs in the context of changing climate and related EWEs.
- This information is primarily directed at operators of CIs and policy makers involved with these.



INTACT main results:

Decision support Framework (2/2)

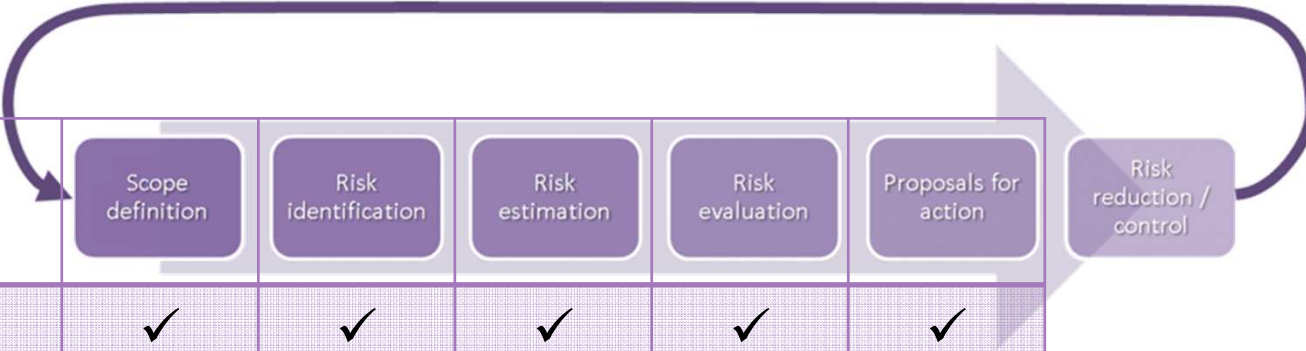


The **Decision support framework** is:

- A proven risk management process that can be applied to assess and increase the resilience of CI to changing climate and changing EWE:

In each step, the user is guided with which tools/ sources of information are useful for what reason and how to interpret subsequent outputs.

INTACT main results: Decision support Framework (2/2)



Tool / method	Scope definition	Risk identification	Risk estimation	Risk evaluation	Proposals for action	Risk reduction / control
Delphi method	✓	✓	✓	✓	✓	
Storyline approach		✓	✓	✓	✓	
CIRCLE tool	✓	✓				
Hazards and operability study (HAZOP)			✓	✓	✓	
Scenario analysis	✓	✓	✓	✓	✓	
Analytic hierarchy process (AHP)		✓			✓	
Risk index			✓	✓		

INTACT main results: Decision support Framework (2/2)



Circle - Critical Infrastructure: Relations and Consequences for Life and Environment

Main roads and tunnels

Railways

Wastewater

Drinking water

Electricity High

Electricity Mid

Electricity Low

Gas network

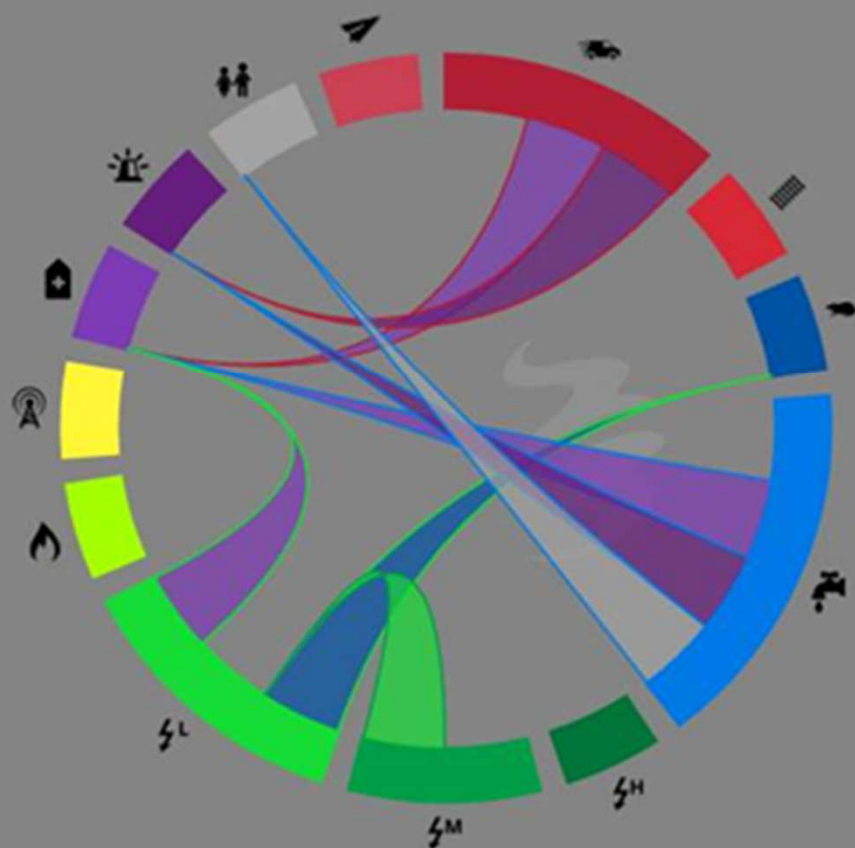
Telecommunication network

Hospital

Emerg. Coord. Centres

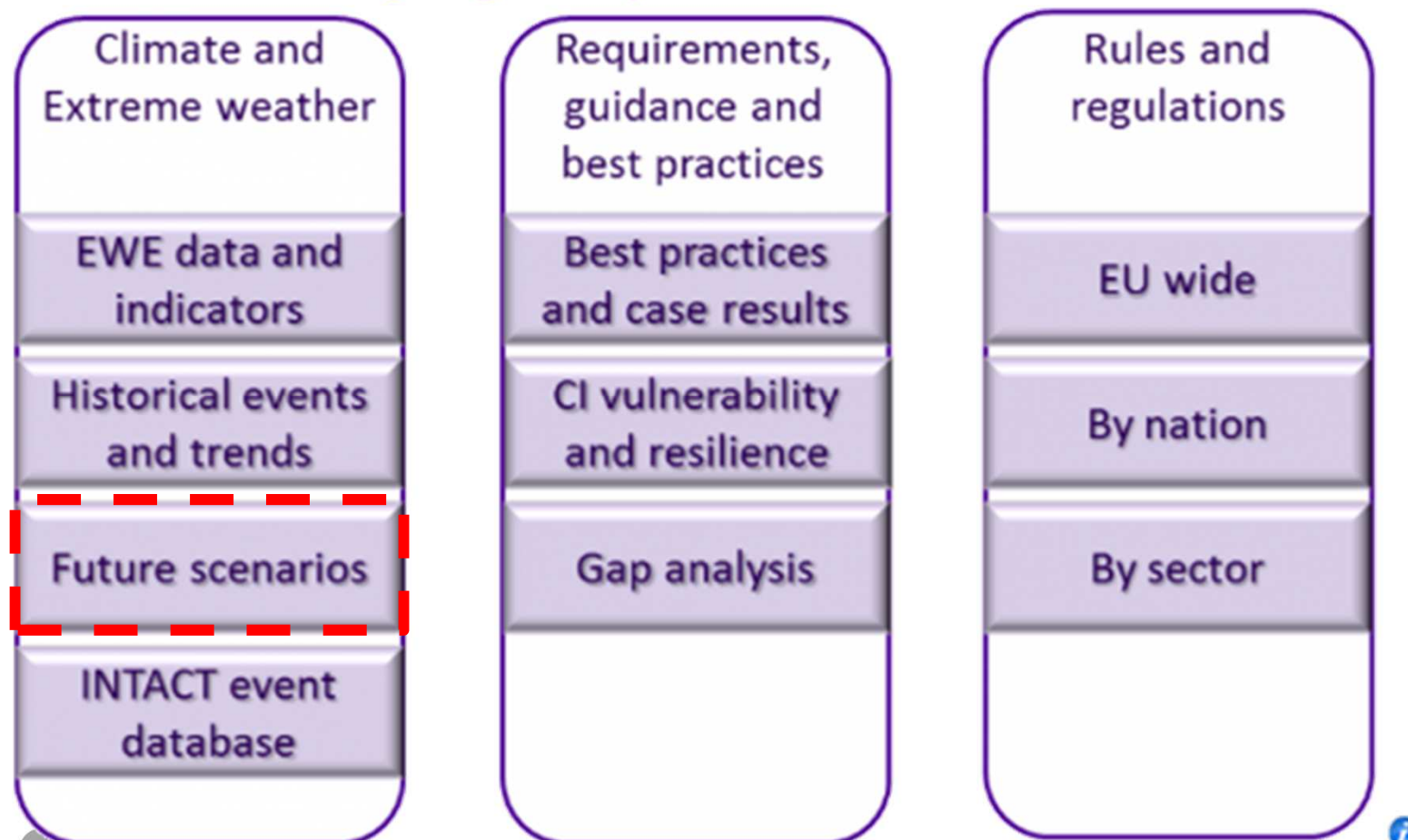
School/University

Airport



INTACT main results: Decision support Framework (2/2)

Highlighted process elements



INTACT main results: Decision support Framework (2/2)

Selecting Future scenarios using Interactive Maps

Select time period

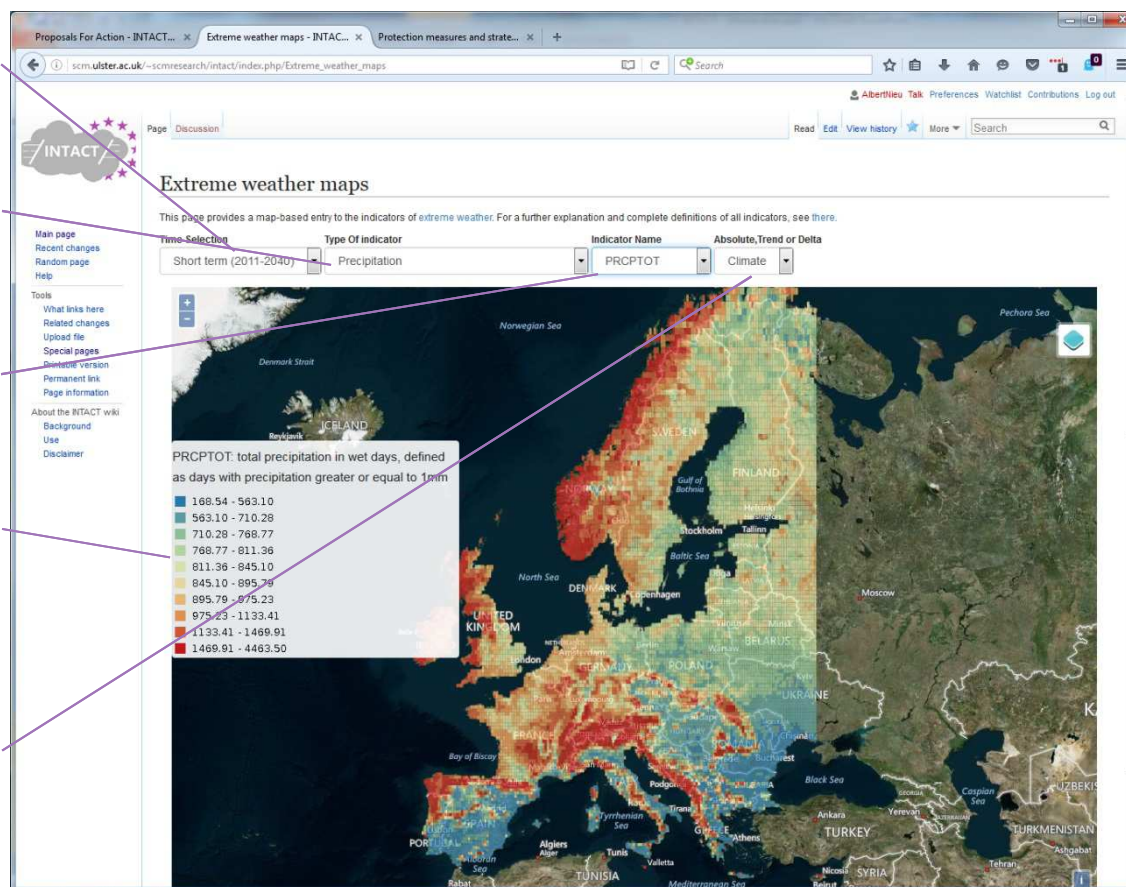
Select type of extreme weather
(precipitation, snow, temperature, wind,
or combinations of these)

Select Extreme Weather Indicator (EWI)
associated with the above event

View legend with explanation of EWI
and scales

Select whether to illustrate:

- Expected values;
- Change of values compared to now;
- Expected change of value per year.



INTACT input & (current) feedback: Case Studies

Case Study B – Port of Rotterdam, The Netherlands

Port of Rotterdam and its hinterland transport connections under local EWEs.

Case Study A – South West Region of Ireland

Extreme Weather Events which have impacted upon CI.

Case Study C – Southern/Central Italy

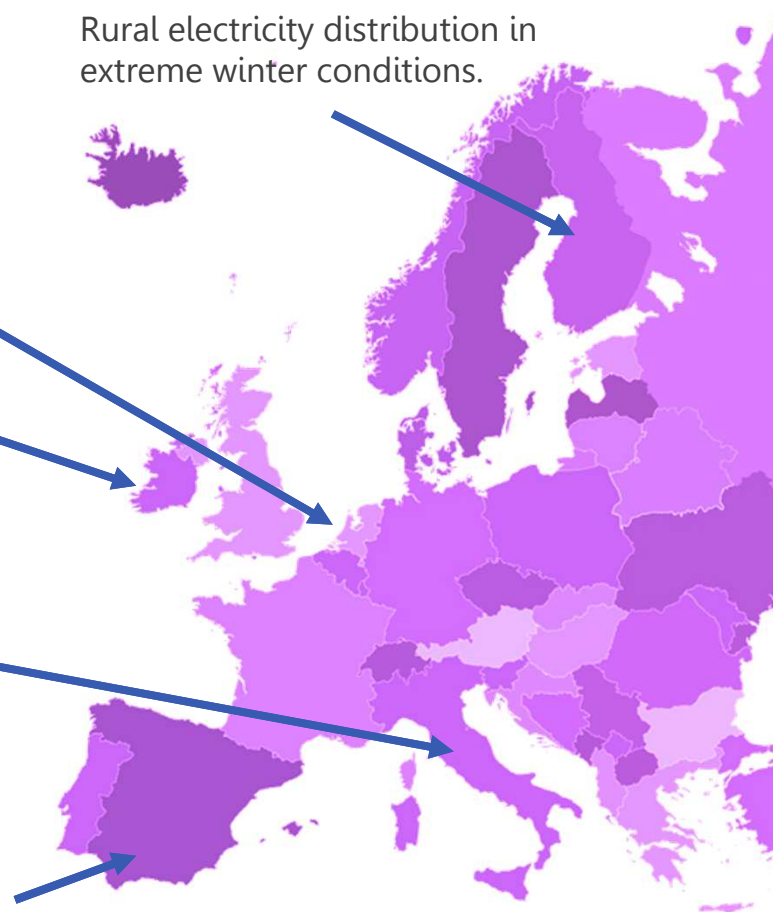
Rainfall induced landslides in the different geomorphologic contexts.

Case Study E – Southern Spain

Effects of drought, heatwaves and flash floods on CIs.

Case Study D – Southern Finland

Rural electricity distribution in extreme winter conditions.





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www.intact-project.eu/

www.intact-wiki.eu/

INTACT End Event:
23 March 2017, Delft, NL



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