Status and plans WP7 & WP8

Luis Costa, Johannes Lückenkötter and Rob Swart

CLIPC General Assembly

Dortmund, 2 June 2015

Task 7.1

Requirements:

i. **Systematic evaluation of tier 1, 2 And 3 impact indicators with regard to aspects such as: policy relevance, methodology, data accessibility, scales, length of time series, temporal resolution, uncertainty …**

ii. **Overall conclusion on strengths and weaknesses of existing indicators and development opportunities for new indicators.**

iii. **Prioritization of first impact indicators.**

Done:

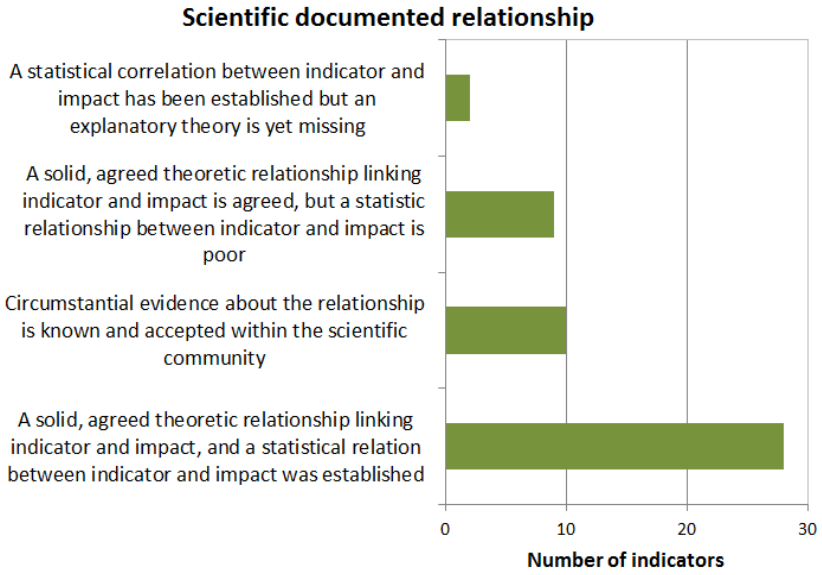
Deliverable 7.1 : A review of climate impact indicators across specific themes and description of strengths, weaknesses and technical requirements and main mismatches between user's expectations and the scientific evaluation of climate impact indicators gathered. [month 10]

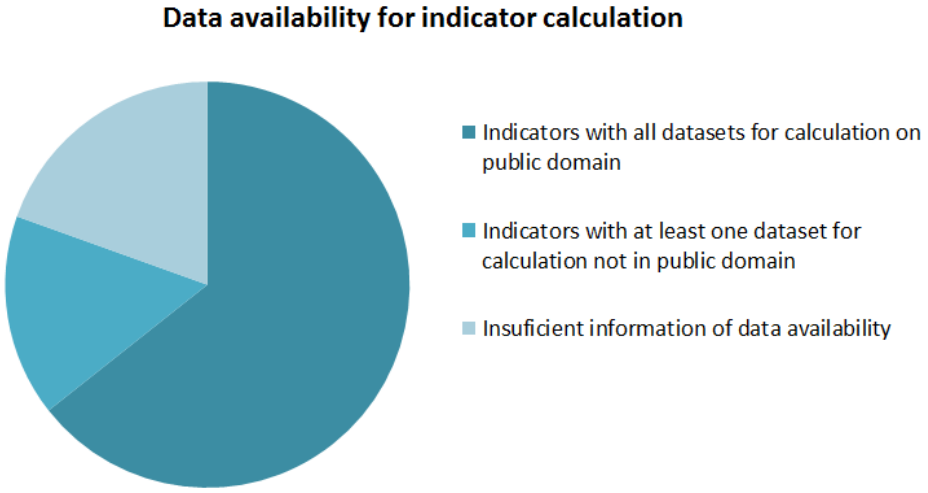
July 2015

Task 7.1: example

Requirements:

i. Systematic evaluation of indicators with regard to aspects such as: policy relevance, methodology, data accessibility, scales, length of time series, temporal resolution, uncertainty …





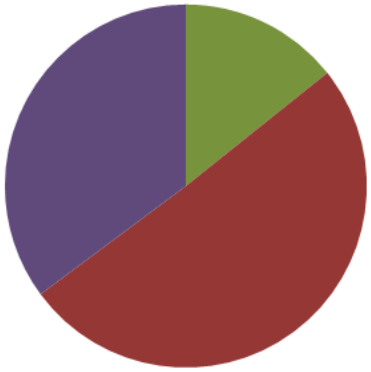
Task 7.1

Requirements:

ii. Overall conclusion on strengths and weaknesses of existing indicators and development opportunities for new indicators.

Attempt to connect indicator documentation to specific uses of indicators

Inclusion of adaptive capacity



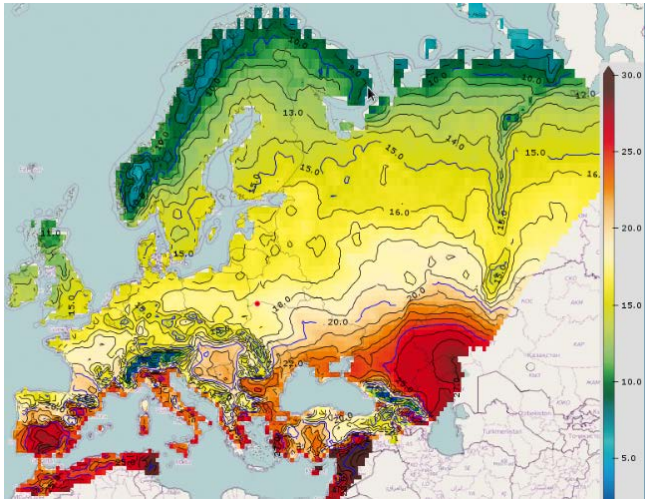
User groups	Top three purposes for climate data and indicators		
	1st	2nd	3rd
Societal end users	Support the development of adaptation strategies and plans	Create awareness	Make risk and vulnerability assessments
Intermediary organizations	Give advice on data and climate impact indicators to others	Support the development of adaptation strategies and plans	Create awareness
Impact researchers	Make risk and vulnerability assessments	Input in research on climate change	Support the development of adaptation strategies and plans[13]
Climate scientists	Give advice on data and climate impact indicators to others	Input in research on climate change	Mix of awareness raising, adaptation and risk assessment[14]

Task 7.1

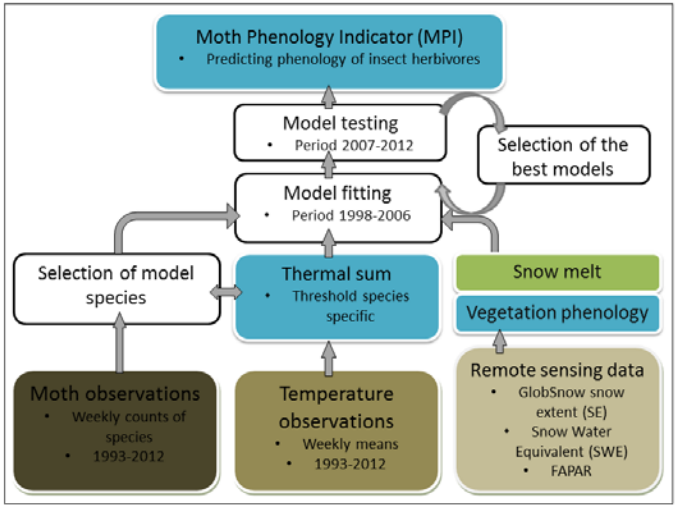
Requirements:

ii. Overall conclusion on strengths and weaknesses of existing indicators **and development opportunities for new indicators.**

First version of a heat-stress indicator based on empirical studies.



Framework for an improved moth phenology indicator.



Task 7.1

Requirements:

iii. Prioritization of first impact indicators.

List of priority indicators as in March 2015.

	Indicator	Status	Contact	Comments
Water	Arctic and baltic sea-ice	Limited to maximum yearly Baltic sea ice extent for the moment	Kari (FMI)	Maximum Area of Baltic sea ice, 1720 - 2015. Available as an excel-file
	Standard Snowpack indicator	In preparation	Kari (FMI)	Waiting for "lessons learned" with SWE data
	Snow extent	Examples of map and data provided	Kristin (SYKE)	Tried to deliver to Wim but doubts on server, metadata...
	Snow water equivalent	Examples of map and data provided	Kari (FMI)	Data to be uploaded to ESGF, early 04/2015

Task 7.2

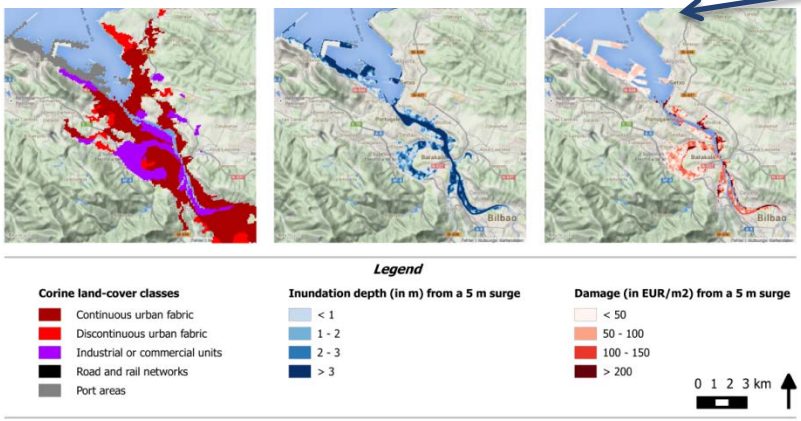
Tasks:

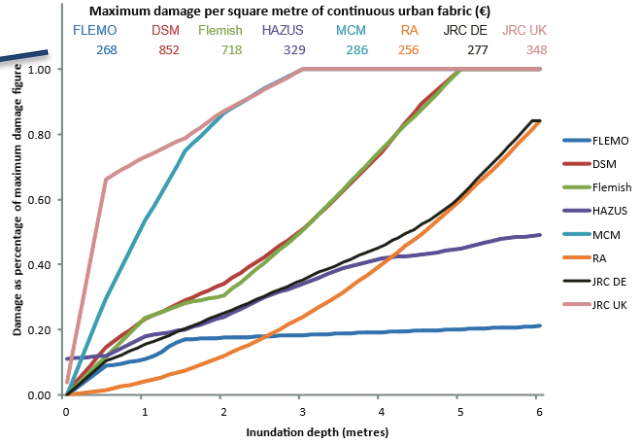
Define key impact indicators that would benefit from existing datasets within the consortium in order to enhance their informative power.

Possible strategies:

- Usage of existing, or development, of impact functions (from Tier1 to Tier3).

Land use | Flood depth | Damage





Depth damage-functions from Jongman et al, NHES 2012

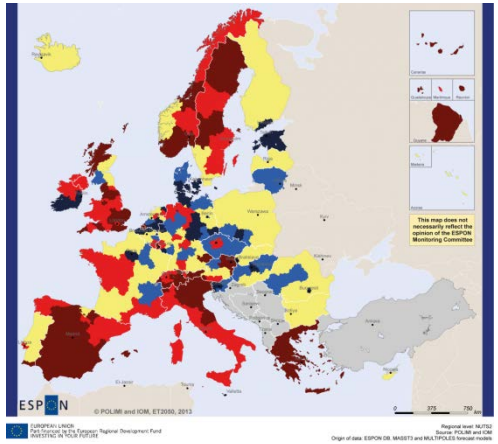
Task 7.2

Requirements:

Define key impact indicators that would benefit from existing datasets within the consortium in order to enhance their informative power (with WP8).

Possible strategies:

- Usage of existing, or development, of impact functions (towards T3).
- Tier-1 and Tier-2 indicators can be overlaid with socio-economic information to identify regions of high exposure and sensitivity.



ESPON climate

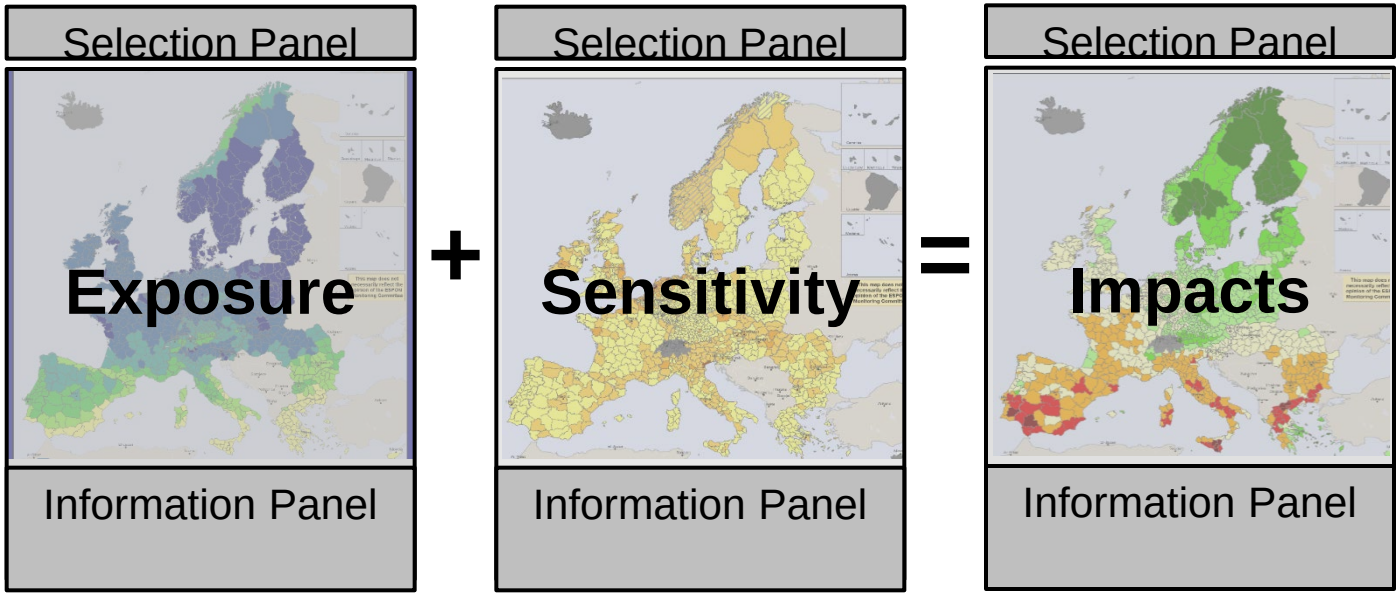
Key questions:

- How to best organize data transfer between WP7/WP8 and WP3/WP4 (people, for
- Guidelines on how to prepare/export NETCDF data for the portal.
  - Many sources such as: satellite, shapefile, etc…
  - Differentiated metadata standards across indicator Tiers?
  - How to coordinate this with metadata on climate data from WP5?
- How to best reflect different character of indicators in metadata and who is respons

Progress of work on WP 8 tools

- Outline and discussion of WP 8 tools in special workshops in Dortmund and Ispra (Jan/April 2015)
- Discussion with users at user requirements workshop (February 2015)
- Circulation, review and revision of D8.1 (Compatibility assessment) (March-May 2015)
- Circulation, review and revision of MS 34 (Outline of WP8 tools) (March-May 2015)
- Elaboration of draft MS 37 ON-GOING (May-June 2015) (Full methodology of uncertainty assessment)

Indicator combination & aggregation tool



- Overlay of exposure and sensitivity to yield impacts or impacts based on WP 7 impact functions
- Aggregation of impacts ('pre-packaged sets')

  e.g. - combined impacts on a particular sector (e.g. economy)
  - combined impacts of a particular exposure indicator
  - combined impacts for one sensitivity indicator (e.g. old persons)

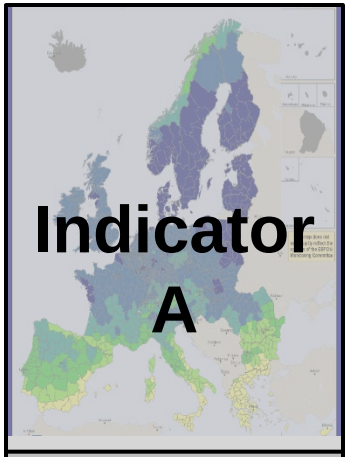
Indicator comparison tool

Selection Panel

Correlation Matrix Panel

Indi-cators	1	2	3
1		0.4	-0.7
2	0.4		0.9
3	-0.7	0.9	

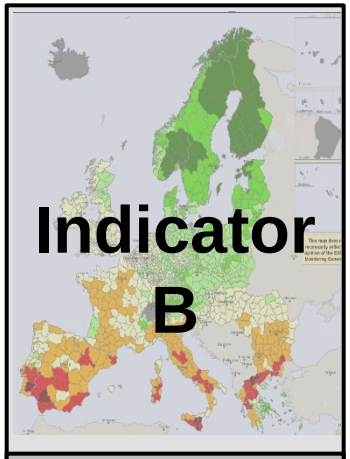
Selection



Information Panel A

Comparison Panel

Selection



Information Panel B

Combination, aggregation comparison tools

Next steps (June-September 2015):

- Determine which indicators are to be expected from WP 7
  a) with full impact functions
  b) only components without impact functions
- Determine which ‘pre-packaged sets’ of aggregated indicators are most useful for users (WP2)
- Downscale sensitivity data to raster cells to enable full compatibility with climate data (WP6)
- Coordinate data storage, interface workflow and visualisation with WP 3 & 4

Scenario exploration tool

Main components

- Main scenario exploration tool
- Shared socio-economic pathway (SSP) regionalisation module
- Optional SSP combination module

Integration of the scenario tool (example)

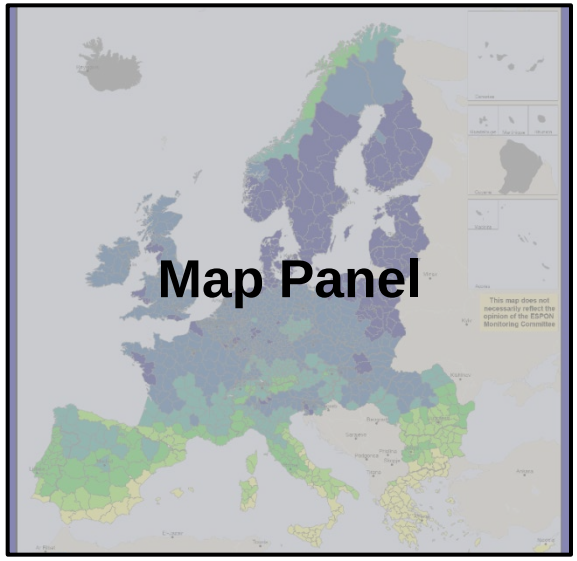
Aggregation Tool Selection Panel

Select Indicator(s)

Time period(s) **Scenario tool**

Spatial resolution Percentile

Determine weights



Information Panel

Socio-economic Scenario Panel

Select scenario for each country

	Scenario A	Scenario B	Scenario C
Belgium	X		
Denmark	X		
Germany			X
France		X	

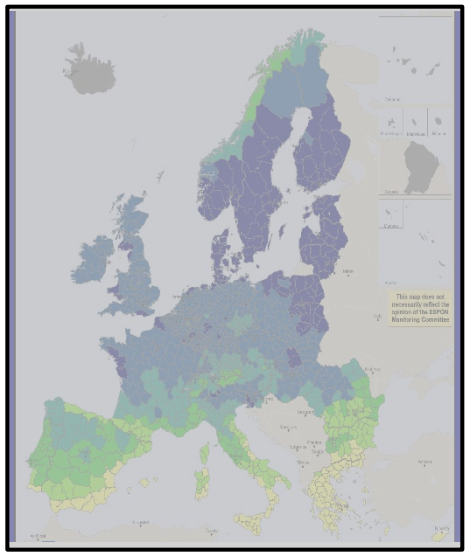
Scenario exploration tool

Next steps (June-September)

- Develop and test methodology for regionalisation of SSPs:
  based on current distribution + trend extrapolation
  based on user input on degree of regional divergence/convergence
- Develop and test methodology for combination of different SSPs:
  - one SSP applied to all countries (default)
  - user choice for each country with visualised results at European level
- Outline content and flow of user guidance with WP 2, 3 & 7
- Invite external experts (IA & SSP community) to provide feedback
- Ensure connection with sensitivity indicators (indicator comparison tool)

Uncertainty assessment tool

Selection Panel



Information Panel

Uncertainty codes

U2 U5 U3

Uncertainty Panel

Uncertainty U3

- Text explanation of a particular uncertainty
- Three sources of uncertainty from tier1 to tier 3

Example of tier 1 indicator:

Tier-1	projections		
cluster of sources of uncertainty	scenarios (1)		
	model (2)		
	variablity (3)		

- Suggestions on methods how to quantify the uncertainties

Uncertainty assessment tool

Next steps

- Circulate and discuss MS 37 containing
  - full methodology for uncertainty assessment
  - outline of categorisation and description of uncertainty types
- Coordinate workflow and integration with other WP 8 tools and user interface of WP 3&4
- Coordinate terms used in the tool with glossary of WP 3