



POTSDAM INSTITUTE FOR  
CLIMATE IMPACT RESEARCH

## ClimateImpactsOnline: A web platform for regional climate impacts (in Germany)



# Goals and challenges

## Motivation:

- effective communication of scientific knowledge on climate change, climate impacts, adaptation and mitigation
- bridge the gap between climate impact research and decision makers / the general public

## Challenges:

- (web-based) communication of climate change is generally non-trivial (e.g., Moser 2010), in particular due to the inherent complexity and to the uncertainties to be communicated (e.g., Patt 2009)
- many separated studies (over federal states in Germany)
- often too low regional resolution to support local climate impact assessment
- easy-to-use graphical user interface, high error tolerance to user inputs, high portability for different software platforms and intuitive visualization metaphors
- provide expressive & effective visualization (e.g. suitable colour mapping)

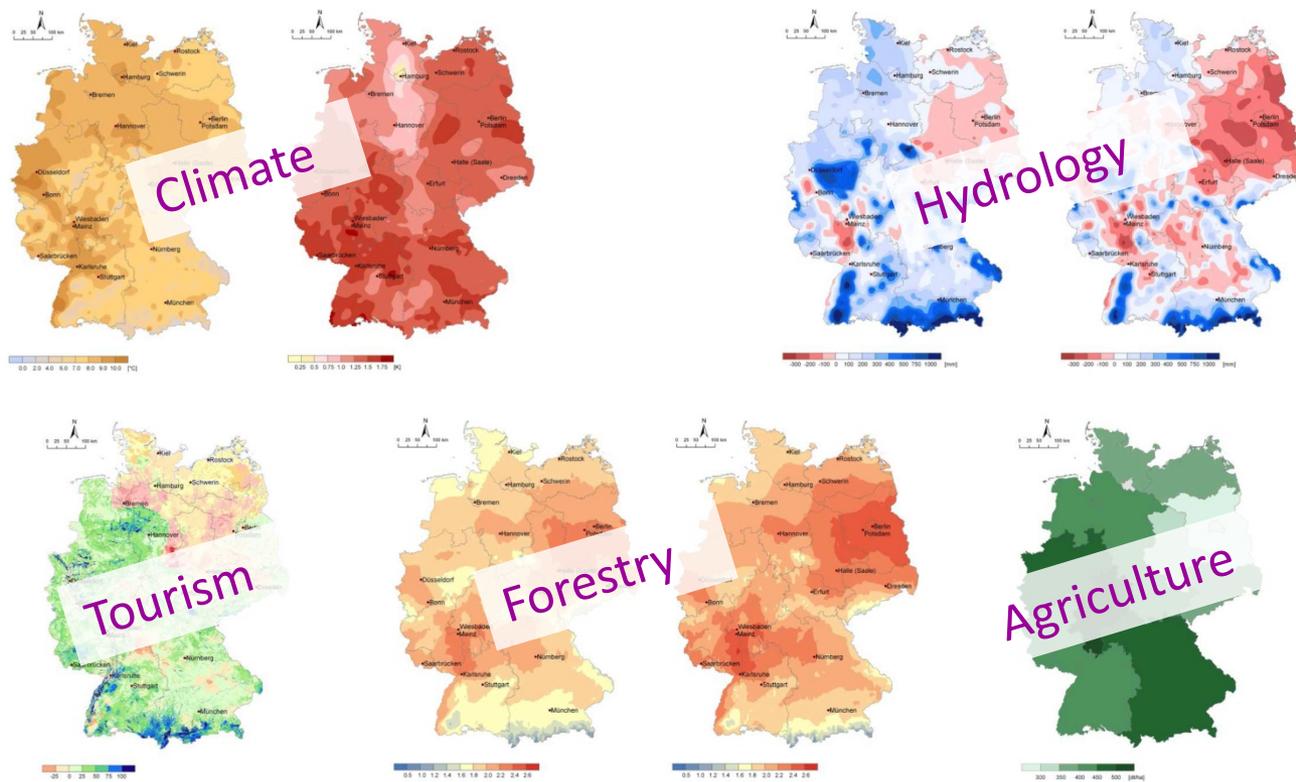
# ClimateImpactsOnline - Approach

## Approach:

- **present detailed regional climate information for local decision making (awareness building and adaptation)**
  - **target audience: public sector decision makers, but as well sectoral experts (e.g. foresters, farmers) and the general public**
  - **no explicit (textual) data interpretation; visualization speaks for itself, with publications linked**
- **integrate regional climate drivers and climate impacts based on an scientifically established model chain**
- **design an easy-to-use interface based on an successful app for weather data presentation (by German weather information Provider WetterOnline)**
- **display both absolute parameter maps and arbitrary selectable difference maps**
- **display both time series plot, textual values and others for administrative units of interest**
- **starting with a base parameter set, intensive user testing and extending further sectors / parameters / scenarios later**

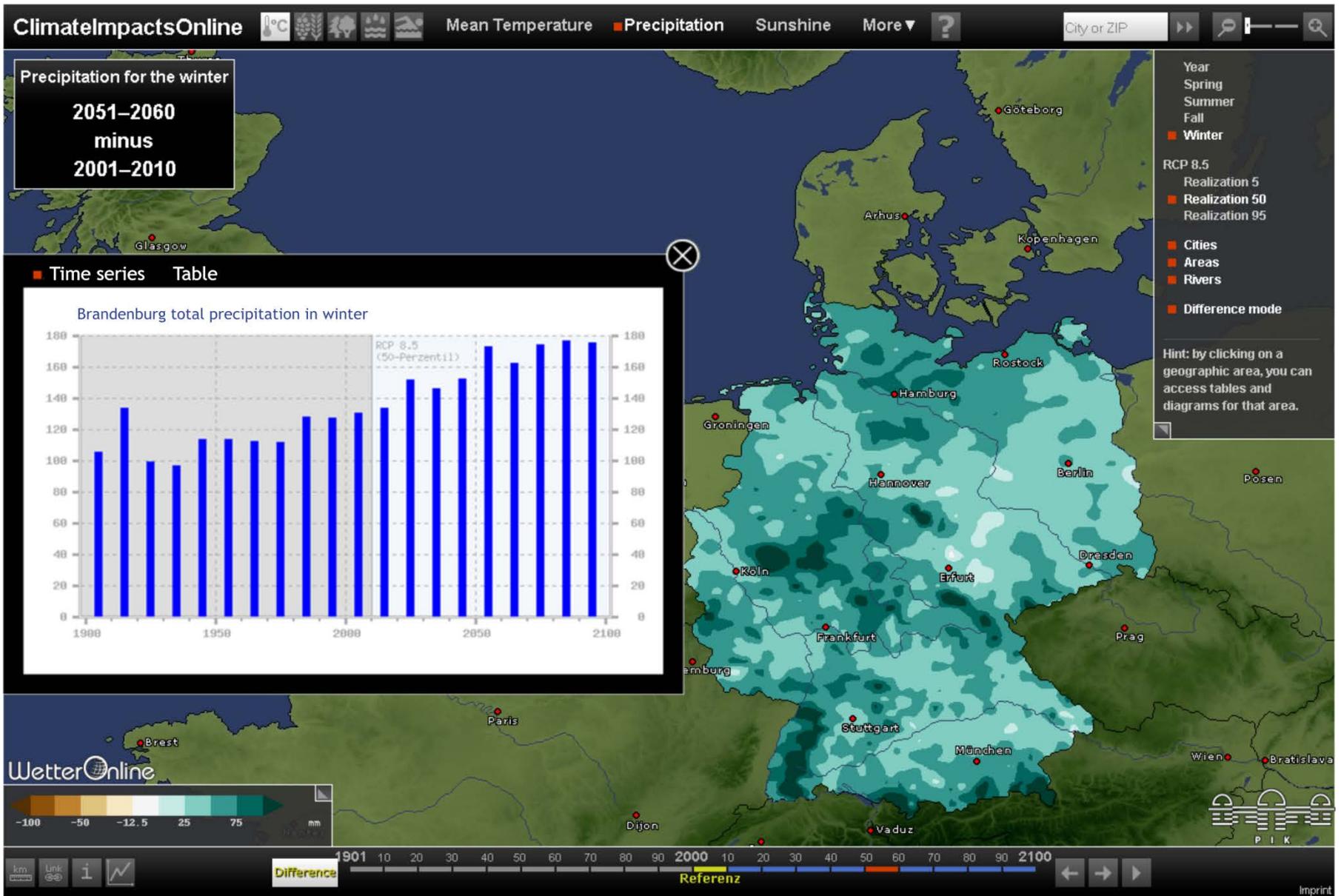
# ClimateImpactsOnline – sector overview

Calculation and visualization of future climate scenarios on a regional scale and main impacts on several sectors



and additional sectors: health, energy and more

# ClimateImpactsOnline – Examples (1)





# **ClimateImpactsOnline – user feedback (1)**

## **Discussion of data details:**

- high spatial resolution legitimate?
- past and future in one time series?
- decadal vs. 30 yearly aggregation?
- if / how to integrate regional dynamical model projections?
- and requirements of further parameters / sectors

## **Discussion of interaction mechanism:**

- Should the currently free selection of two arbitrary difference time series intervals (decades) be restricted?
- How to get to the detailed view(s) for a selected region?

## **Discussion of color maps (most based on ColorBrewer, [www.colorbrewer2.org](http://www.colorbrewer2.org)):**

- Did we find a good compromise between details and identification of singular values (to allow comparability between all seasons and within the long time series, we have a relatively high number of color intervals)?
- established color schemes vs. red-green color blind safe color schemes

## **ClimateImpactsOnline – user feedback (2)**

### **Improve user interface:**

- some details (district data, parameter / sector help texts) were hard to find in the first version

### **Improve documentation :**

- to better find the documentation
- description / data documentations are designed for a medium level experts, so based on the feedback, we decided for a subject index, an education version, a.o.
- relate to other studies

### **Others:**

- Does the black design impose some normative statement?