An interactive tool translating complex adaptation information to support policy and decision makers

Adaptation Futures 2016, Rotterdam, The Netherlands

Rob Lokers, Alterra, Wageningen UR

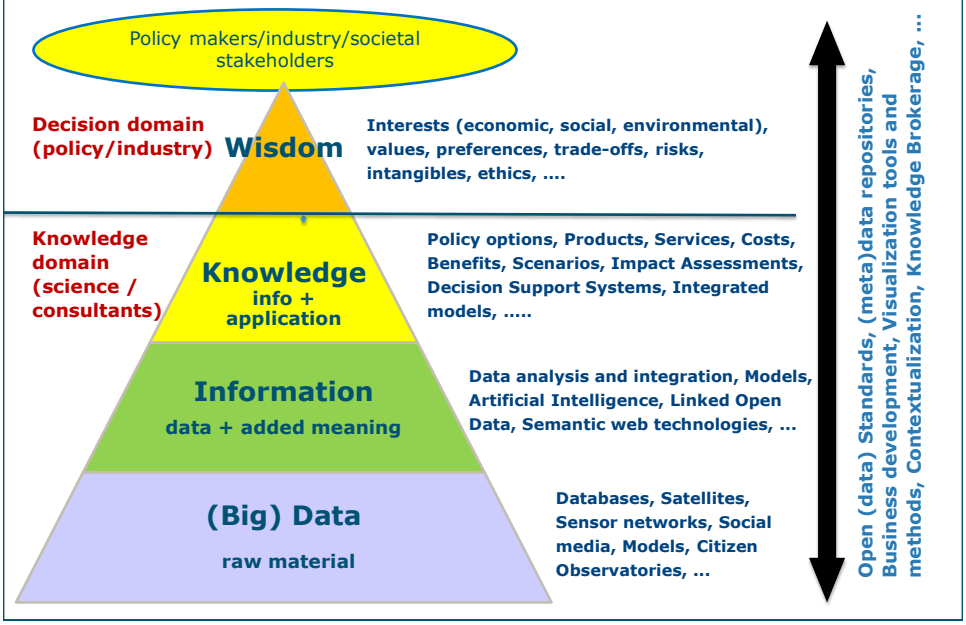
ALTERRA WAGENINGEN UR

AgMIP ToPDAd TOOL-SUPPORTED POLICY-DEVELOPMENT FOR REGIONAL ADAPTATION

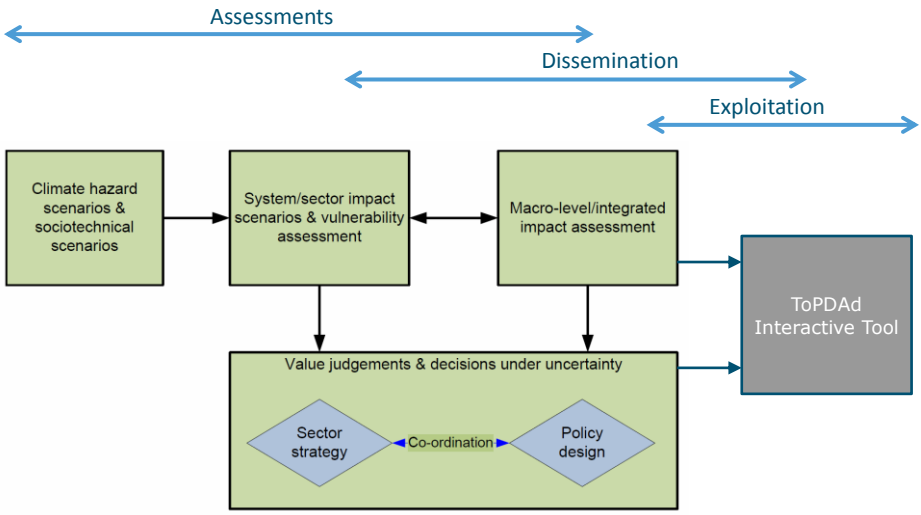
Contents

- Translating research data to the policy and decision context
- User centred design, best practices and implementation in the ToPDAd project
  - ToPDAd introduction
  - Methods targeting the end user
  - ToPDAd interactive tool, implementation examples
- Some additional examples from other projects

From research data to informed decision making



ToPDAd – Impact Assessment Framework



ALTERRA WAGENINGEN UR

Best practices for tool development

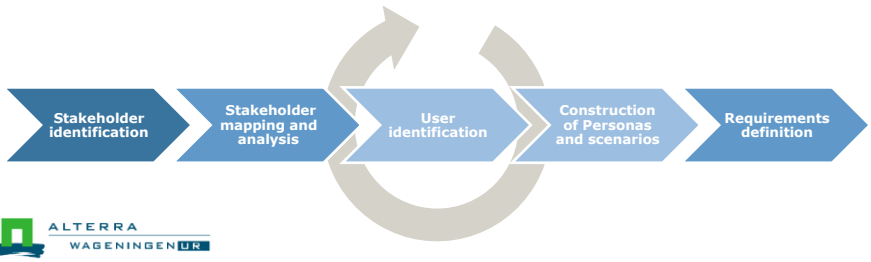
- First get to know your users, then do the assessment

ALTERRA WAGENINGEN UR

Requirements analysis

Determine:

- the target user groups;
- user demands from decision making perspective;
- the required knowledge and functionality of the tool.
- the required information and the modelling work



ALTERRA WAGENINGEN UR

User profiles – Persona's

Based on interviews and stakeholder research.

1. **Policy maker on regional level**
   working on developing plans in one of the domains (transport, tourism, energy). He has interest in the outcomes of case themes in the same domain and in similar areas.

2. **A national representative of a specific business sector**
   such as inland shipping industry. Her main reason to browse the website and tool is to determine the suitability and value of the outcomes of the ToPDAd methodology for their (national) sector development.

3. **A researcher**
   at a national bureau for economic policy analysis. The researcher is mainly interested in the models and methodology.

ALTERRA WAGENINGEN UR

Requirements analysis (ToPDAd)

Regional policy maker

Regional or local information, mostly own sector(s)

National representative

Applicability of ToPDAd methodology, cases related to national adaptation strategy

Researcher

Models, methodology, (detailed) outcomes

All user profiles:

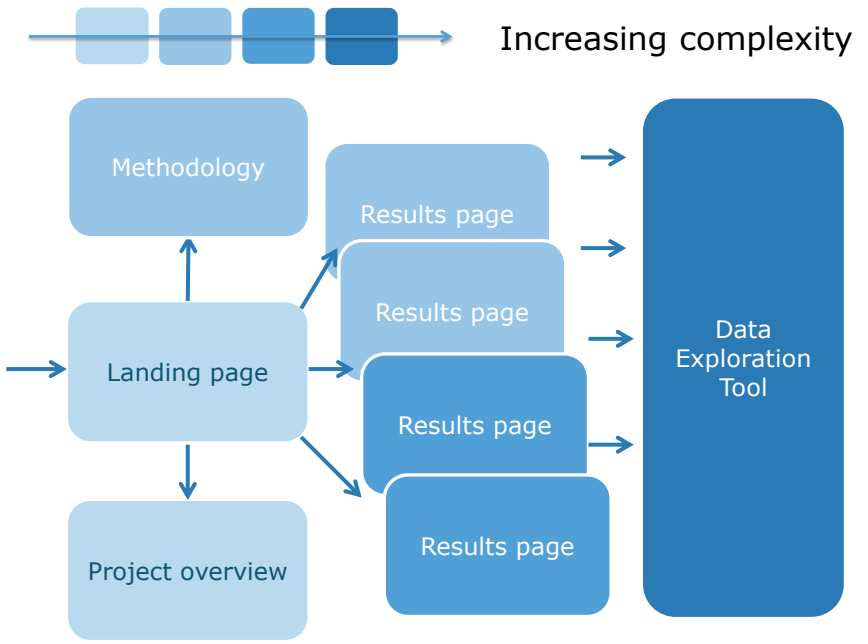
- Backgrounds & context of project and case studies
- Transferability, generalisation

ALTERRA WAGENINGEN UR

Best practices for tool development

- First get to know your users, then do the modelling
- Lead users from basics to more complex information

ALTERRA WAGENINGEN UR



ALTERRA WAGENINGEN UR

Best practices for tool development

- First get to know your users, then do the modelling
- Lead users from basics to more complex information
- Explain context and methodology

ToPDAd
TOOL-SUPPORTED POLICY-DEVELOPMENT FOR REGIONAL ADAPTATION

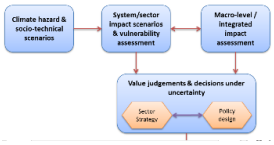
Home | Project Overview | Methodology | Project Results | Data Exploration | Site Map | About

ToPDAd Methodology

Integrated Assessment of Adaptation Strategies

Methodology

The ToPDAd methodology is an integrated approach to determine best strategies for businesses and regional governments to adapt to the expected medium term and long term changes in climate. The methodology consists of a phased approach integrating sectoral modelling and broader macro-economic assessments with principles from participative and robust decision making. ToPDAd proposes a stack of models and tools that has been used in the project to assess seven examples of regional adaptation problems in the energy, transport and tourism sectors. The tool set can be extended with a broader range of models and to different sectors and regions.



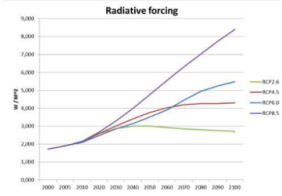
ToPDAd Methodology Steps

The ToPDAd methodology adheres to the following steps:

step 1 - Scenarios

ToPDAd works with scenarios combining the **representative concentration pathways (RCP)** RCP2.6, RCP4.5 and RCP8.5, combined with **shared socio-economic pathways (SSP)** and the EU roadmaps for Energy and Transport.

read less <<



Three different RCPs representing three global warming scenarios, are taken into account:

- A worst-case scenario (RCP8.5) with rapidly developing global warming, also beyond 2100, resulting in average global temperature rise of about 4 degrees Celsius compared to 1990.
- A middle scenario (RCP4.5) global warming is developing at a more moderate pace, resulting in a rise of about 2 C° by 2100.
- A lowest scenario (RCP2.6) envisages a very rapid reduction in global greenhouse gas emissions.

The climate change effects of RCP2.6 and RCP4.5 are quite similar up to 2050, while RCP8.5 shows already stronger effects by that time.

The climate projections for monthly temperature and precipitation, based on RCP2.6, RCP4.5 and RCP8.5 respectively, have been generated by the ClimGen pattern scaling software of UEA. For specific needs of some case studies (see methodology Step 2 below and Project Results page) additional

ALTERRA WAGENINGEN UR

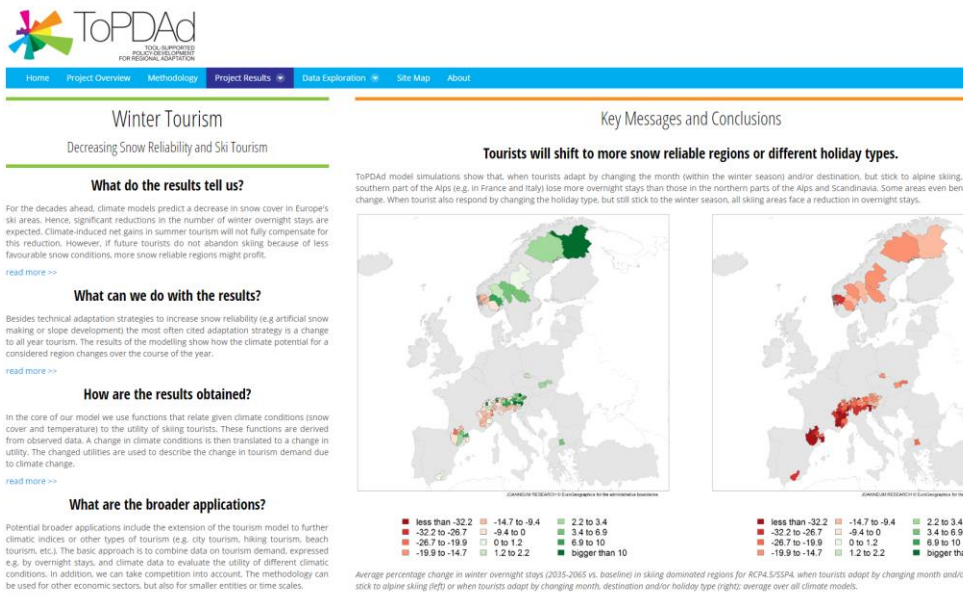
13

Best practices for tool development

- First get to know your users, then do the modelling
- Lead users from basics to more complex information
- Explain context and methodology
- Focus on typical end user questions
  - What is the key message?
  - What does it mean for me?
  - How can I (re)use this in my region, my domain?
  - How do my neighbours perform?

ALTERRA WAGENINGEN UR

14



ALTERRA WAGENINGEN UR

15

Best practices for tool development

- First get to know your users, then do the modelling
- Lead users from basics to more complex information
- Explain context and methodology
- Focus on typical end user questions
  - What's the message?
  - What does it mean for me?
  - How can I (re)use this in my region, my domain?
  - How do my neighbours perform?
- Use visuals and infographics

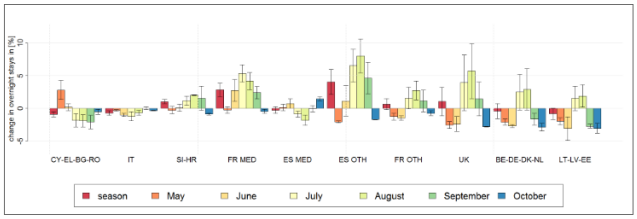
ALTERRA WAGENINGEN UR

16

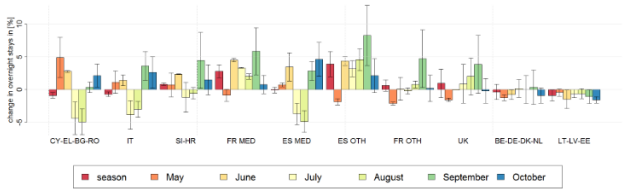
Distribution of overnight stays will shift inside the season

ToPDAd model simulations show that in the warmer regions in Europe overnight stays will shift to current shoulder seasons. This shift is more pronounced when tourists are assumed to be flexible with respect to their travelling period. If, on the other hand, tourists are assumed to stick to their usual holiday timing, results indicate a more pronounced spatial shift of overnight stays from too hot to comparably cooler regions during midsummer.

(for country code explanations please check the read more section below)



Average percentage change in monthly overnight stays (2035-2065 vs. baseline) in beach dominated regions for RCP4.5/SSP4 when tourists adapt by changing the destination, but sticking to the month of beach holiday making; average over all climate scenarios with error bars indicating their range.



Average percentage change in monthly overnight stays (2035-2065 vs. baseline) in beach dominated regions for RCP4.5/SSP4 when tourists adapt by changing timing and/or destination of their beach holidays; average over all climate scenarios with error bars indicating their range.

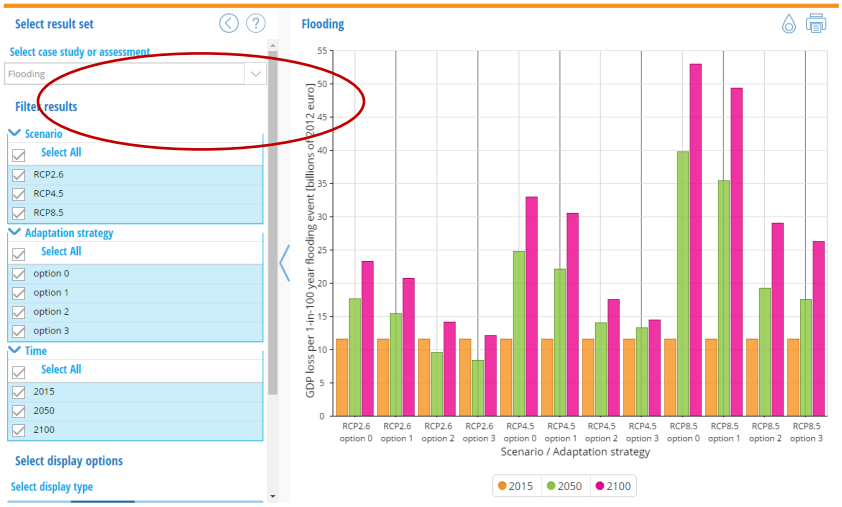
ALTERRA WAGENINGEN UR

Best practices for tool development

- First get to know your users, then do the modelling
- Lead users from basics to more complex information
- Explain context and methodology
- Focus on typical end user questions
  - What's the message?
  - What does it mean for me?
  - How can I (re)use this in my region, my domain?
  - How do my neighbours perform?
- Use visuals and infographics
- Connect (info)graphics to "real data"

Key Messages and Conclusions

Adaptation strategies can significantly reduce economic losses through



ALTERRA WAGENINGEN UR

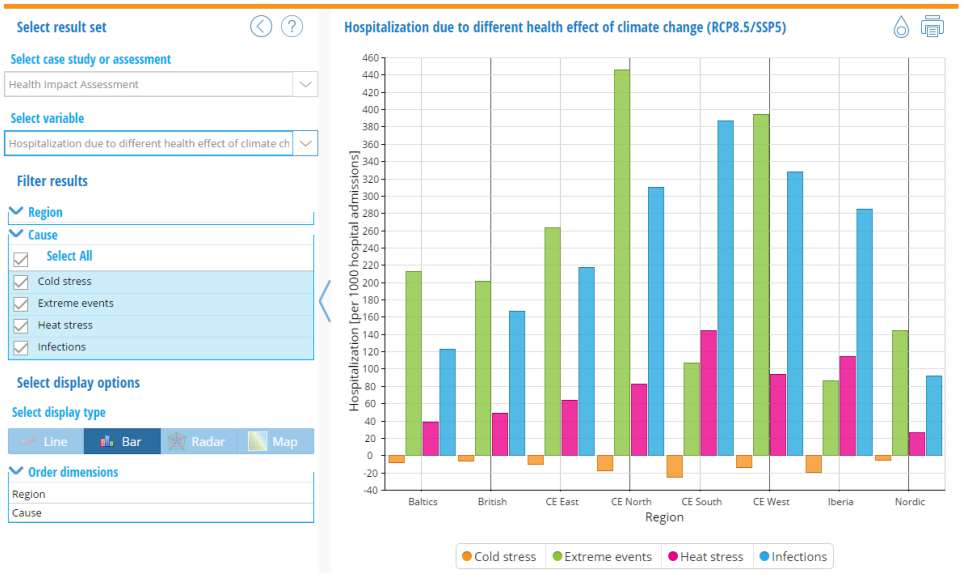
19

Best practices for tool development

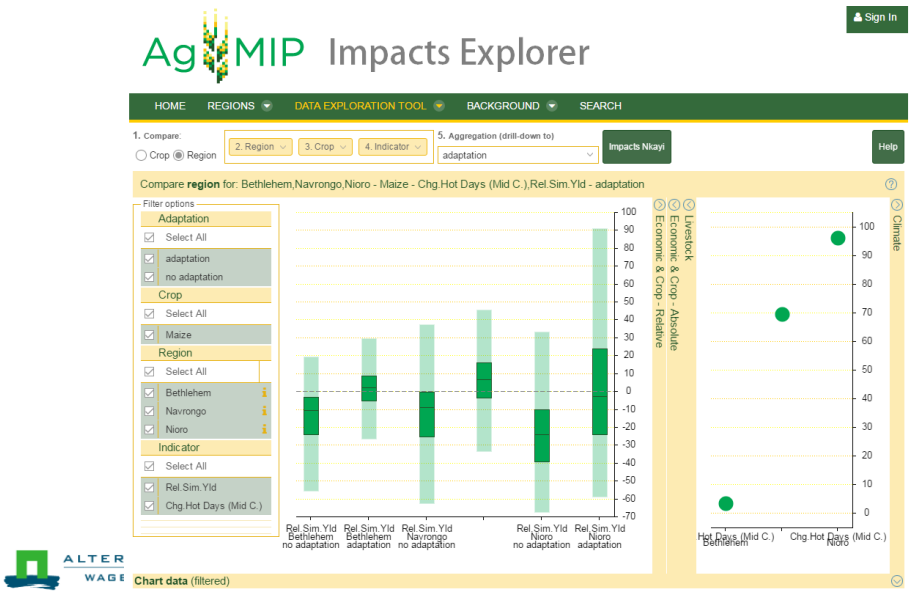
- First get to know your users, then do the modelling
- Lead users from basics to more complex information
- Explain context and methodology
- Focus on typical end user questions
  - What's the message?
  - What does it mean for me?
  - How can I (re)use this in my region, my domain?
  - How do my neighbours perform?
- Use visuals and infographics
- Connect (info)graphics to "real data"
- Let interested users explore the results

ALTERRA WAGENINGEN UR

20



Examples from other dissemination tools



How to inform decision makers...?

- Know / talk to your end users
- Provide structure, flow (not just by menus)
- Be concise, comprehensible and to the point
- Provide context
- Find a way to lead users to the details (if necessary)
- You will need more than only technicians
  - Usability experts
  - Graphical designers
  - Editors (preferably a journalist, not a scientist...)
- Anticipate on this when defining the project, not at the end

ALTERRA WAGENINGEN UR

Thanks for your attention

ToPDAd interactive tool

http://topdad.geodesk.nl

AgMIP Impacts Explorer (prototype)

http://agmip-ie.alterra.wur.nl

ALTERRA WAGENINGEN UR

AgMIP ToPDAd TOOL-SUPPORTED POLICY DEVELOPMENT FOR REGIONAL ADAPTATION