



CO-DEVELOPING USER INTERFACES FOR CLIMATE SERVICES

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ABOUTCAS

Dutch not-for-profit organization that makes climate information accessible, understandable and applicable.

Spin-off from the Dutch government's "Knowledge for Climate" program (2007 – 2014).

www.climateadaptationservices.com



The Knowledge Portal

www.spatialadaptation.com



Climate Impact Atlas www.klimaateffectatlas.nl/en



STRUCTURE OF THIS PRESENTATION

- Challenges in climate services and the importance of user interaction
- Experiences with user interaction during the development of the Dutch Climate Impact Atlas, the Dutch Spatial Adaptation Knowledge Portal & the Copernicus C3S Use case for Heineken
- Lessons learned along the way



REACHING THE END USER REMAINS A KEY CHALLENGE IN CLIMATE SERVICES

Climate services often do not reach "**the last mile**", to the people who need them most [...]" (WMO, 2011, p.8).

The climate service producers **lack a broader understanding of the decision-making environment** for which the service is produced (e.g. Dilling & Lemos, 2011).

Roger Street (2015): To improve the quality and relevance of climate services, they should be "**user-driven and science informed**"

The gap between the climate service producing and using communities is characterised as '**The valley of Death'** (Buontempo et al, 2014)



USER INTERFACES ARE IMPORTANT

- There is a lot of climate data out there but it is difficult to find
- Different formats
- Too generic
- Not tailored to the exact needs



Source: Overpeck, 2011



A GOOD WEB PORTAL IS HARD TO FIND...

- Overcomplexity for non-experts & guidance is minimal, unclear or hard to find (Hewitson et al, 2017)
- Supply-driven; irrelevance in local contexts; text-heavy presentation (Climate KIC, 2015)
- No post-project maintenance (developed through research funds with fixed deadlines)
- More and more platforms are being developed (Barnard, 2014) but producers are reinventing the wheel (Swart et al, 2017)









DO'S AND DON'TS FOR DEVELOPING SUCCESSFUL CLIMATE SERVICES USER INTERFACES:

- 1. Users often don't know what they want to know (needs change over time)
- 2. Create common understanding and a common language
- 3. Co-creation requires multiple cycles of trial and error
- 4. Generic climate variables need to be tailored to user-defined specific indicators
- 5. Framing is important: communicate risks but also solutions and inspirational stories
- 6. Adaptation is fuzzy and messy and does not follow the traditional unidirectional pathway
- 7. Keep it simple and visual



2008

THE STORY OF THE CLIMATE IMPACT ATLAS

- Started in 2008 with a needs assessment
- Users requested 'hotspot maps identifying areas at risk of drought, heat & flooding'





EVOLVING USER NEEDS...

- The hotspot maps we not really used, but did raise interest in the underlying mechanisms causing the risks
- The maps contributed to an understanding of the complexity (What is drought? When? For which crops, what does it mean for cities?)
- A new version of the atlas (by 2014) contained > 100 data layers ranging from selected climate variables to local stormwater flooding & urban heat maps







FROM MAPS TO GUIDELINES AND GUIDANCE

- By 2015 a 'guideline to perform a climate risk stress test' was developed
- All municipalities started making their own assessments, often (partly) based on the Climate Impact Atlas
- We opened a helpdesk





FROM MAPS TO DAMAGE COSTS

- New questions emerged: when does risk become unacceptable? What are the expected damage costs?
- By 2019 the Climate Damage Atlas was released





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Climate services for beer production

eineke



HEINEKEN: TAKE1





HEINEKEN: TAKE 2























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THE CASE OF THE KNOWLEDGE PORTAL

- The one stop shop website for the Netherlands
- Supporting local adaptation efforts (city planners, private and public parties, the general public)
- A coalition of over 60 parties was consulted to identify needs





ARTICULATED NEEDS (>60 STAKEHOLDERS)

- Inspiring: not only communicate risks, but emphasize the benefits of adaptation
- Modular set-up: every situation is different, adaptation is partly an unplanned, fuzzy process
- Easy to understand, visually attractive

opportunity in

Helpdesk

"people are not convinced by the facts, they are persuaded by a perspective" (prof. Maarten Haajer, 2018)



Fisk Avoidance

 "To prevent damage and climate risks to society" "To create resilient, sustainable and attractive cities"





THE KNOWLEDGE PORTAL

Delta Plan on Spatial Adaptation 2018

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Delta/



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MAP OF GOOD EXAMPLES





Examples

What is going on in proceased How have others tackled similar increases engaged in spatial adaptation, its owneries of adapt website.





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BOTTOM-LINE: CO-CREATION NEEDS TO BE TAKEN MORE SERIOUSLY

Should be more than a stakeholder workshop

A user interface development is not an 'outreach activity'

Co-creation should be at the heart of developing a service or webportal

Reserve substantial time & budget for co-creation







STEPPING-UP KNOWLEDGE EXCHANGE BETWEEN CLIMATE ADAPTATION KNOWLEDGE PLATFORMS (KE4CAP)

Funded by the European Commission through the SPIPA programme.

The KE4CAP project provides a forum for platform developers and operators to come together to compare and learn from their individual approaches, to share knowledge and best practices, and to work together to address common and emerging challenges. Knowledge exchange between EU countries and major non-European countries: Canada, Japan, Australia (targeted also: Mexico, South Africa, Argentina and India)









www.weadapt.org/knowledge-base/climate-change-adaptation-knowledgeplatforms/the-ke4cap-project







Further reading: 7 Lessons from the Dutch Knowledge Portal (Laudien et al, 2018, Climatic Change)





THANKYOU

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