

# Alterra Wageningen UR

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ALTERRA  
WAGENINGEN UR

# Wageningen Research

## Our domain

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Healthy food and  
living environment

food and  
food production



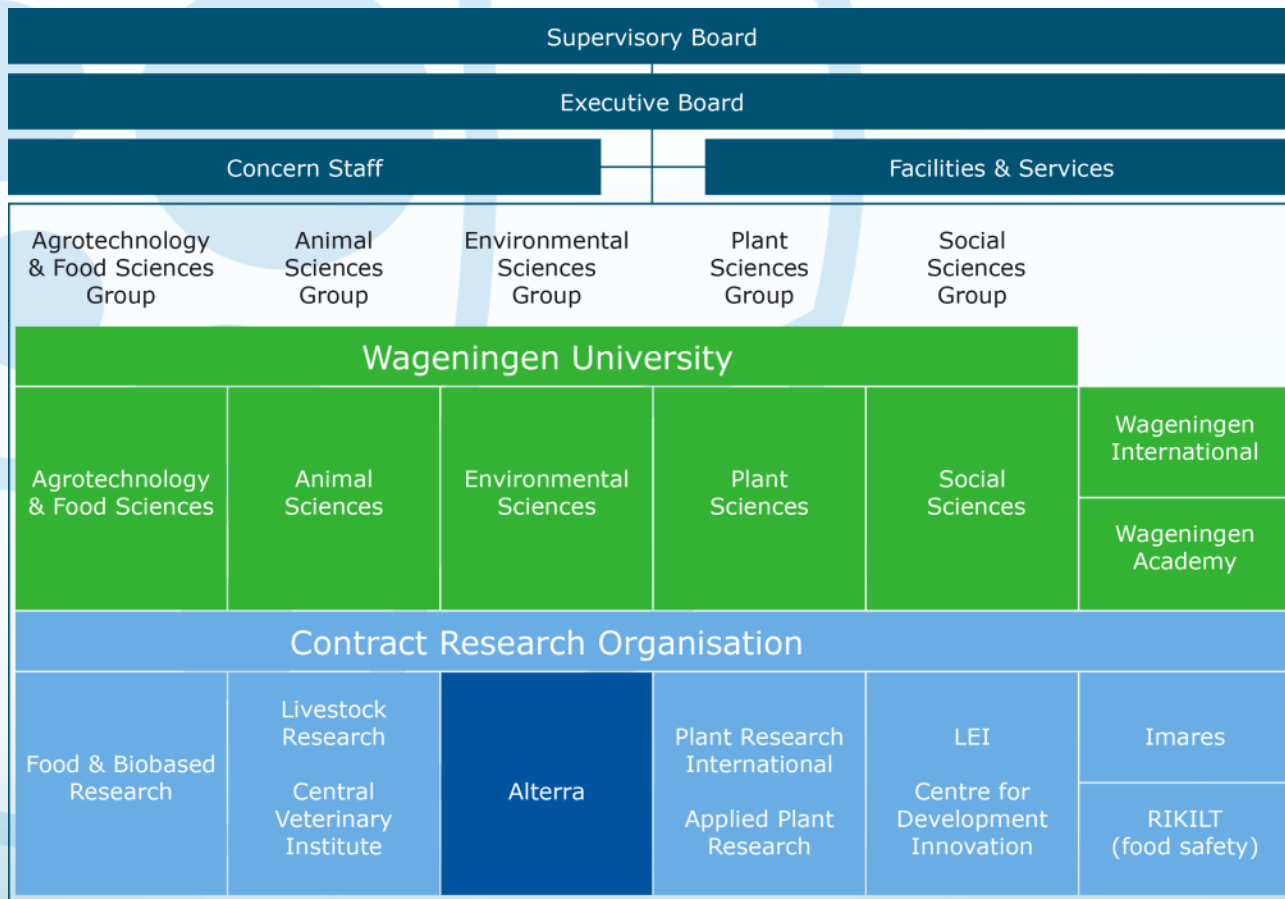
health, lifestyle  
and livelihood

living  
environment



# Wageningen Research

## Our organisation



# Alterra

## Our strategic programmes

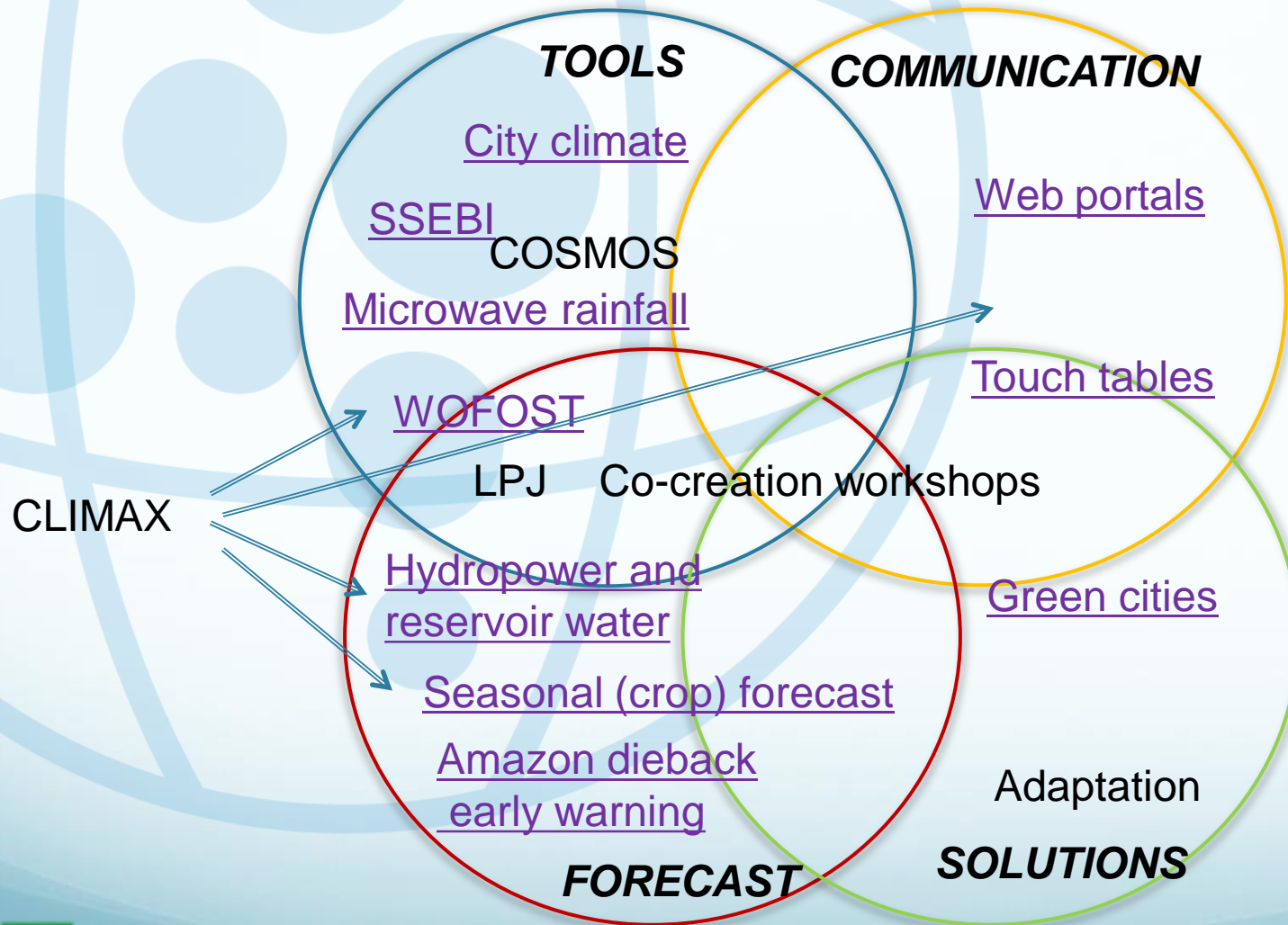
Green climate solutions

Green economic growth

Green cities

Food security

# What could Alterra/Wageningen share?



# Understanding user needs for climate adaptation and weather services

Dr. Hasse Goosen

Wageningen Environmental Research & Climate Adaptation Services Foundation

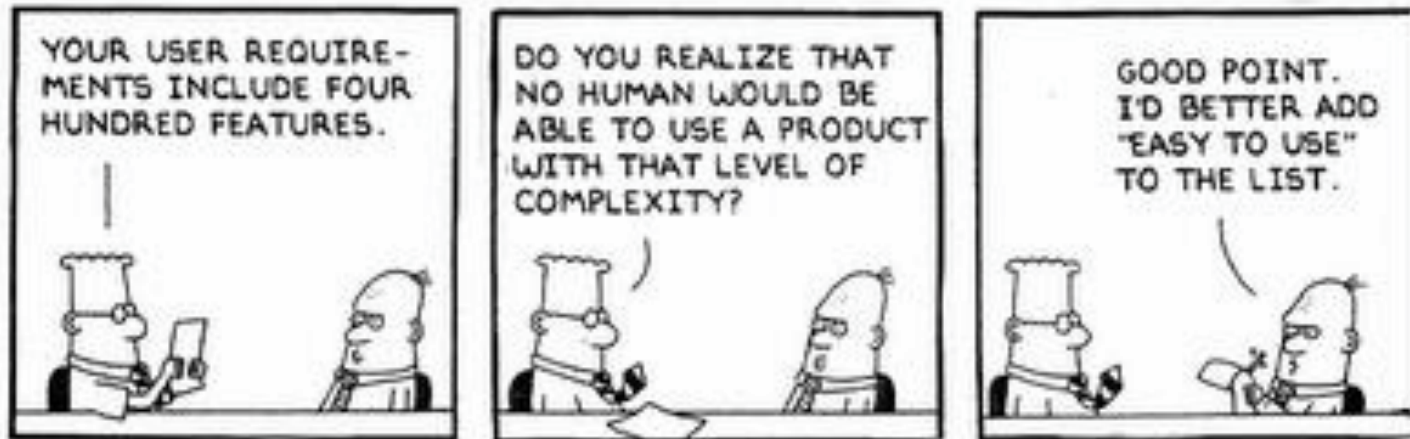


# From climate services to *adaptation services*

- WMO (2011): “Existing Climate services are not well focused on user needs ... **Climate Services do not reach the last mile** to the people that need them most, particularly at community level... There is a need for co-design of climate services products”
- *Adaptation services* to bridge the gap between the climate data and the adaptation planning community
- Weather impacts and medium-term forecasts are poorly communicated
- We need better understanding of user needs

# Supply screening of climate services

- Data overload, fragmented, supply driven
- Not fit for local purpose
- Uninspired presentation (text heavy)
- Science needs to interact with users to co-produce services





# Two dominant 'frames' on adaptation

Risk avoidance	Value creation
Reductionistic	Integrated holistic
Technical engineering (controlling the water)	Systems approach (using nature, living with water)
Quantification of risks and uncertainties	Creating support through design and visualization
Cost effectiveness of measures	Business cases & co-benefits

Minimizing risks

Maximizing opportunities

# Adaptation and weather services

- Support Risk Avoidance as well as Maximizing opportunities
- User friendly
- Visualizations
- User involvement during development phase
- Advice by experts in visualisation/communication techniques
- Implement locally, maintenance done by local institutes

# Example: CLIPC climate indicator

CLIPC  
Climate Information Portal

Home | Access climate data | Impact indicators | Visualising data | MyCLIPC data processing | Getting started | Project information

MyCLIPC  
Login for more services!

CLIPC: Constructing Europe's Climate Information Portal  
CLIPC provides access to Europe's climate data and information.

Getting started  
Read more about what CLIPC can offer to you as user.

MyCLIPC data processing

Climate Impact Indicator Toolkit

News and Events

Search climate data

CLIPC project background

## Combine indicators

Indicator one

Theme or My Data: Precipitation and floods

Effect: Consecutive wet days

Model/Dataset: cwd iclim-4-2-3 KNMI ens-i

Time Period: No period selected

Weight: 1

View full metadata

Time range: 1970 - 2005 Selected timestamp: 1970-07-01T00:00:00Z

39.0  
32.5  
26.0  
19.5  
13.0  
6.5  
0.0  
days

www.clipc.eu

Min/Max

Multiply

Output filename  
map\_combine.nc

Execute

Indicator two

Theme or My Data: Temperature

Effect: Coldwave Duration Index

Model/Dataset: cwdi induce-1-0-0 EC-JRC I

Time Period: No period selected

Weight: 1

View full metadata

Time range: 1975 - 2015

22.0  
18.3  
14.7  
11.0  
7.3  
3.7  
0.0

# Example: climate atlas

Overstroming Wateroverlast Droogte Hitte

Download

Gidsmodellen voor landschapstypen

Zoek gemeente



Scenario  
Huidig G2050 W+2050

### Effect

<input type="checkbox"/>	Gemiddelde Laagste Grondwaterstand	40% tra...	!						
<input type="checkbox"/>	Paalrot	0% tran...	!						
<input checked="" type="checkbox"/>	Droogtestress	0% tran...	!						
<table border="1"><tr><td>0 - 2,5</td></tr><tr><td>2,5 - 5</td></tr><tr><td>5 - 10 mm water / 10 dagen</td></tr><tr><td>10 - 15</td></tr><tr><td>15 - 25</td></tr><tr><td>&gt; 25</td></tr></table>				0 - 2,5	2,5 - 5	5 - 10 mm water / 10 dagen	10 - 15	15 - 25	> 25
0 - 2,5									
2,5 - 5									
5 - 10 mm water / 10 dagen									
10 - 15									
15 - 25									
> 25									
<input type="checkbox"/>	Bodemdaling	0% tran...	!						

### Gevoelige functies

<input type="checkbox"/>	Agrarisch areaal	0% tran...	!
<input type="checkbox"/>	Natura2000	0% tran...	!

### Toelichting

Door klimaatverandering neemt de kans op een droge zomer toe. Een extreem droge zomer als 2003 komt nu gemiddeld eens in de 10 jaar voor, in het W scenario loopt dit op naar eens in de 7 en in het W+ naar eens in de 2 jaar (KNMI 06). Watertekort kan zich ook uiten in dalende grondwaterstanden. In het stedelijk gebied kan dit problemen veroorzaken voor houtenpaalfundering. Door drooglegging kan paalrot optreden. In klei- en veengebieden kan watertekort als gevolg van droogte leiden tot bodemdaling.

# Example: Story Mapping

https://climadapserv.maps.arcgis.com/apps/MapSeries/index.html?appid=2f1902a77d314fa1bcfb8dce7f434396



## Himalayan Adaptation - Bring Research To Use

Himalayan Adaptation, Water and Resilience Research



Adaptation Practices

More extreme Rainfall Expected

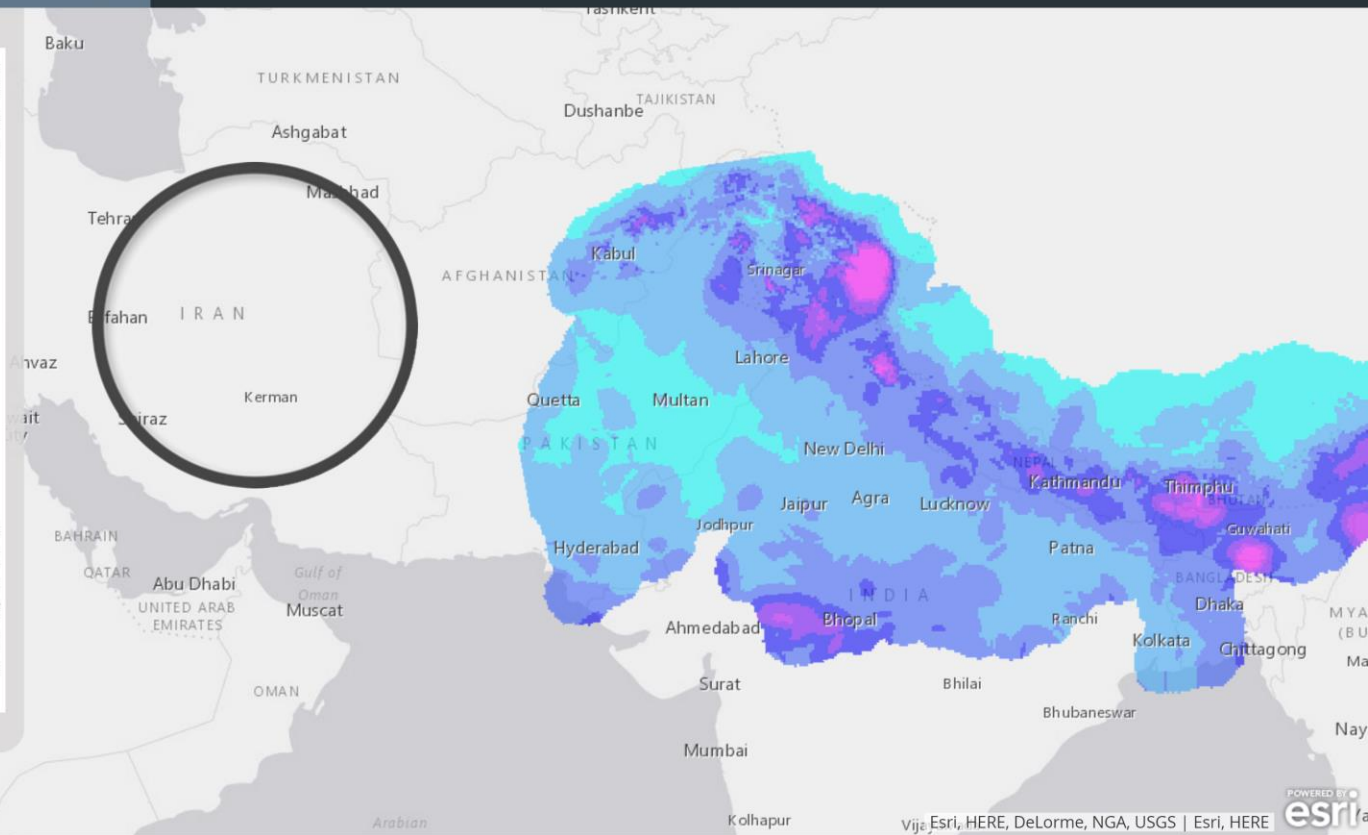
About the Project

This map shows extreme precipitation for the Himalaya. It shows 30 year rainfall events for the reference period 1980 to 2010. If you look through the lens you will see a projection of future extreme precipitation for the scenario RCP 8.5 in 2050.

in mm



A statistical downscaling technique has been used to develop this extreme precipitation map. This downscaling method bridges the mismatch of spatial scale between the scale of General Circulation Models (GCMs), of 200x200km and the resolution needed for impact assessments. Data from local observation points has been used to correct the GCMs for biases.



# How can we help?

- Listen
- Help / facilitate interactions and co-creation
- Training in communication techniques (web portals, leaflets/books, training workshops)
- Joint development of portals/information services
- Help identify data sets
- Let's discuss!