



Climate literacy for professionals in the Netherlands

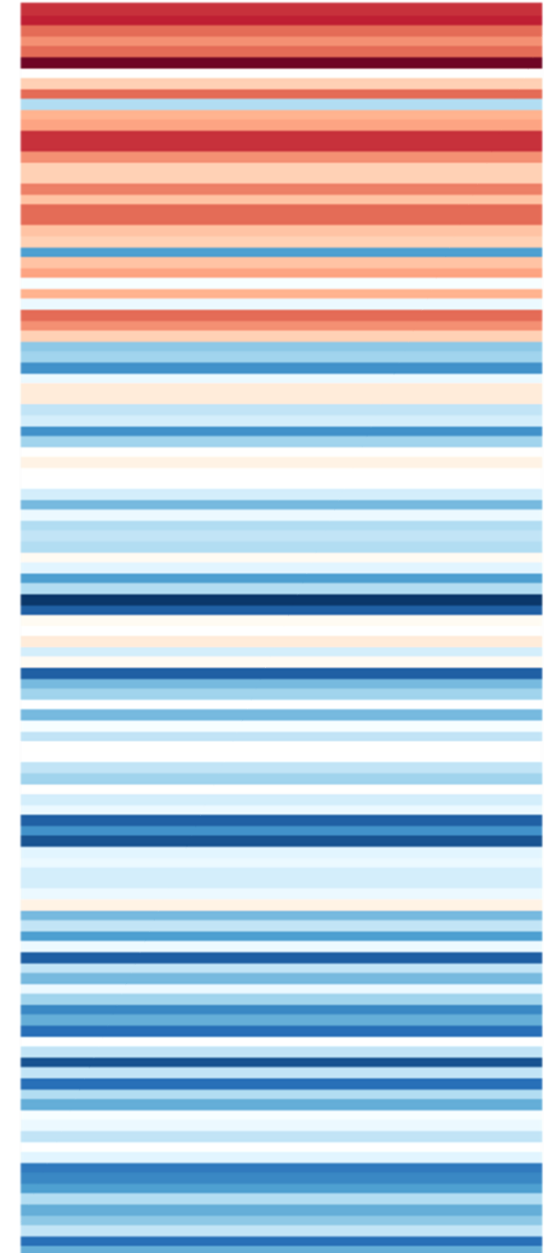
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Climate literate person

- understands the essential principles of Earth's climate system
- knows how to assess scientifically credible information about climate
- communicates about climate and climate change in a meaningful way
- is able to make informed and responsible decisions with regard to actions that may affect climate

(US Global Change Research Program, 2009)

+ knows the limits of his/her knowledge en when to consult experts





Why climate literacy needed

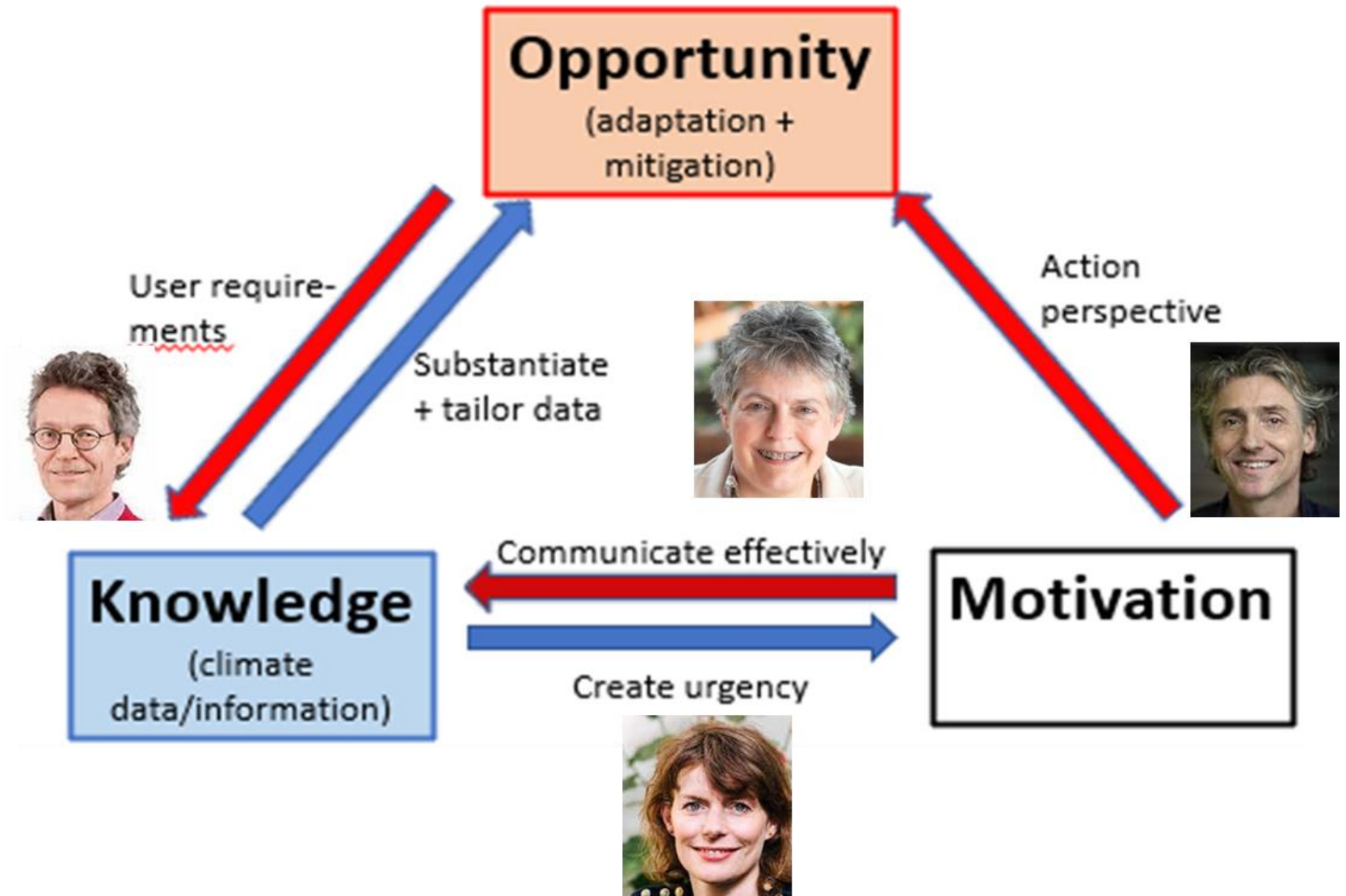
- Lack of knowledge on climate, climate change, climate data with many professionals
- Professionals play a crucial role in adaptation/mitigation and in communication with decision makers and the general public
- Solid basis in climate information needed for efficient and fast adaptation and mitigation
- Many professionals request help on climate data and information, but also on communication about climate change



Inter/transdisciplinary approach needed

Research on improving climate literacy

- Need to focus on more than just knowledge.
- Also, attention needed for how to motivate people to mitigate and adapt and on how to create opportunities for this.



Combining expertises to get added value

Amsterdam University Applied Sciences

- Water in and around the city
- Psychology for sustainable cities
- Visual Methodologies



KNMI:

- Climate scenarios
- Climate data services



Added value for

AUAS

- up-to-date knowledge on climate and climate change
- Professionals and students better prepared for societal challenges related to climate change

KNMI

- Knowledge from other disciplines
- Broader network of potential users of KNMI climate data, better insight in user requirements

Research themes

What climate information and data are needed and in what form to act climate-consciously and make the right decisions in the climate transition?

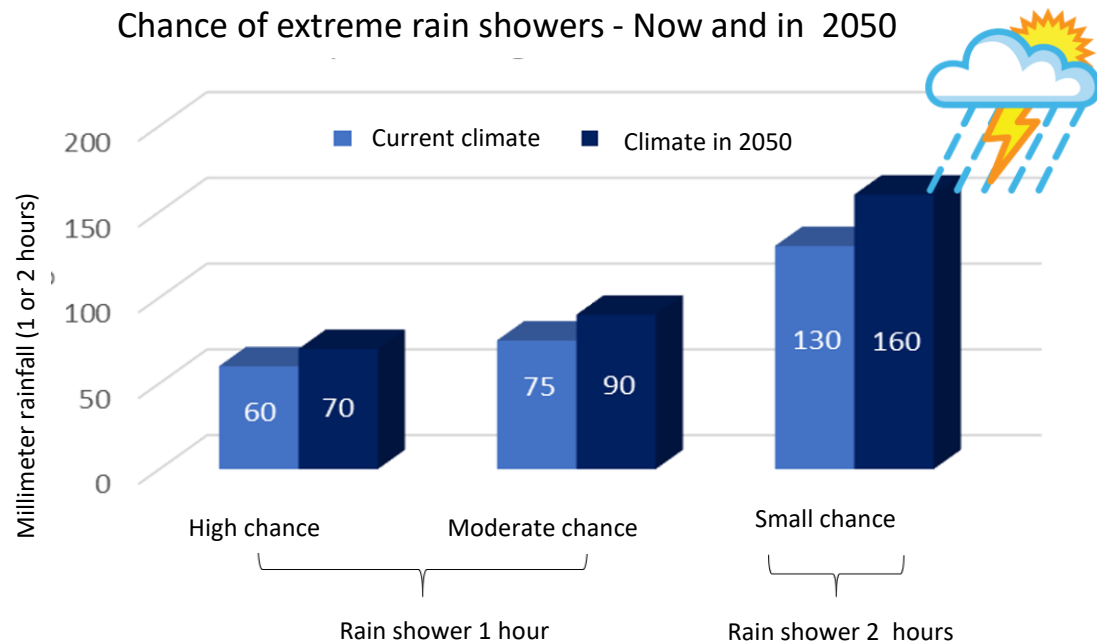
- User requirements, tailoring, dealing with uncertainties, etc.

How can climate information and data be presented effectively, so that they are properly interpreted, usable, inspiring and increase climate literacy?

- use of language, visualization, tailoring for specific groups, etc.



Examples



When only one estimate for the future is presented, be aware that uncertainties are obscured

When you know that there is limited predictability beyond 2 weeks for western Europe, you know the below “prediction” has little value

December 8, 2021

‘Horror winter’ is coming to the Netherlands

<https://dutchreview.com/news/horror-winter-predicted-for-2022/>



Examples

For effective communication take into account that terms may have different meanings for scientists and public

aerosol	spray can	tiny atmospheric particle
positive trend	good trend	upward trend
positive feedback	good response, praise	vicious cycle, self-reinforcing cycle
theory	hunch, speculation	scientific understanding
uncertainty	ignorance	range
error	mistake, wrong, incorrect	difference from exact true number
bias	distortion, political motive	offset from an observation
sign	indication, astrological sign	plus or minus sign
values	ethics, monetary value	numbers, quantity
manipulation	illicit tampering	scientific data processing

Source: Somerville & Hassol, 2011

Interpretation of statistics is often difficult:

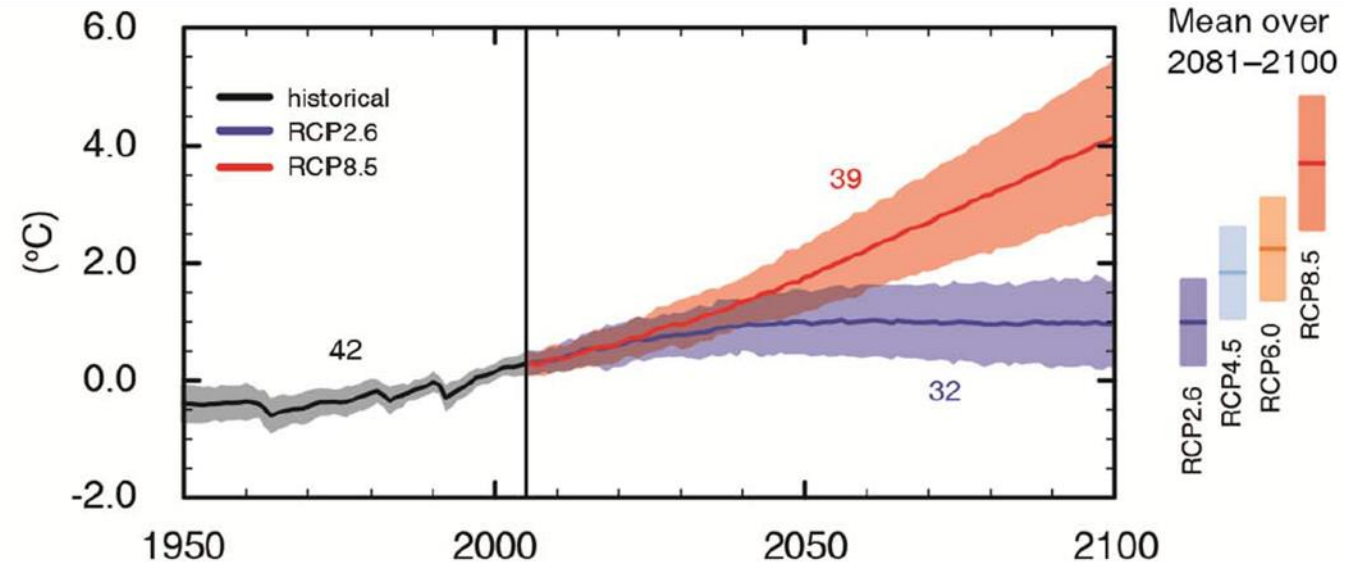
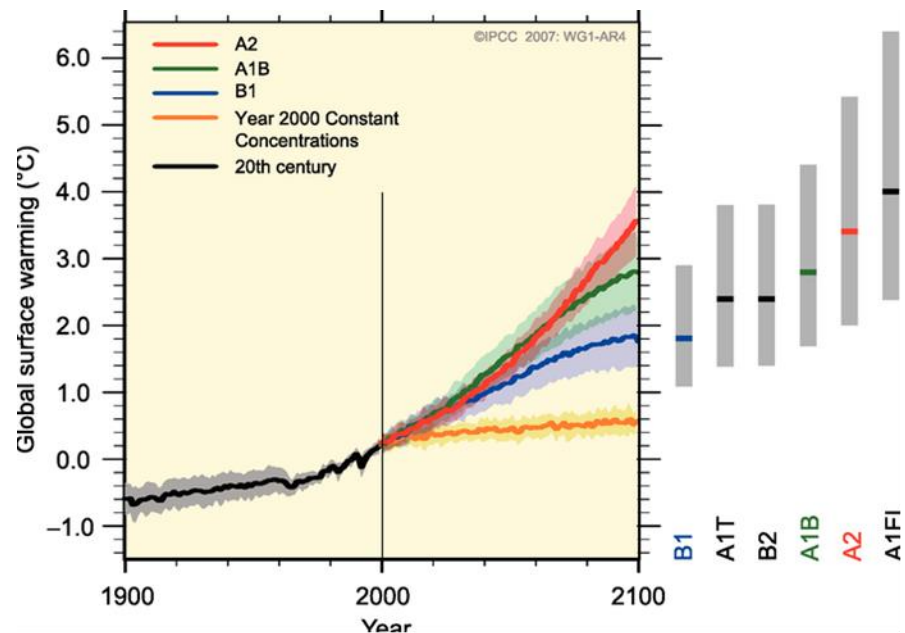
Once in 100 years rainfall event at one location, can occur various times per year in the Netherlands



Examples

Middle scenarios are not necessarily the most probable ones, although often implicitly assumed.

And what is the most probable, is often not the most relevant scenario or event, since risks are related to extreme events (less probable).



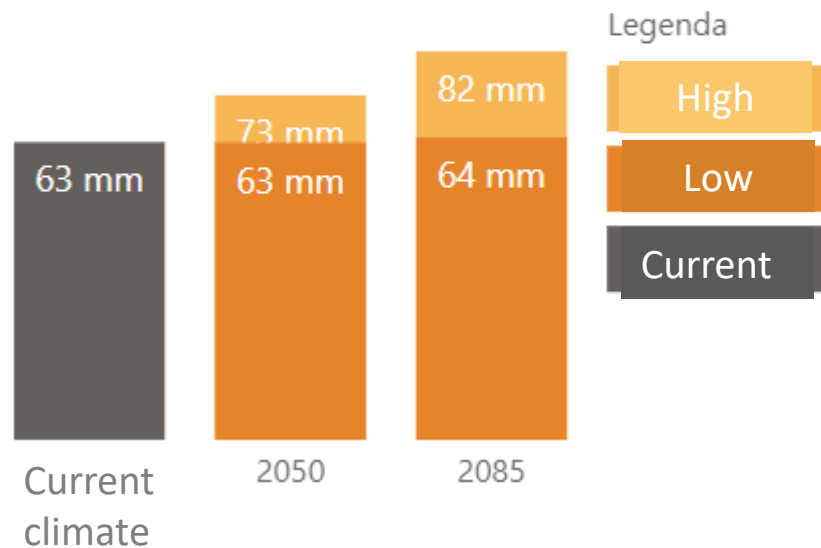
Source: IPCC AR4 (left); IPCC AR5 (right)

In AR4 A1B often seen as middle scenario. In AR5 only the 2 extreme scenarios fully presented

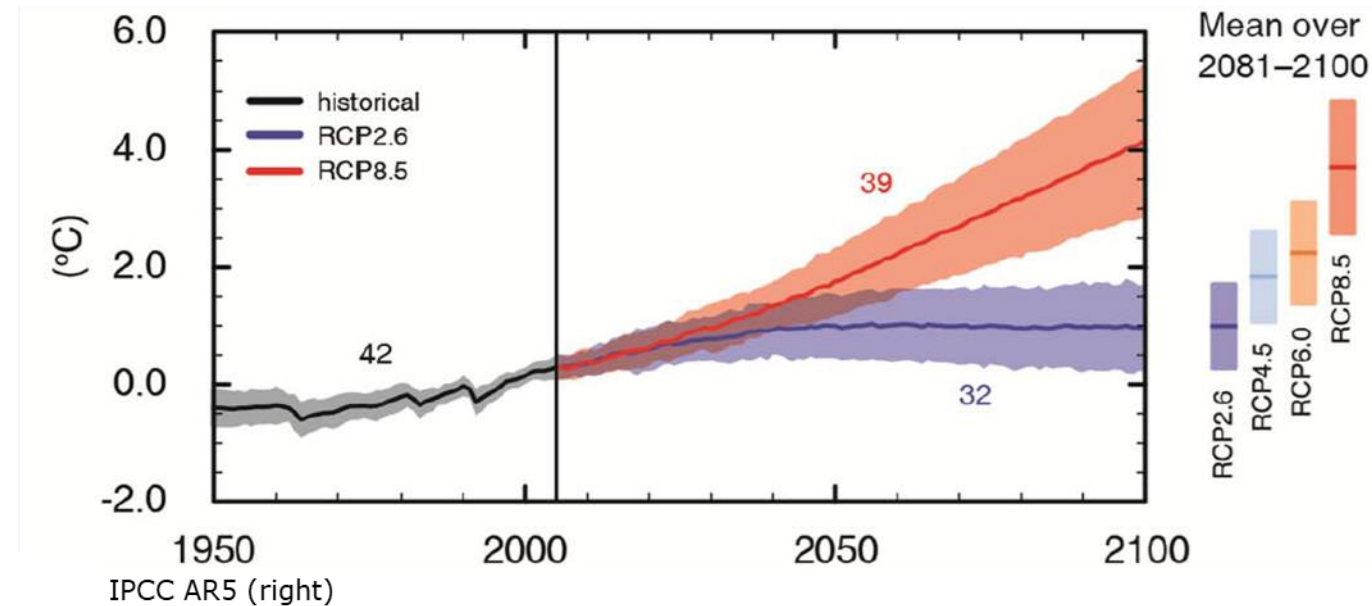
Examples of improved presentation

Once in 10 year amount of rainfall in
24 hours

Source: www.klimaat-effectatlas.nl



*Range of change for the future
is presented, implicitly
indicating uncertainties*



*Even number of scenarios: users are
less inclined to use the middle one,
assuming it is the most probable one*