



ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

Designing of climate change education in the CLIMCOMP-project

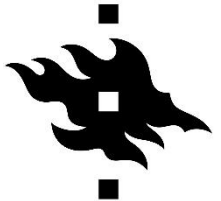
Natalia Korhonen¹, Hilppa Gregow¹, Hanna Lappalainen², Katja Lauri², Jari Lavonen³, Risto Makkonen¹, Joonas Merikanto¹, Antti Mäkelä¹, Magdalena Okuljar², Laura Riuttanen², Taina Ruuskanen², Petri Räisänen¹, Marianne Santala², Joula Siponen², Janina Taurinen², Andrea Vajda¹, Salla Veijonaho³, Veli-Matti Vesterinen³, Ilona Ylivinkka², and Mikko Äijälä²

¹Finnish Meteorological Institute

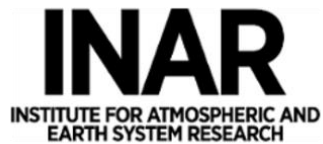
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³Department of Educational Sciences at the University of Helsinki

16.6.2022 NMM32 meeting in Helsinki



UNIVERSITY OF HELSINKI



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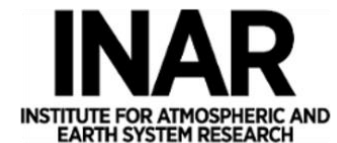
- Climate University courses



- New Climate University course “Living with changing climate”



- ClimateGuide.fi



Climate university courses

<https://climateuniversity.fi/>



The graphic is set against a background of a blue and white Earth from space. It features several text blocks and icons:

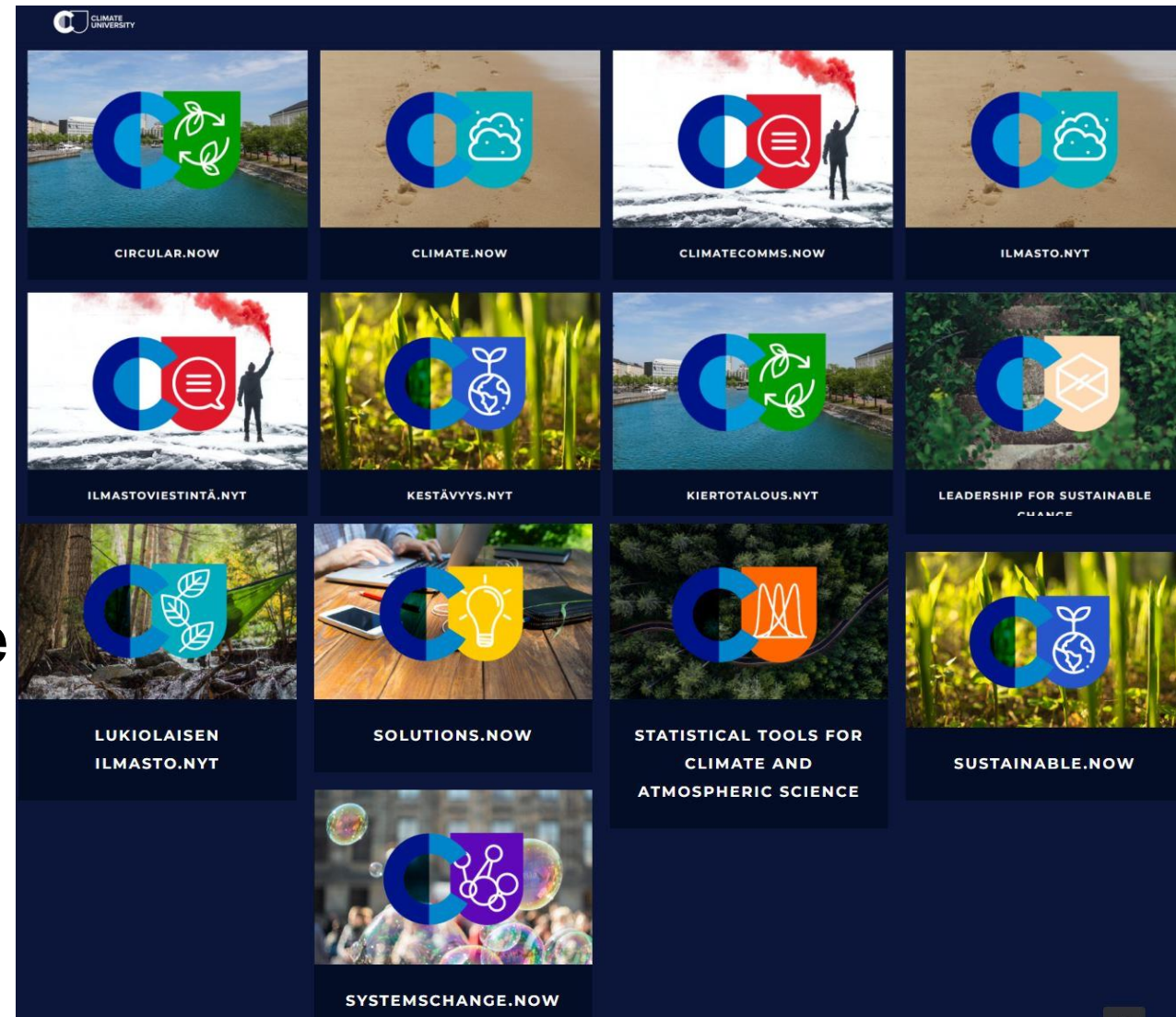
- Online learning materials** (with a hexagonal icon): Open for everyone, Easy-to-use, Up to date, Linked between courses, Engaging content, Quality design.
- Multidisciplinary collaboration** (with a green leaf icon): Collaborative projects, Mixed backgrounds, Multi-institutional, Interaction.
- Impactful, climate & sustainability focused** (with a white globe icon): Science-based, Solutions, Action, Real-world cases, Future perspectives, International.
- Solid pedagogy** (with a yellow lightbulb icon): Written goals aligned, Diverse methods, Transparent evaluation, Guides for teachers, Flipped learning.
- Reflective** (with a red speech bubble icon): Critical evaluation of current systems, Hope, positive visions, Reflecting values, Dialogue.

At the bottom center, the Climate University logo and the text 'CLIMATE UNIVERSITY Course Principles' are displayed.

- Climate University provides free online courses for universities and everyone who wants to make the sustainability transition in the society real.
- The courses are made in multidisciplinary collaboration of several universities in Finland with the funding from the Ministry of Education and Culture, Finnish Innovation Fund Sitra and the participating universities.

Climate University Courses

- Ilmasto.nyt / Climate.now
- Kestävyys.nyt / Sustainable.now
- Kiertotalous.nyt / Circular.now
- SystemsChange.now
- Solutions.now
- ClimateComms.now
- Leadership for sustainable change
- Statistical tools for climate and atmospheric science
- Lukiolaisen Ilmasto.nyt



New Climate University course “Living with changing climate”

- The “Learning of the competencies of effective climate change mitigation and adaptation in the education system” (ClimComp)-project is funded by the Academy of Finland and carried out by the Institute for Atmospheric and Earth System Research of the University of Helsinki, Department of Educational Sciences at the University of Helsinki and the Finnish Meteorological Institute.
- As a part of the ClimComp-project a new academic course “Living with changing climate” is co-designed. This course introduces and teaches how to use, e.g., open-source weather and climate data, weather forecasts, seasonal outlooks and climate projections in decision making.

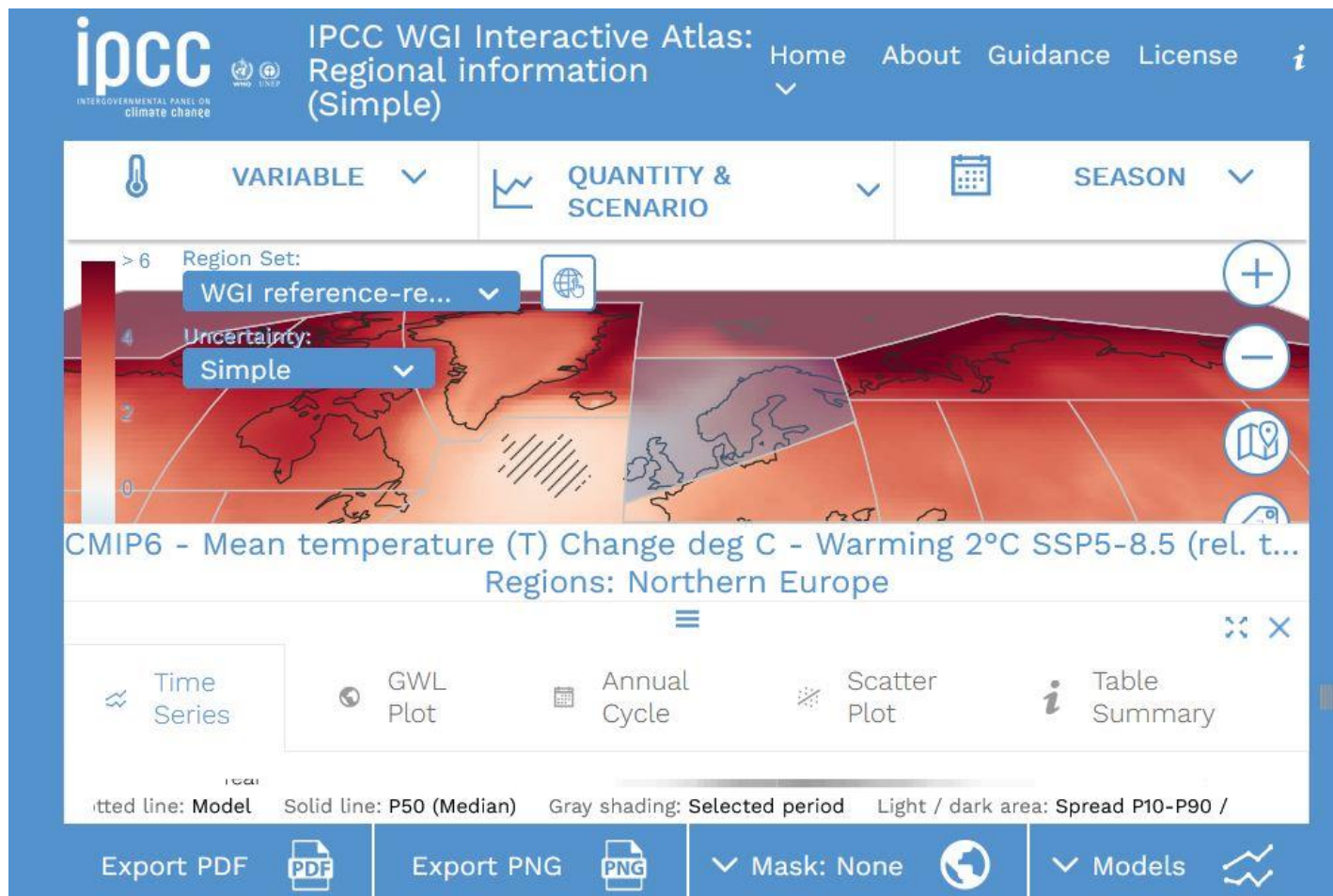
New Climate University course “Living with changing climate”

Find open weather and climate data

Example:

IPCC interactive Atlas

<https://interactive-atlas.ipcc.ch/>

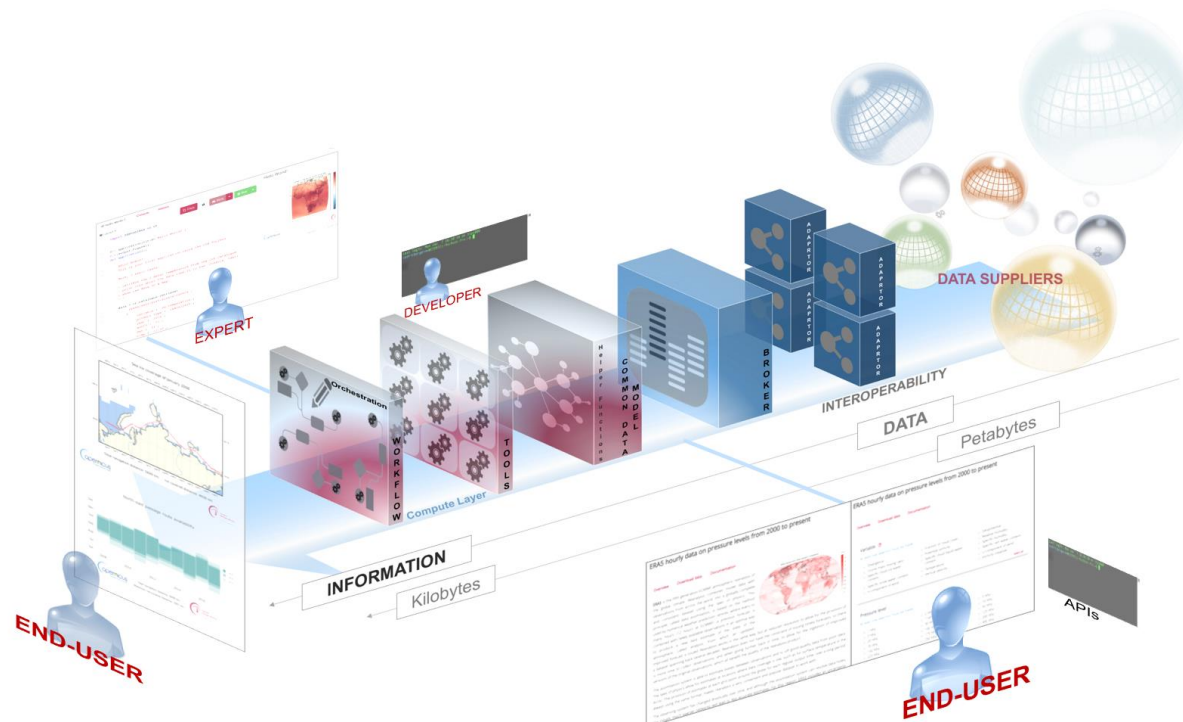


New Climate University course “Living with changing climate”

Applications

Example: Climate Data Store (CDS) Toolbox

- Allows users to develop applications that make use of the data content of the CDS
- The toolbox allows post-processing of data (calculation, plotting, selection, downloading)
- The user of the Toolbox can write python software to access, post-process and export climate data made available through the CDS.



New Climate University course “Living with changing climate”

Study visit

Investigates

- how climate data is used in real organizations and businesses
- what kind of needs for weather and climate data arise from organizational decision-making, culture, operations and/or its stakeholders



New Climate University course “Living with changing climate”

Piloting

- In Spring 2023
- Recommended prerequisites: Climate.now and Statistical tools for climate and atmospheric science
- Piloters will get full 5 ECTS-credits

- Interested in piloting: contact Natalia.Korhonen@fmi.fi

Climate change information through a single address

Shortcuts →

What is climate change?

Climate change information for sectors

Climate change in Finland

Climateguide.fi provides climate change information in collaboration with FMI, Finnish Environment Institute, Natural Resources Institute Finland, The Ministry of Transport and Communications, The Ministry of Agriculture and Forestry, Ministry of Economic Affairs and Employment of Finland, Ministry of Environment, Aalto University, University of Helsinki, University of Turku, and VTT Technical Research Centre of Finland.

Climateguide.fi

has been updated and additions have been developed

In collaboration with



FINNISH METEOROLOGICAL INSTITUTE



SYKE



MINISTRY OF TRANSPORT AND COMMUNICATIONS



Ministry of Agriculture and Forestry of Finland



Ministry of Economic Affairs and Employment of Finland



Ympäristöministeriö
Miljöministeriet
Ministry of the Environment



Aalto University



UNIVERSITY OF HELSINKI



UNIVERSITY OF TURKU



VTT

Mapping tool: Impact scenarios of climate change

Climate and impacts

- Water resources** i
- Snow cover duration (days) i
- Maximum Snow Water Equivalent (kg/m²) i
- Soil moisture deficit (mm) i
- Evaporation sum (mm) i
- Maximum runoff (mm) i
- Total runoff (mm)
- Flood timing (percent of years)
- Potential energy demand** i
- Natural ecosystems** i
- Terrestrial ecosystems** i

Time period

Baseline

2010 - 2039

2040 - 2069

2070 - 2099

Map option

value

change

Climate scenario i

[view scenarios](#)

RCP-based scenarios

	RCP 2.6	RCP 4.5	RCP6.0	RCP 8.5
Mean Scenario	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Warm + Dry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Warm + Wet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cold + Dry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cold + Wet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Snow cover duration (days)

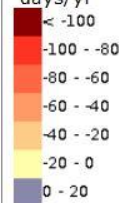
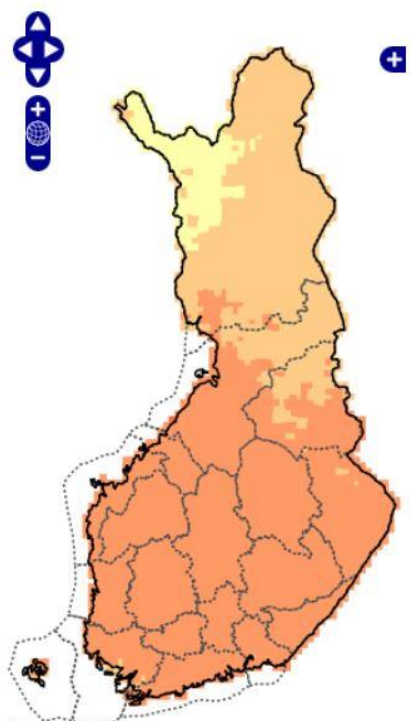
relative to baseline

RCP-based scenario:
RCP 2.6

Climate model:
CCSM4

Time period:
2010 - 2039

Unit:
days/yr

Descriptive statistics for Finland i

N: ... min: ... AVG: ... max: ... SD: ...

percentiles:
P5: ... P25: ... P50: ... P75: ... P95: ...

Explanation

Map

Maps show estimates of the impacts of climate change in different parts of Finland in a regular grid of 10 x 10 km. Descriptive statistics can be chosen to be shown either for all squares in Finland or for the squares of a selected region.

Types of impacts

Different types of impacts can be selected. In this prototype version, maps can be produced showing impacts of climate change on hydrology (water-related factors), energy demand for heating and

<http://www.iav-mapping.net/shorelark/?locale=en#SykeDataPlace:vaikutukset>

Thank you for your attention!

Questions or comments?

Contact: Natalia.Korhonen@fmi.fi



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