

Climate service as a decision-support tool for winter tourism industry

User-friendly climate information for securing snow

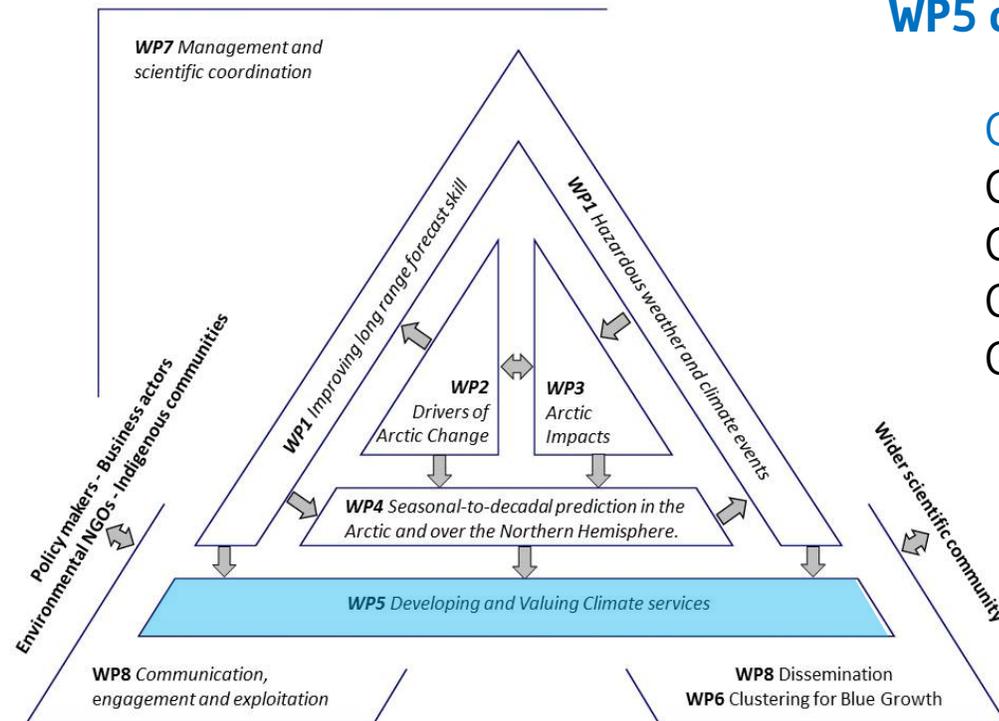
Presentation to the PROSNOW (H2020) project 20.3.2020



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Five case studies on climate services in the Blue-Action project (EU Horizon2020)



WP5 case studies co-design climate services for different fields:

- CS1 Winter tourism centers in Northern Finland
- CS2 Temperature-related human mortality in European regions
- CS3 Extreme weather risks to maritime activities
- CS4 Climate services for marine fisheries
- CS5 Yamal 2040: Scenarios for the Russian Arctic

More information: www.blue-action.eu

Climate services

The European Commission's Roadmap to Climate Services 2015:

*"[T]he transformation of **climate-related data** — together with **other relevant information** — into **customised products** such as projections, forecasts, information, trends, economic analysis, assessments (including technology assessment), counselling on best practices, development and evaluation of solutions and any other service in relation to climate that **may be of use for the society at large**. As such, these services include data, information and knowledge that **support adaptation, mitigation and disaster risk management (DRM)**."*
(EC 2015)

- In short: **the provision of relevant climate related information in a way that is meaningful for the end-user and assists its decision-making**

“Given the societal and economic challenges generated by climate change, it becomes **increasingly important to include climate information in every day decision making.**

Climate services (CS) are helping organizations and companies to mitigate, adapt to, and become more resilient to climate change.”

“The market for climate services, however, is still in the early stages of development, with presumed gaps existing between supply and demand.”

Climate service for winter tourism industry

- Co-designed by a multidisciplinary team at the Arctic Centre, University of Lapland and Rukakeskus Ltd.
- Climate data: GCFS.2 (DWD, UniHamburg)
- 6-month forecast on snowmaking conditions for the skiing season; other uses, too
- Piloting with Ruka with replicability in other resorts in mind after the project phase



ARCTIC CENTRE
University of Lapland



Deutscher Wetterdienst
Wetter und Klima aus einer Hand



DMI
Vejr, klima og hav

SAMS
Research Services Ltd



RUKA Ski Resort in Northern Finland



200 ski days per year

34 slopes

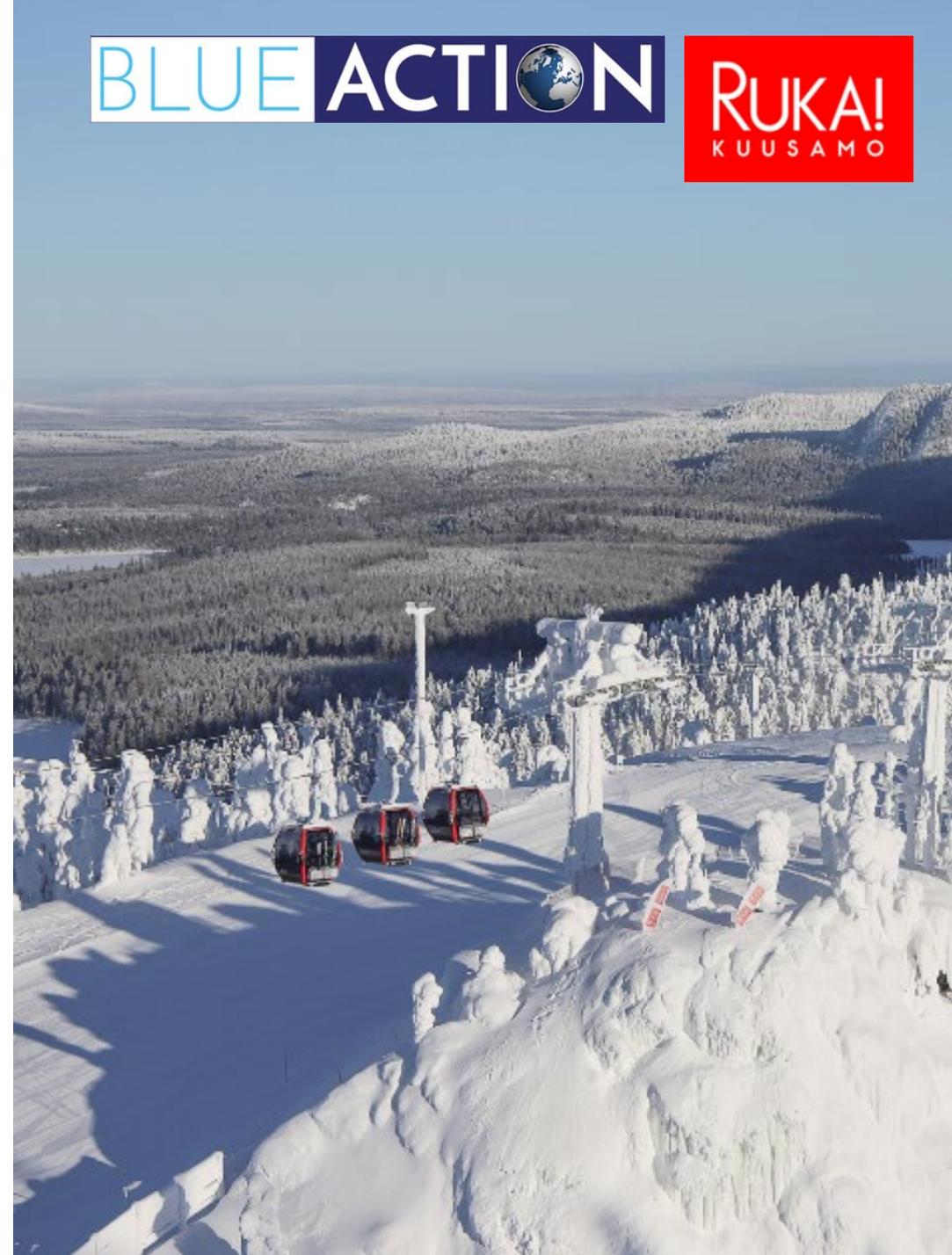
First to open slopes; opening of season in 2019 on 4th Oct

Family company with two resorts: Ruka and Pyhä

Forerunner in environmental programs; carbon neutral

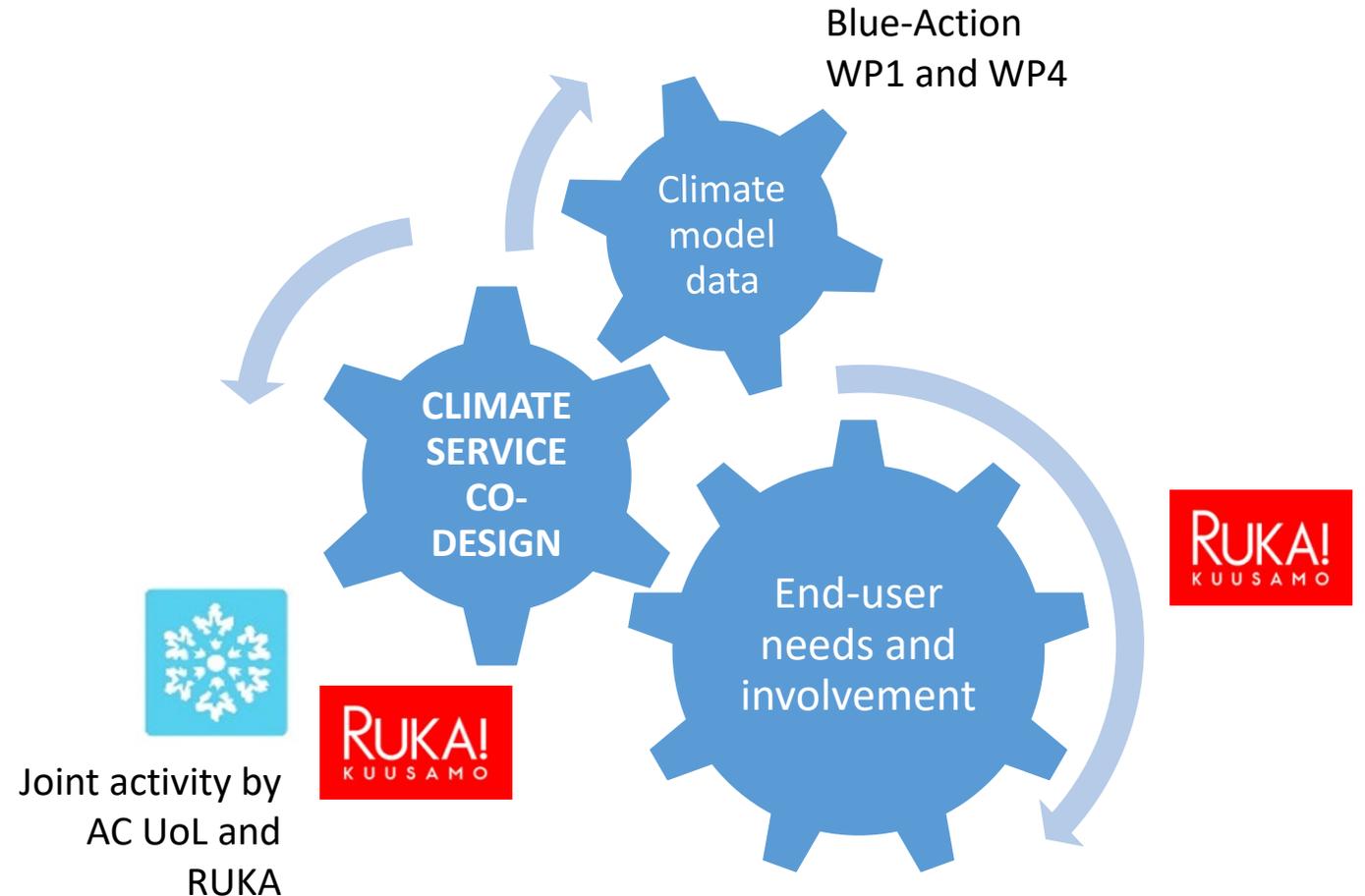
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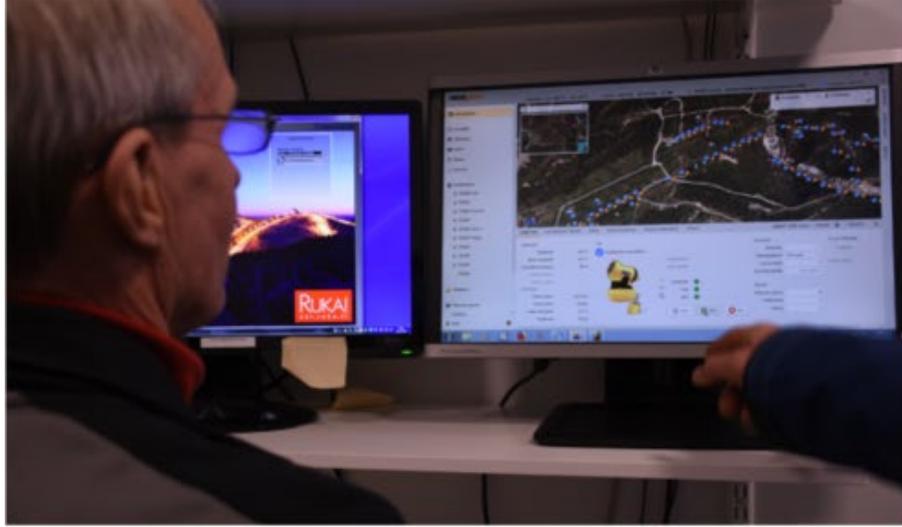
RUKA!
KUUSAMO



Co-designing the climate service

- Close collaboration within the team
 - For understanding the knowledge needs and decision-making processes of Ruka
 - Iterative development of the service, constant feedback on user-friendliness and content





Fieldwork, workshop and case study meeting in February 2018 in Ruka
Credits: Ilona Mettiäinen, AC UoL (photos 1, 3-4), Jusu Toivonen, RUKA (photo 2)

The Snow App (v 0.040)

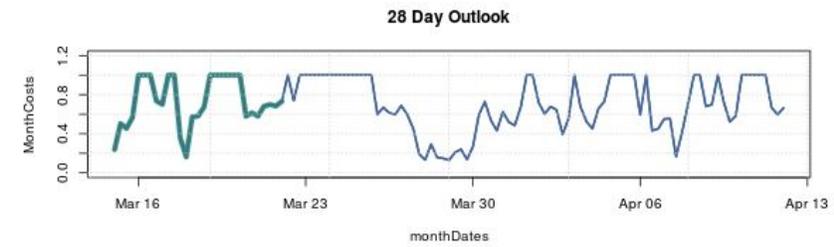
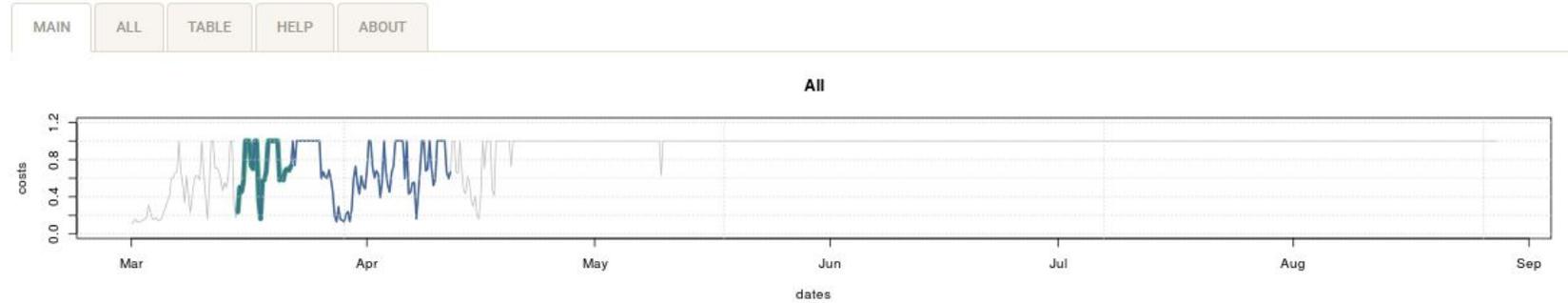
Week

1 3 24

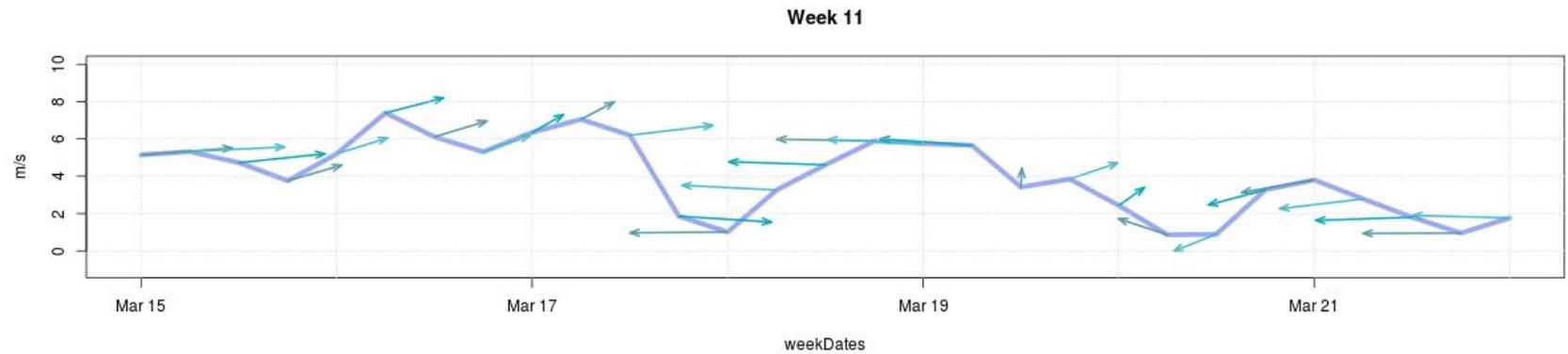
Centre weighting

Additional information

- None
- Windspeed
- Uncertainty
- Correction



Additional

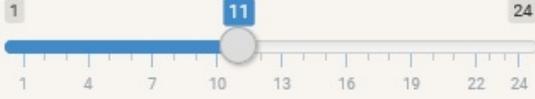


The App
Developed in R (Shiny)

The Snow App (v 0.038)

Week

1 11 24



Centre weighting

Additional information

None

Windspeed

Uncertainty

Correction

MAIN ALL TABLE HELP ABOUT

Show 10 entries Search:

	Date	Cost	Temps	RHumsdata	WSpeeds
1	2019-11-10	0.62227	-2.7865	0.98978	4.3212
2	2019-11-10	0.6678	-2.1275	1	3.7211
3	2019-11-10	0.66394	-2.1877	1	3.0719
4	2019-11-10	0.66046	-2.2421	1	2.8163
5	2019-11-11	0.63729	-2.6036	1	2.8193
6	2019-11-11	0.64948	-2.3577	0.9889	2.9654
7	2019-11-11	0.6527	-2.3381	0.99501	3.5839
8	2019-11-11	0.6404	-2.4782	0.98468	3.9566
9	2019-11-12	0.62216	-2.7253	0.9772	4.2371
10	2019-11-12	0.57815	-3.3305	0.96097	3.9397

Showing 1 to 10 of 29 entries

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Video on our climate service:

Securing sustainable snow for winter tourism with a climate service



A consistent snow base is a key resource for Ruka that has around 200 skiing days from early October to May, and it relies heavily on machine-made and stored snow to ensure the slopes can be opened early and maintained through the winter.

<https://vimeo.com/365761832> (published 12.10.2019)



00:30





Thank you for your attention!

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