

# Ongoing research at HungaroMet

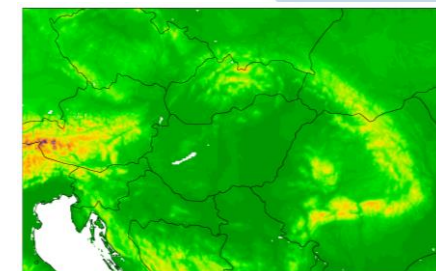
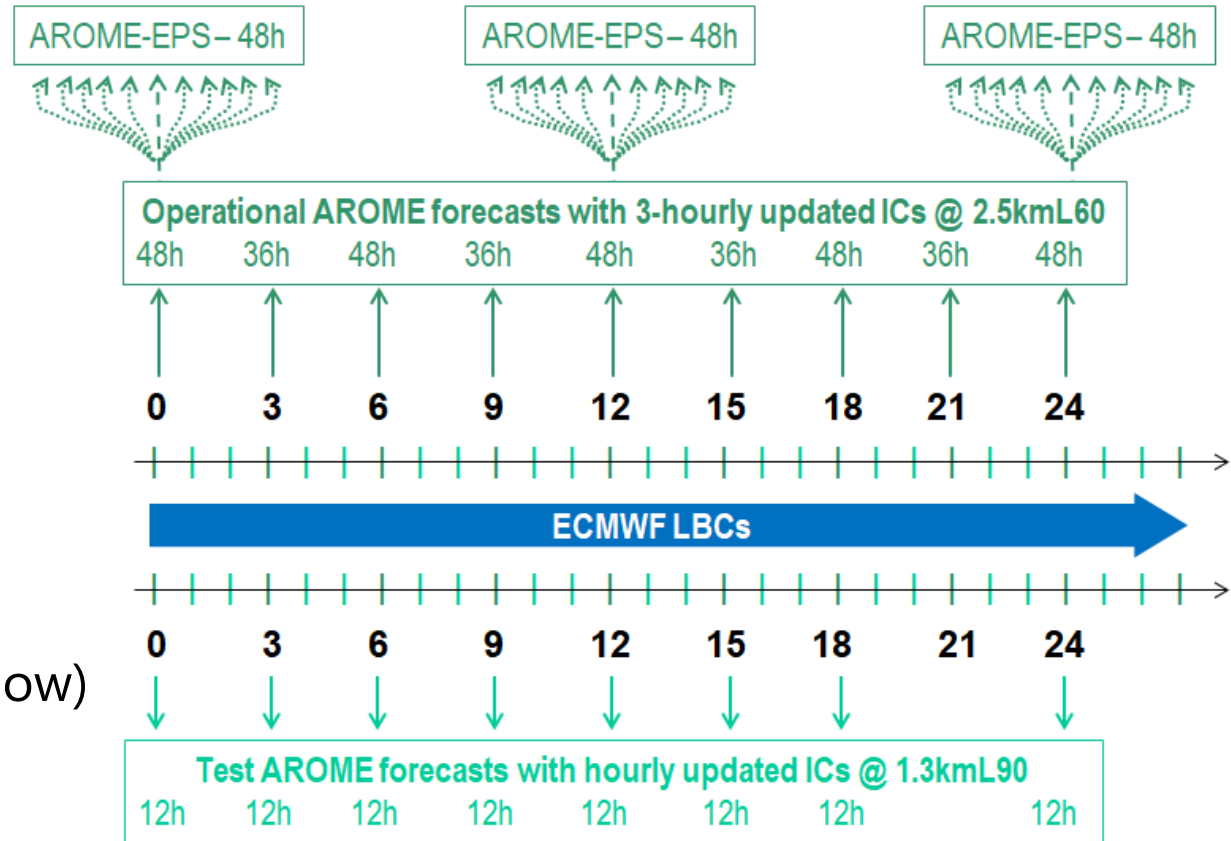
Gabriella Szépszó  
[szepszo.g@met.hu](mailto:szepszo.g@met.hu)

Directorate for Climate, Research and Development



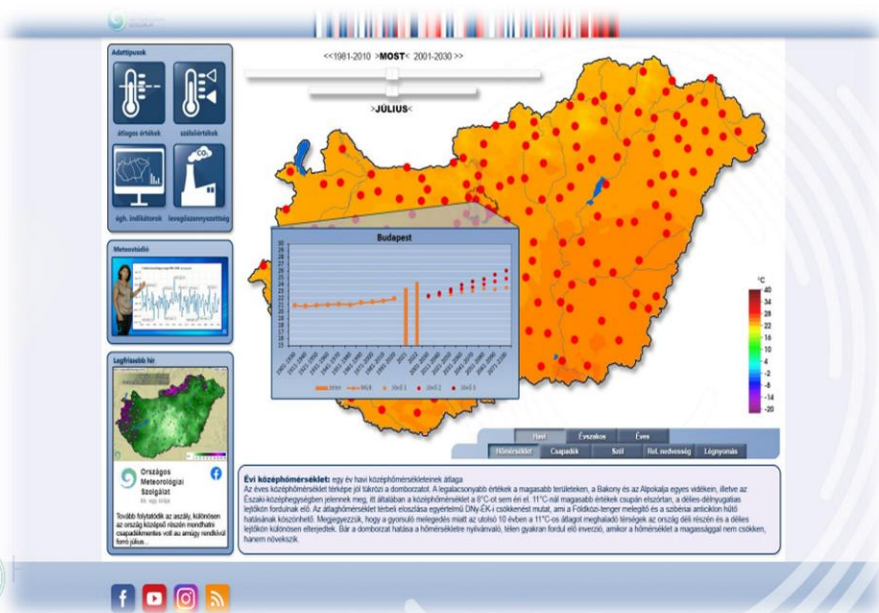
# Numerical weather prediction developments

- Short-range weather forecasts based on the **AROME NWP model** under the umbrella of ACCORD and LACE consortia
- Assimilation of surface, radiosonde, aircraft, GPS and satellite measurements
- Ongoing research and developments:
  - resolution upgrade: 2.5kmL60 → 1.3kmL90
  - hourly assimilation cycle
  - additional measurements (soil moisture, snow)
  - representative ensemble predictions
- 15-60 minute outputs for forecasters and applications (hydrology, renewable energy)
- Post-processing of raw model outputs



# Developments supplying climate research

- Revision and extension of observation network in Hungary
- Digitalization of archive time series
- Investigation of climate change in Hungary using measurements and model projections
- Continuous development of the data and the methods: homogenization, interpolation, convection-permitting climate modelling, urban modelling
- Improvement of the existing public databases: [odp.met.hu](http://odp.met.hu), [klimadat.met.hu](http://klimadat.met.hu) (next slide), [nater.mbfisz.gov.hu](http://nater.mbfisz.gov.hu)



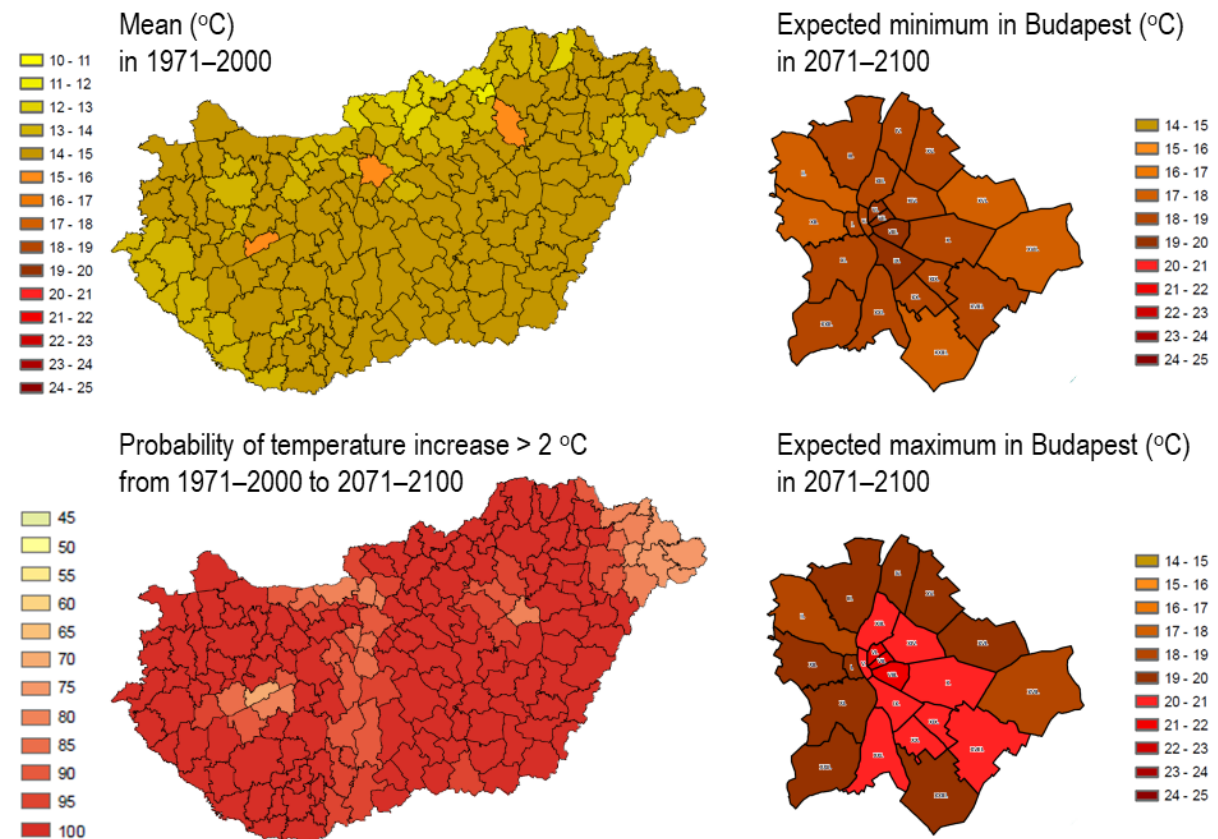
- Dedicated climate portal with the following content:
  - Observations and projections (digital atlas)
  - Sectoral information
  - Automatic and tailored climate services
  - Scientific and other information on climate change

# KLIMADAT application

- Maps, graphs and data of temperature and precipitation indicators for climate impact studies, strategy making, media, private interests
- Detailed information on changes in Hungary: good quality **observations** + **simulations**
- Publicly available interface (in Hungarian): [klimadat.met.hu](http://klimadat.met.hu)
- Period: 1971–2100
- 1 and 10 km resolution
- Projection uncertainties in form of probability maps, quantile maps
- Continuous update and extension

Model	Resolution	Scenario	Area
ALADIN	10 km	RCP4.5, RCP8.5	Hungary
REMO	10 km	RCP4.5, RCP8.5	Hungary
SURFEX	1 km	RCP4.5, RCP8.5	Budapest

## Daily minimum temperature in July



# Integrated climate policy support system

- Submitted project **proposal** for harmonised data availability in the **Danube Region** for climate vulnerability assessment by strengthening the cooperation of key actors and by developing integrated and uniform data-based solutions
- Specific objectives:
  1. **Data background** development: gridded climate database from measurements and RCM results, climate indicators
  2. Development of a **uniform vulnerability assessment framework**: inventory of climate risks, risk map, methodology, pilot vulnerability assessments
  3. Strategic and **policy integration** facilitation, **awareness raising**: Danube Region Adaptation Policy Support Platform, user guide, e-learnings, publications, collection of good practices, national roadmaps, stakeholder workshops
- Interreg framework, project evaluation is expected in Q3/2024



Thank you for your attention!  
e-mail: [szepszo.g@met.hu](mailto:szepszo.g@met.hu)