Landsvirkjun
National Power Company of Iceland

Veðurstofa Íslands

The ICRA-2016 reanalysis and products for the national power company Landsvirkjun

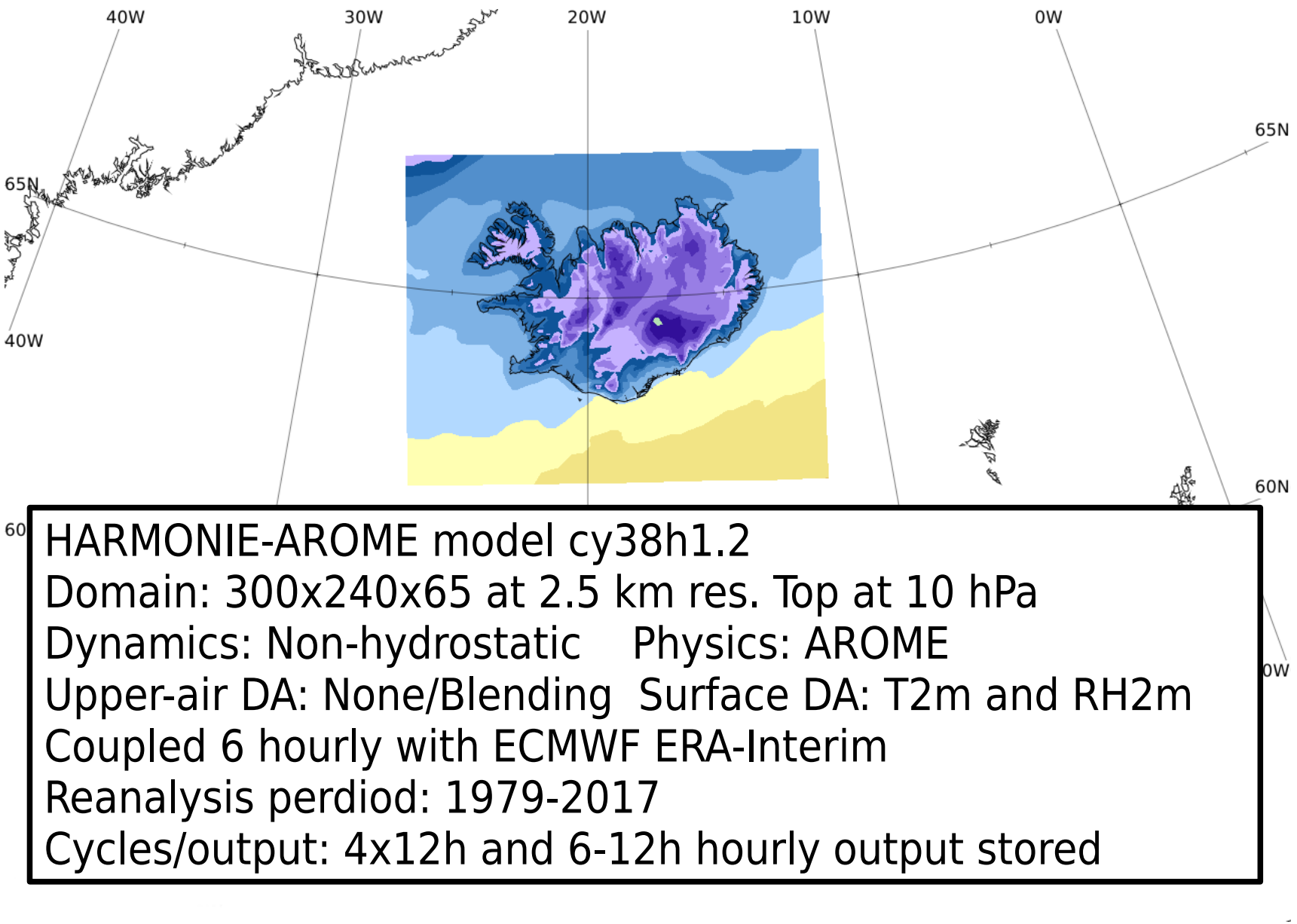
NMM31 in Reykjavik
June 19 2018

Bolli Pálmason

Nikolai Nawri

Andréa-Giorgio Raphael Massad

ICRA-2016 reanalysis setup



HARMONIE-AROME model cy38h1.2
Domain: 300x240x65 at 2.5 km res. Top at 10 hPa
Dynamics: Non-hydrostatic Physics: AROME
Upper-air DA: None/Blending Surface DA: T2m and RH2m
Coupled 6 hourly with ECMWF ERA-Interim
Reanalysis perdiod: 1979-2017
Cycles/output: 4x12h and 6-12h hourly output stored

The reanalysis archived dataset

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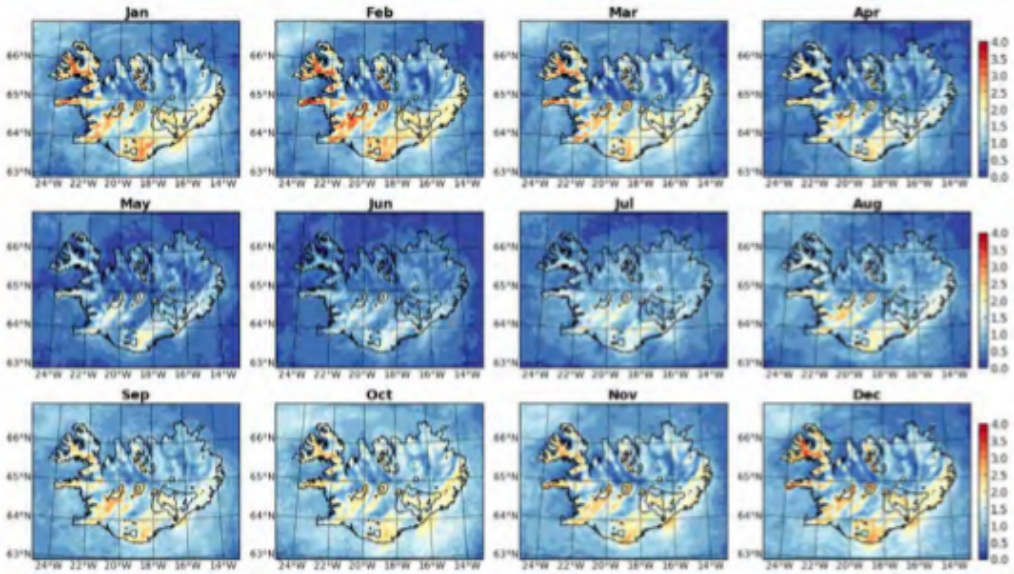
- Fields on the lowest 15 model levels (up to about 500 mAGL): temperature, specific humidity, horizontal wind components, turbulent kinetic energy
- Fields on constant pressure levels at 1000, 925, 850, and 500 hPa: geopotential, temperature, relative humidity, horizontal wind components
- Fields at 500 and 1000 mAGL: temperature, relative humidity, horizontal wind components
- Surface and boundary layer fields: air pressure and temperature at ground level, mean sea level pressure, 2-m air temperature, 2-m specific and relative humidity, 10-m horizontal wind components, snow depth on the ground (liquid water equivalent), atmospheric mixed layer depth, total cloud cover, low/medium/high cloud cover, total latent heat flux from the ground
- Surface layer accumulated fields: short- and longwave downward radiation flux, short- and longwave net downward radiation flux, direct solar radiation flux, upward sensible heat flux, separate upward latent heat fluxes for evaporation and sublimation, masses of water evaporation and snow sublimation, mass of rainwater, mass of snow, mass of mixed-phase precipitation (referred to in the model as graupel)

The ICRA-2016 report



The ICRA atmospheric reanalysis project for Iceland

Nikolai Nawri
Bolli Pálmason
Guðrún Nína Petersen
Halldór Björnsson
Sigurður Þorsteinsson

http://www.vedur.is/media/vedurstofan-utgafa-2017/VI_2017_005_rs.pdf

ICRA-2016: mean annual T2m 1981-2010

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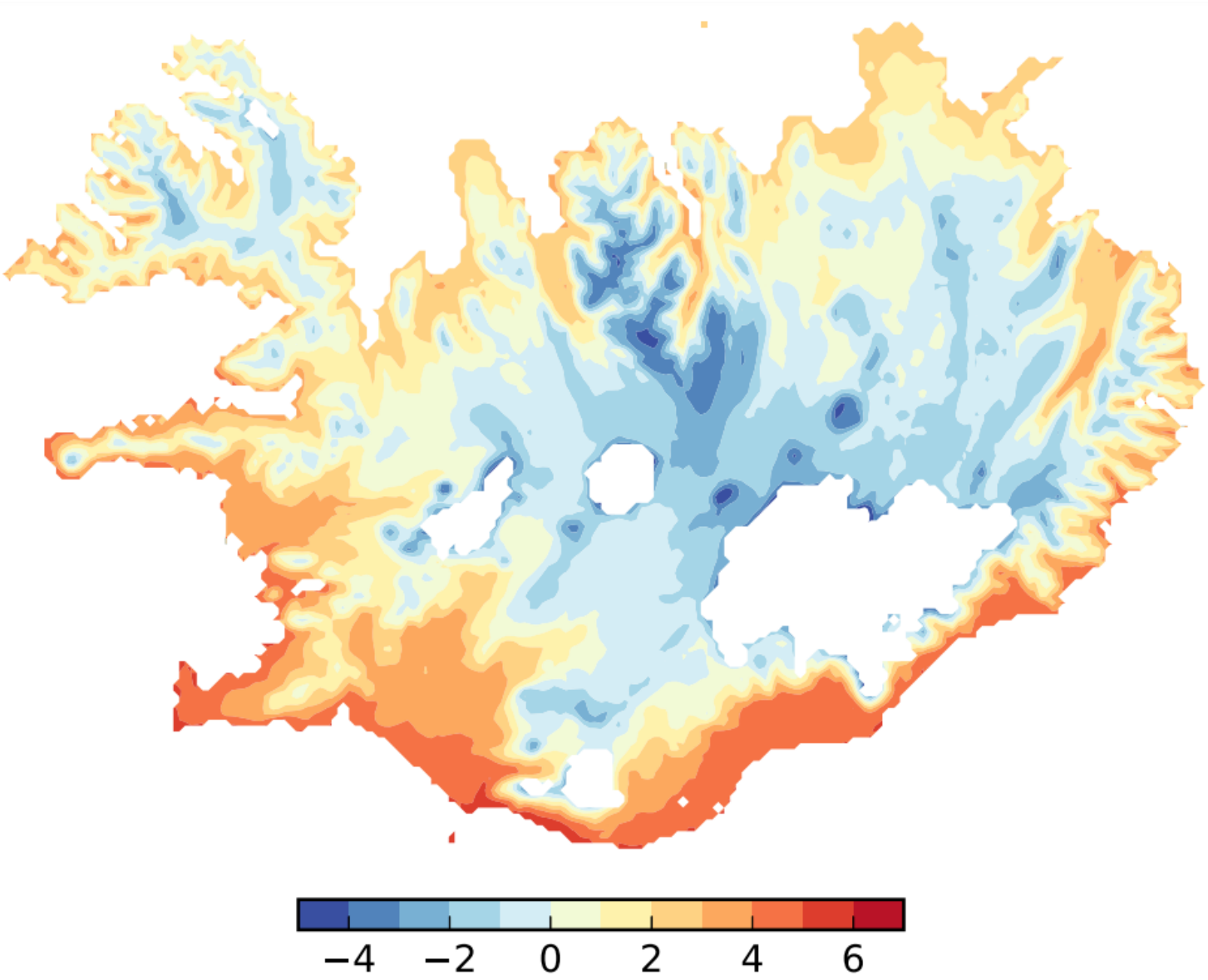
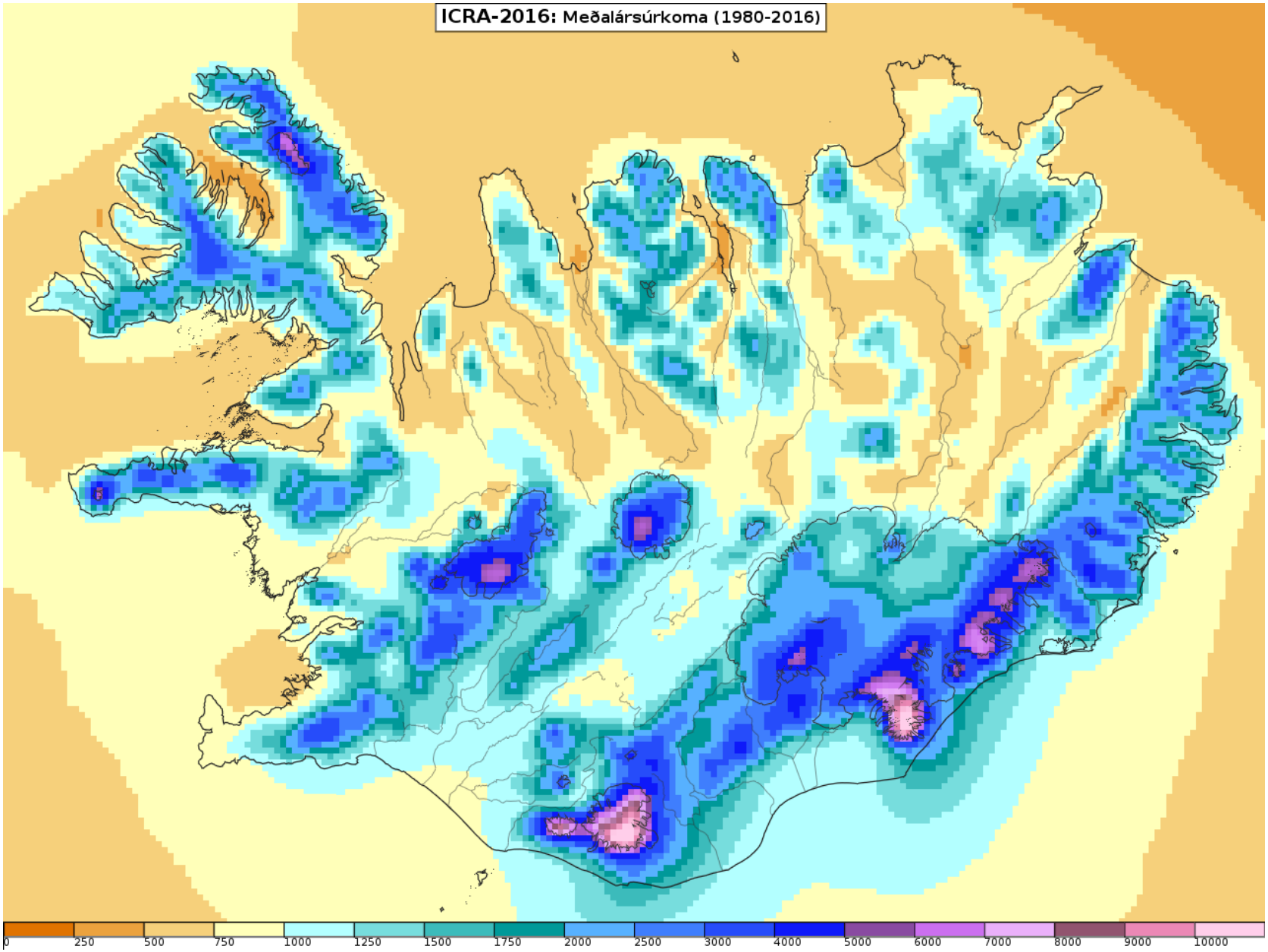


ICRA-2016: mean annual precipitation 1980-2016



ICRA-2016: mean monthly sensible heat flux

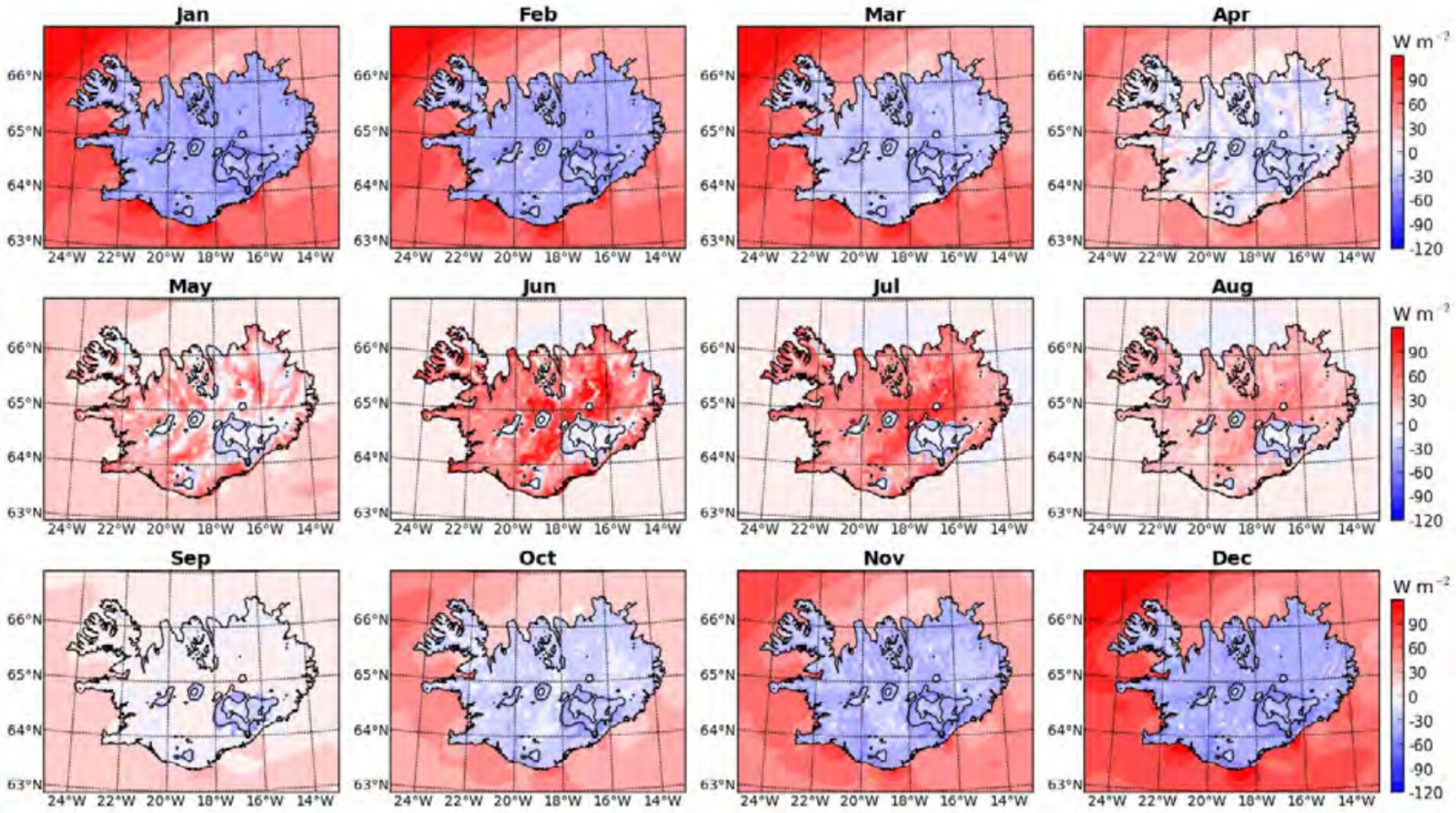


Figure 11. Mean monthly sensible heat flux from the ground to the atmosphere.

ICRA-2016: T2m mean monthly diurnal range

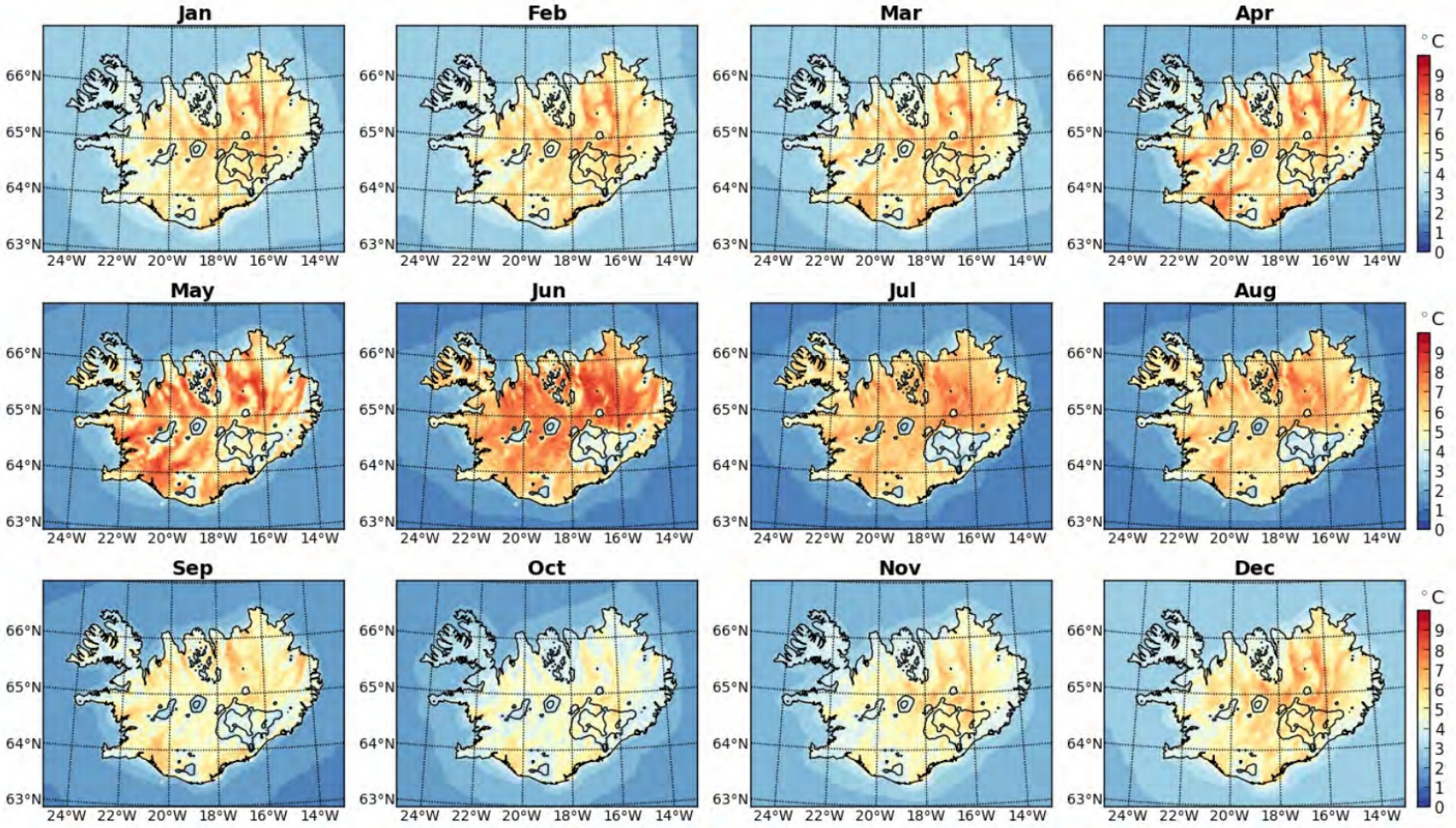


Figure 15. Mean monthly diurnal range of 2-m air temperature, defined as the difference between average daily maximum and minimum temperatures.

ICRA-2016: Monthly growing degrees days GDD

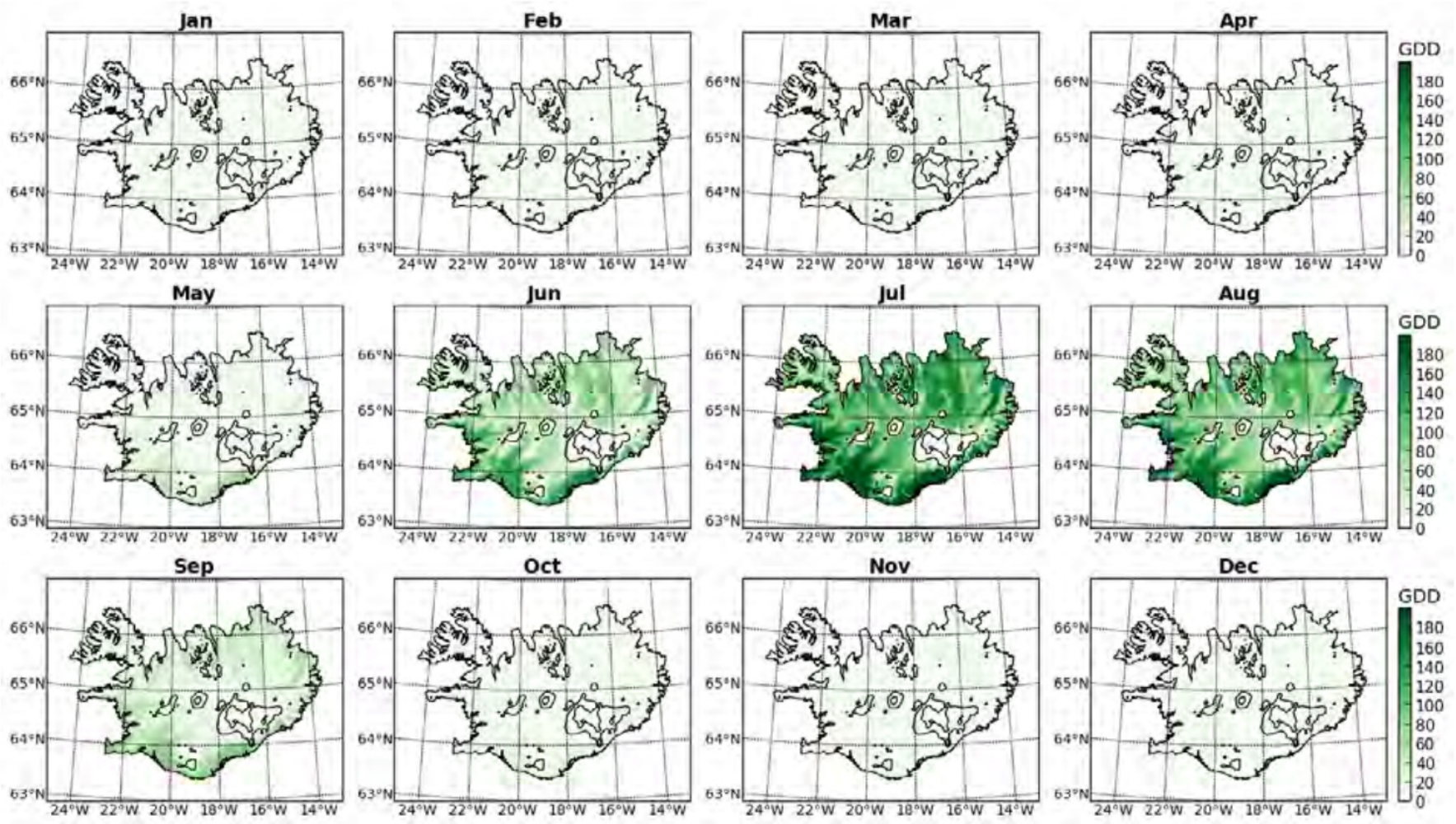
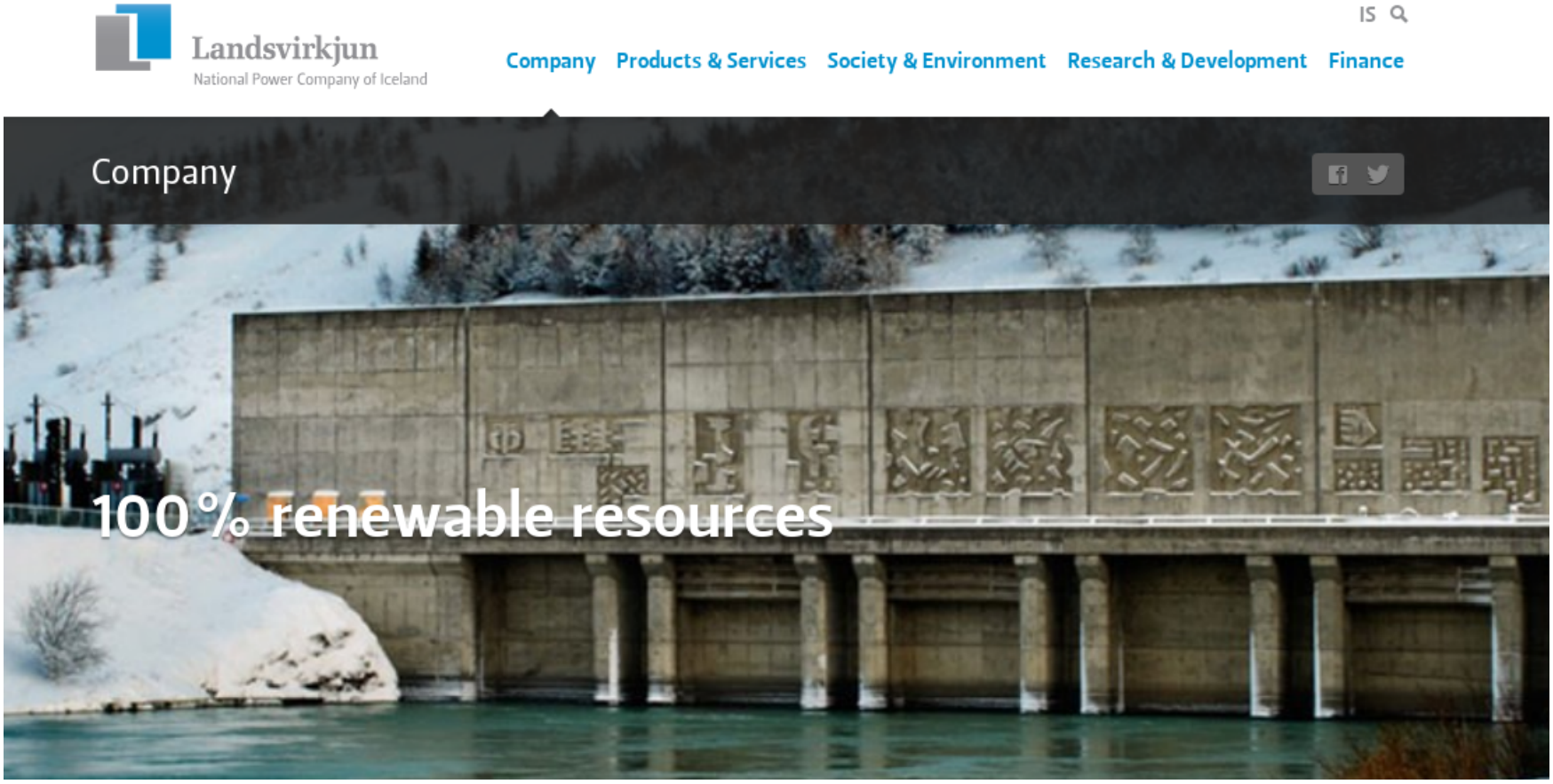


Figure 19. Monthly growing degree days (GDD, see main text for definition).

Landsvirkjun National Power Company

Landsvirkjun processes 75% of all electricity in Iceland and operate 14 hydropower stations, three geothermal power stations and two wind turbines and electricity generation surpassed 14 Twh in 2017



Monitoring website for catchment areas

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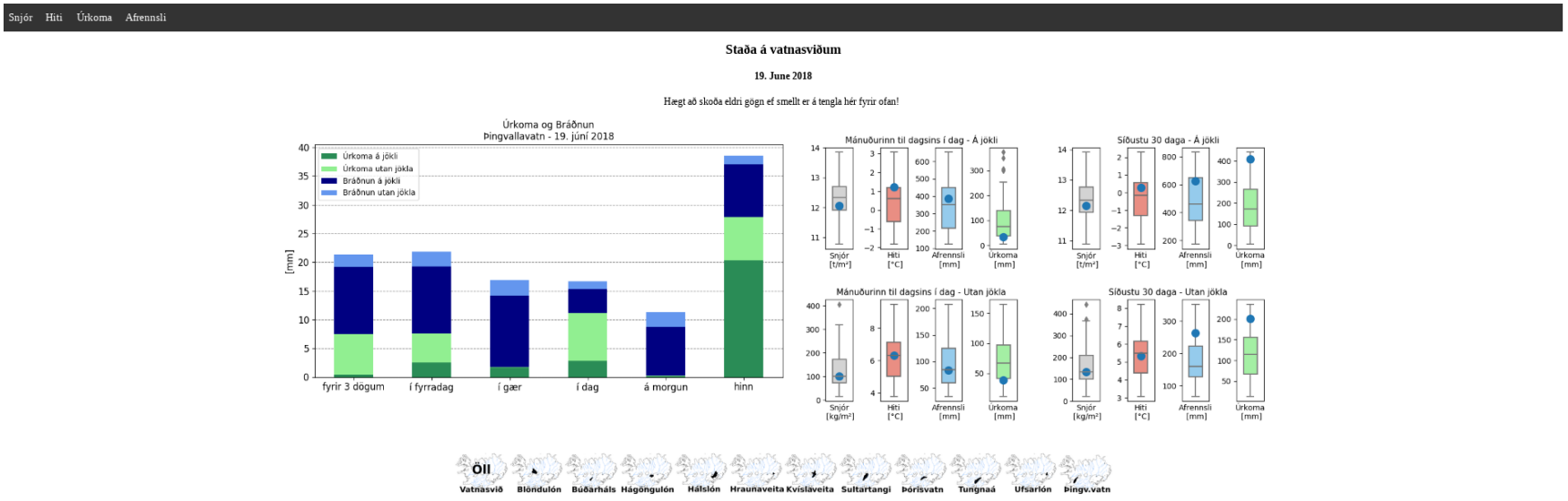
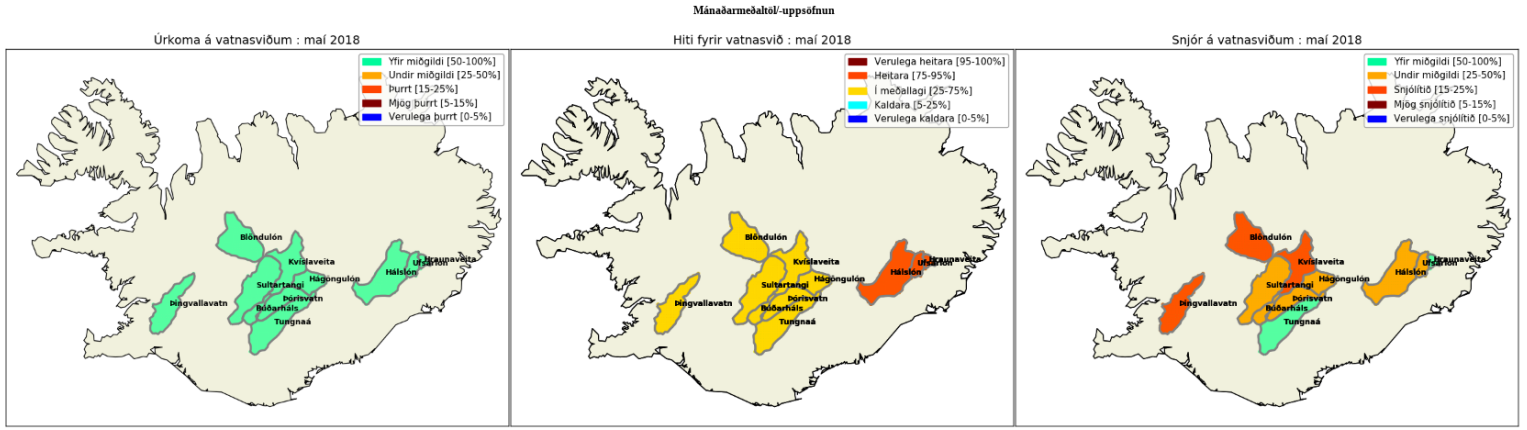
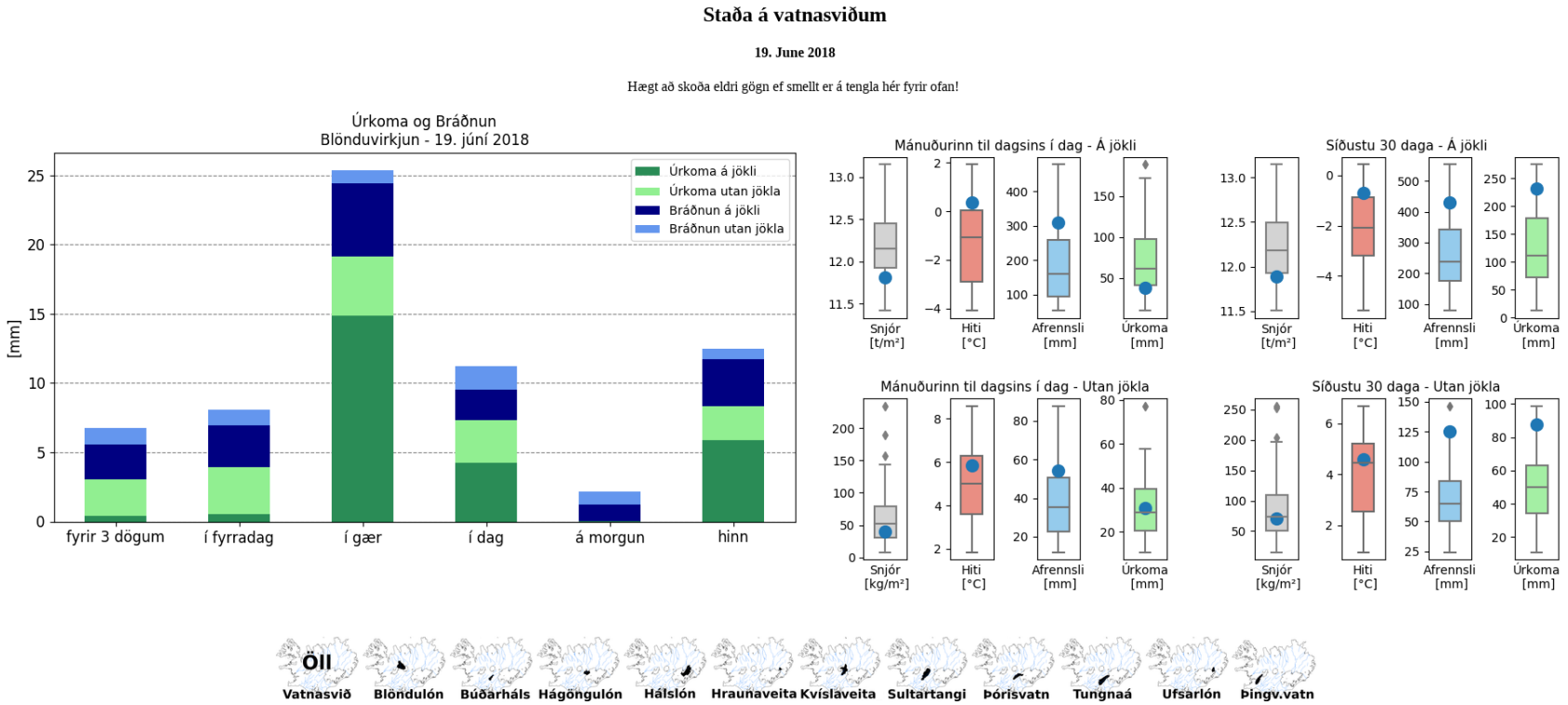
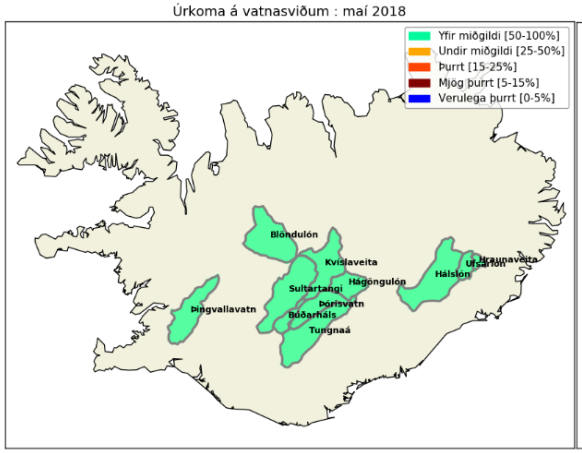


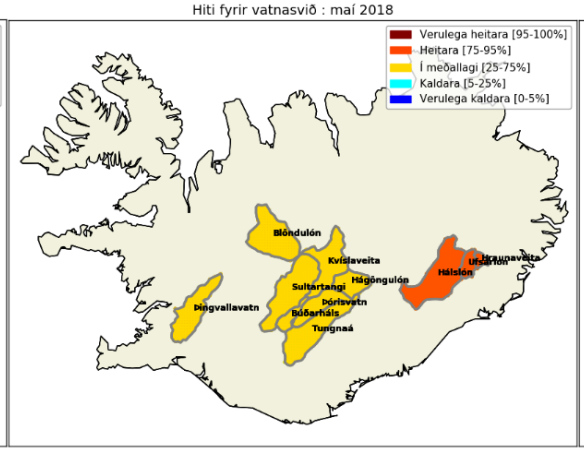


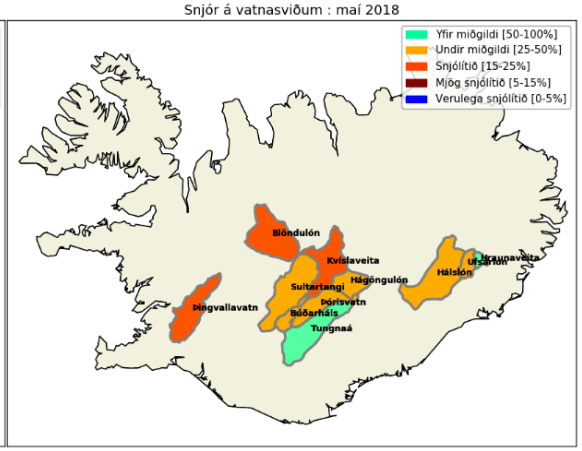
Current status for Blöndulón catchment area

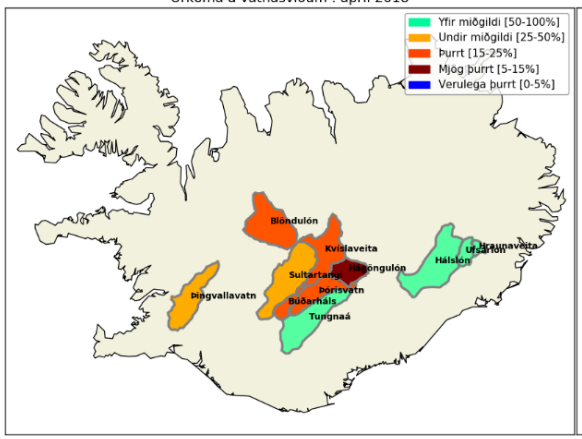


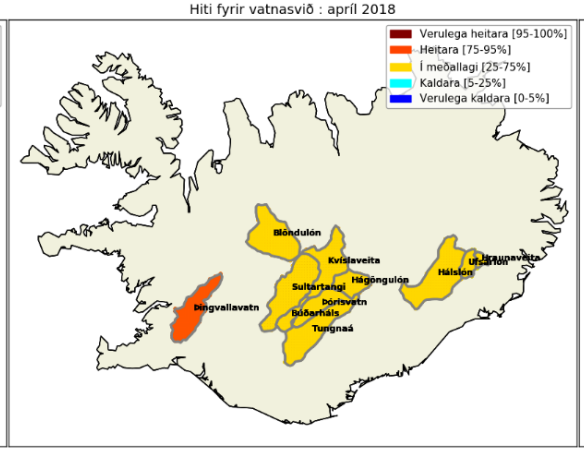
Montly status on all catchment areas

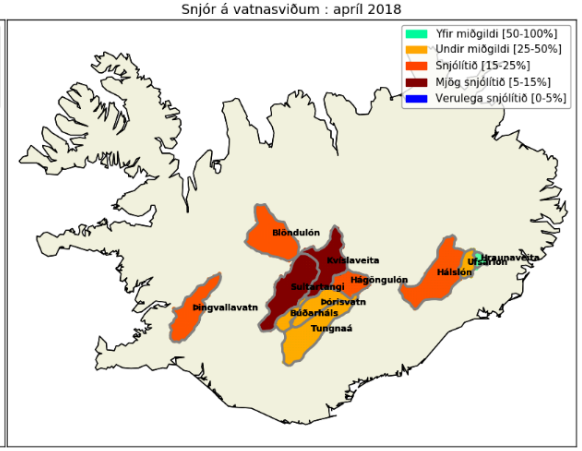




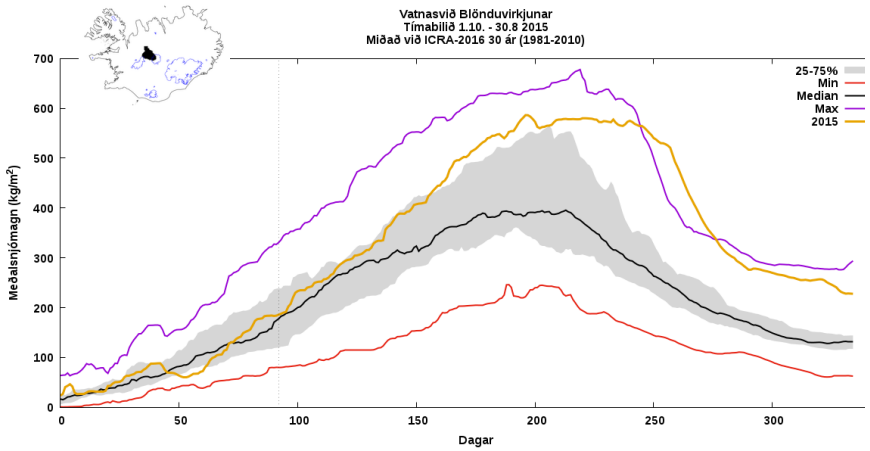


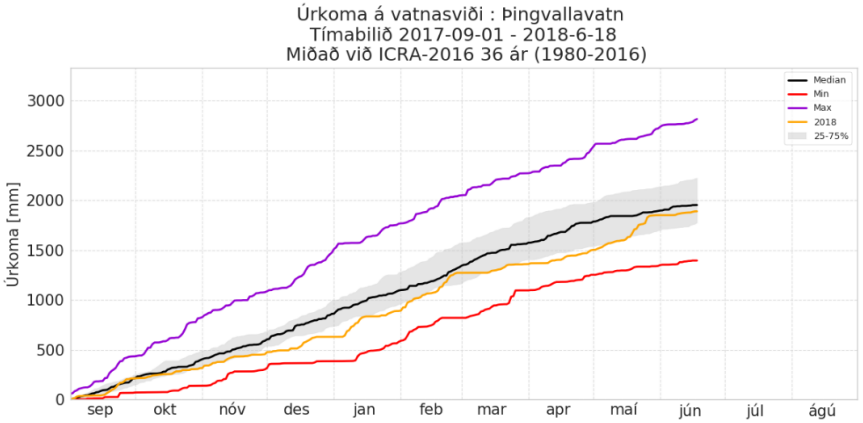


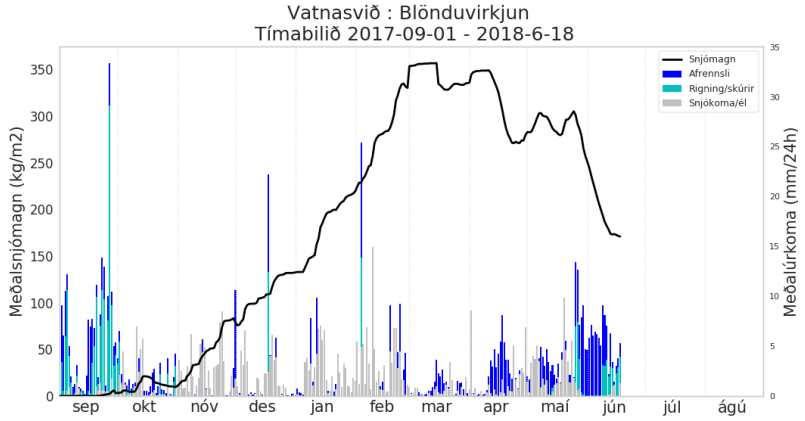


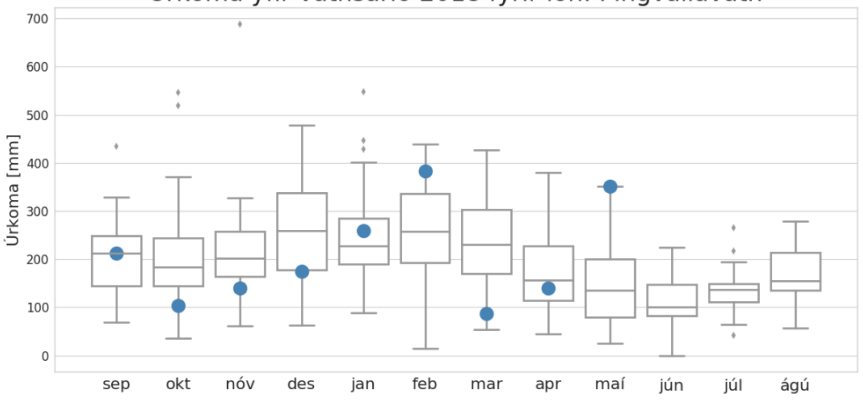


Other plots...


Vatnasvið Blönduvirkjunar
Tímabilið 1.10. - 30.8 2015
Miðað við ICRA-2016 30 ár (1981-2010)
25-75%
Min
Median
Max
2015
Meðalsnjómagn (kg/m²)
Dagar


Úrkoma á vatnasviði : Þingvallavatn
Tímabilið 2017-09-01 - 2018-6-18
Miðað við ICRA-2016 36 ár (1980-2016)
Median
Min
Max
2018
25-75%
Úrkoma [mm]
sep okt nóv des jan feb mar apr maí jún júl ágú


Vatnasvið : Blönduvirkjun
Tímabilið 2017-09-01 - 2018-6-18
Snjómagn
Afrennsli
Rigning/skúrir
Snjókoma/él
Meðalsnjómagn (kg/m2)
Meðalúrkoma (mm/24h)
sep okt nóv des jan feb mar apr maí jún júl ágú


Úrkoma yfir vatnsárið 2018 fyrir lón: Þingvallavatn
Úrkoma [mm]
sep okt nóv des jan feb mar apr maí jún júl ágú

The end

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Thank you!

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