

PP C2I: ICON Status @NMA

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operational

Model	<u>dx</u>	<u>IC/LBC</u>	<u>Grid points</u>	<u>Vert. lev.</u>	DA	<u>dt</u>	<u>fc. time (h)</u>	<u>output</u>
ICON-2.8km	0.025	ICON global	147 260	65	No	24s	78	<u>netcdf/regular</u> <u>grb2/regular</u>
<u>COSMO-2.8km</u>	0.025	<u>COSMO-7km</u>	361x291 (105 051)	50	Nudging	25s	30/30/84/18	grb1/rotated
<u>COSMO-7.0km</u>	0.625	ICON global	201x177 (35 577)	40	Nudging	66s	78/48/174/48	grb1/rotated

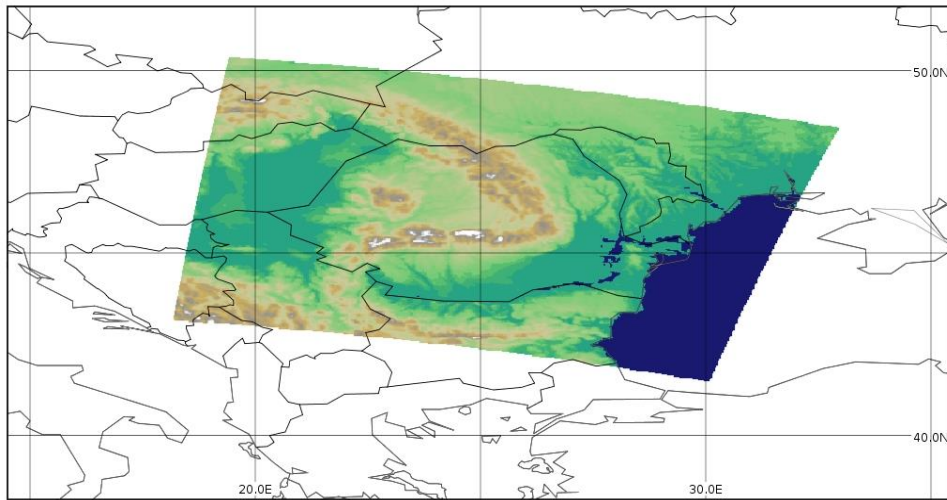
operational

Model	<u>Com.flags</u>	No. Cores	I/O	Run time
ICON-RO2p8	O3 + no debug block	9x30	10	max. 70 min / 78h
<u>COSMO-2.8km</u>	O3	9x32	0	max. 15 min / 30h
<u>COSMO-7.0km</u>	O3	9x32	0	max. 7 min / 78h

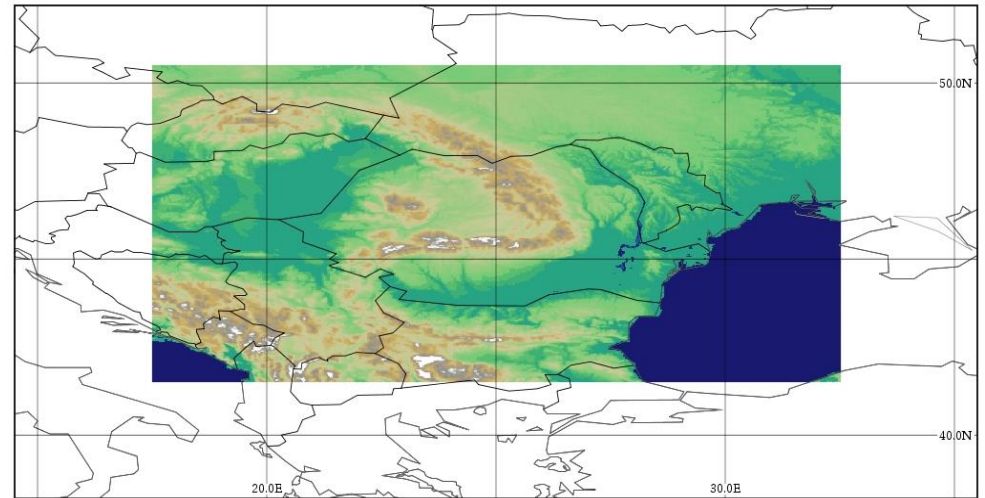
Timing for ICON-v2.3.0 and COSMO-v5.06

Tests for v2.6.3 - ongoing

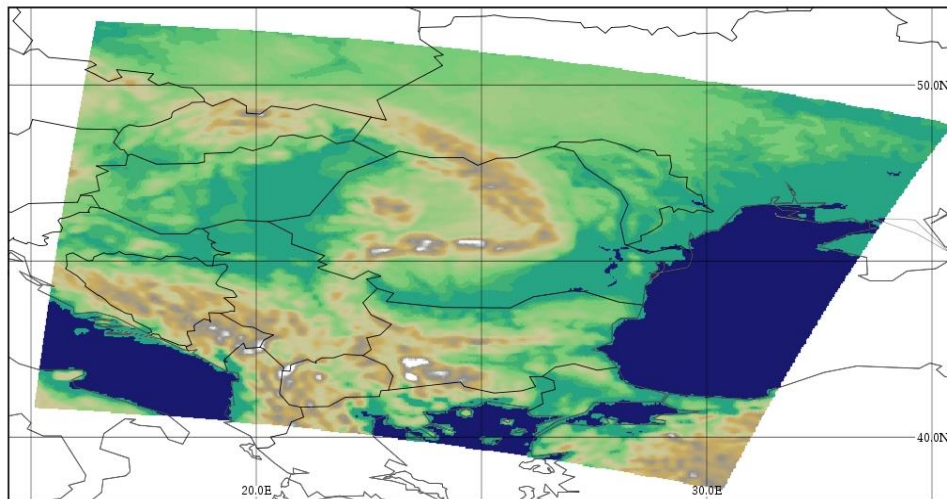
COSMO-2.8km



ICON-2.8km



COSMO-7km



COSMO-2.8km	COSMO-7km	ICON-2.8km
105 051 (361x291)	35577 (201x177)	147 260
50	40	65
25s	66	24s
30 hours	78 hours	78 hours

105 051
(361x291)

35577
(201x177)

147 260

50

40

65

25s

66

24s

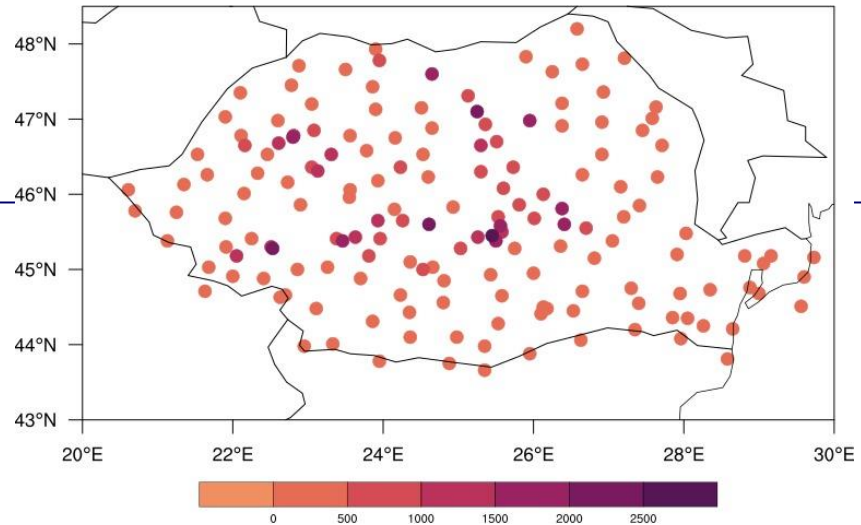
30 hours

78 hours

78 hours

Cases

- 12 May – 21 May 2021
- 16 June – 15 July 2021

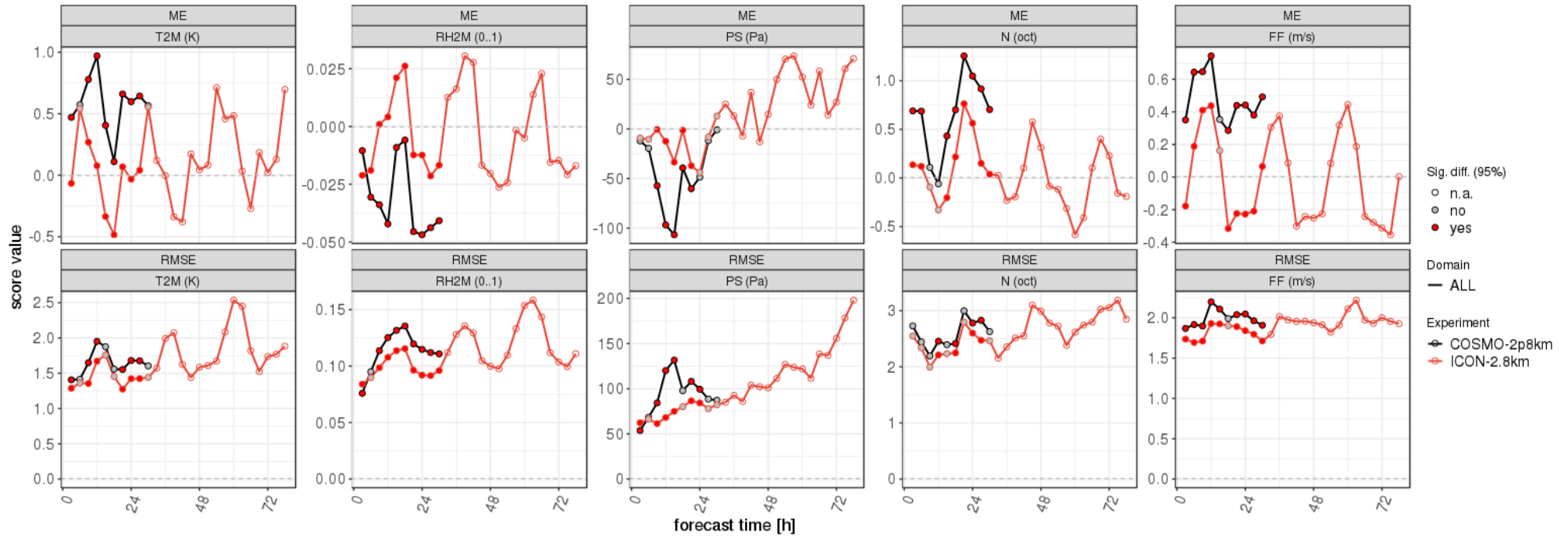


Long term evaluation since June 2020 (with MEC+Rfdbk)

- contribution to ICON Report (*Verification of ICON in LAM at COSMO National Meteorological Services*)
- national domain verification included in Common Plots Activities
- for 00 UTC runs
- Romanian SYNOP stations

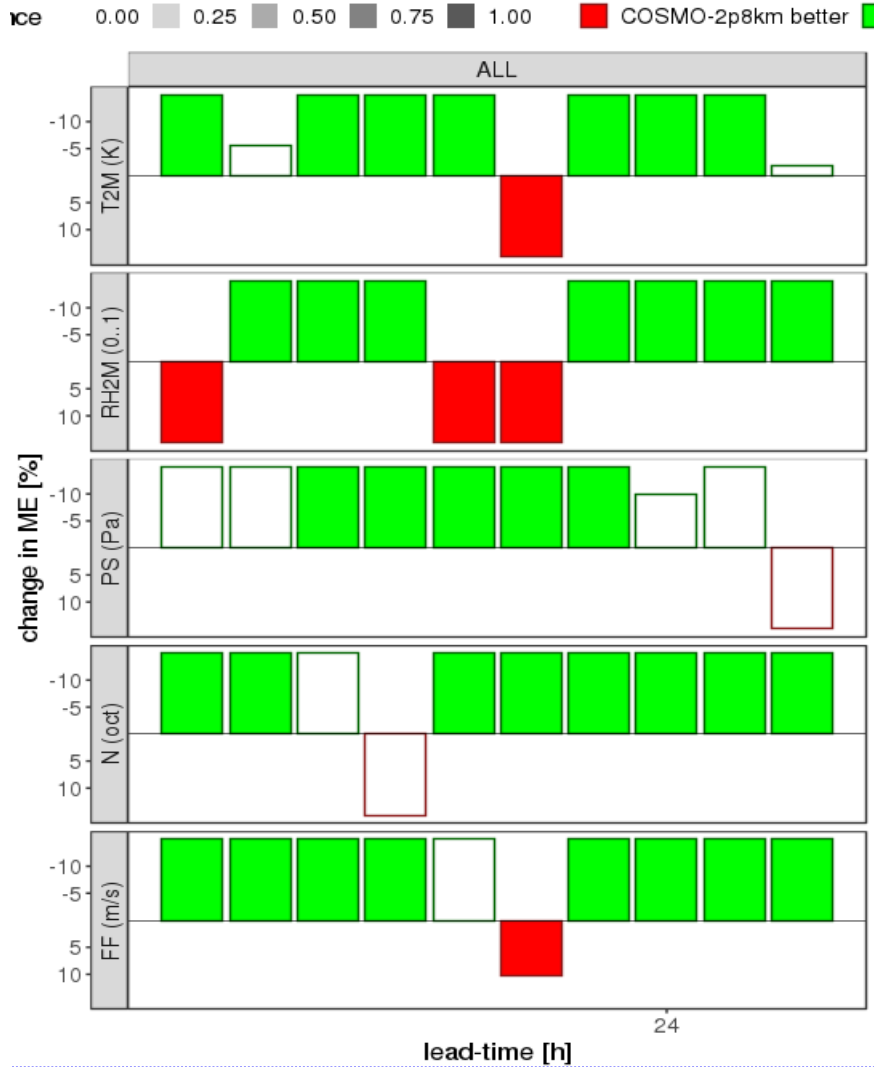
Test Cases: 12 May – 21 May 2021

2021/05/12-00UTC - 2021/05/21-21UTC
 INI: 00 UTC, DOM: ALL, STAT: ALL

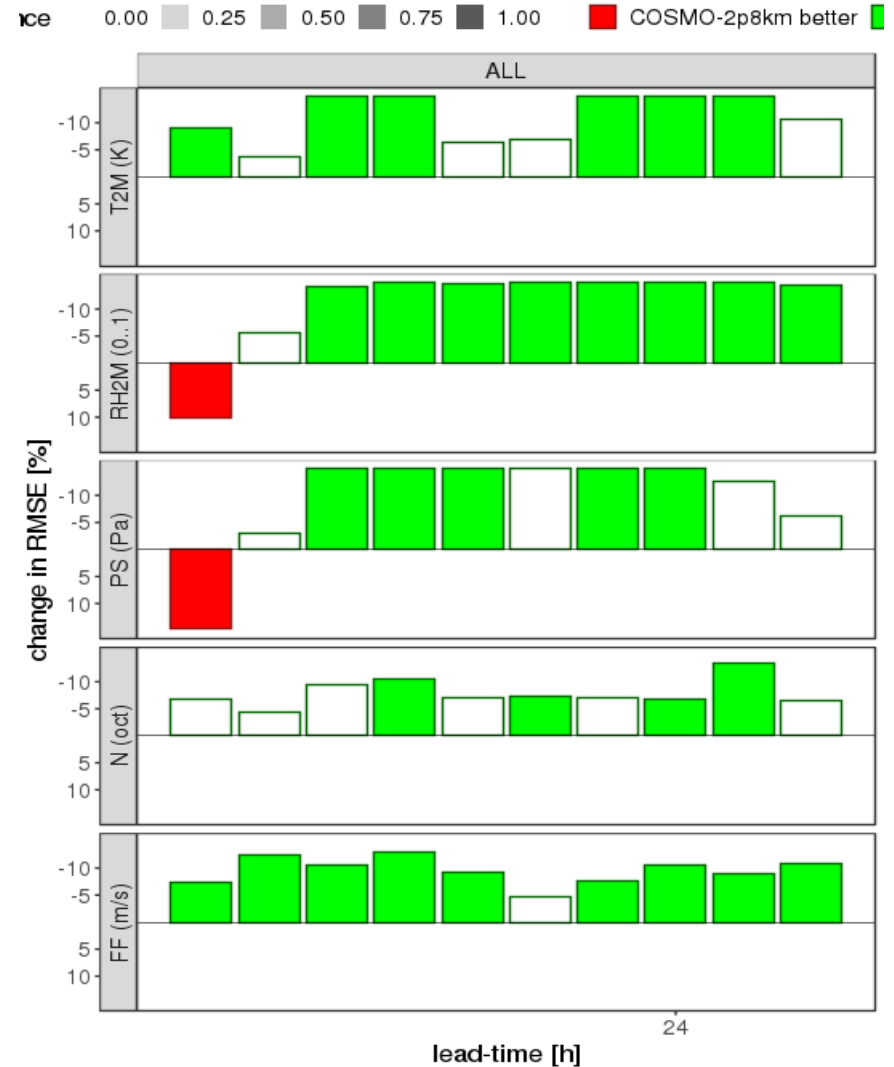


COSMO-2.8 (black) vs. ICON-2.8 (red)

Forecasts initialized from 2021/05/12 to 2021/05/21
 Reduction of ME [%], INI; 00UTC, SIGTEST: TRUE

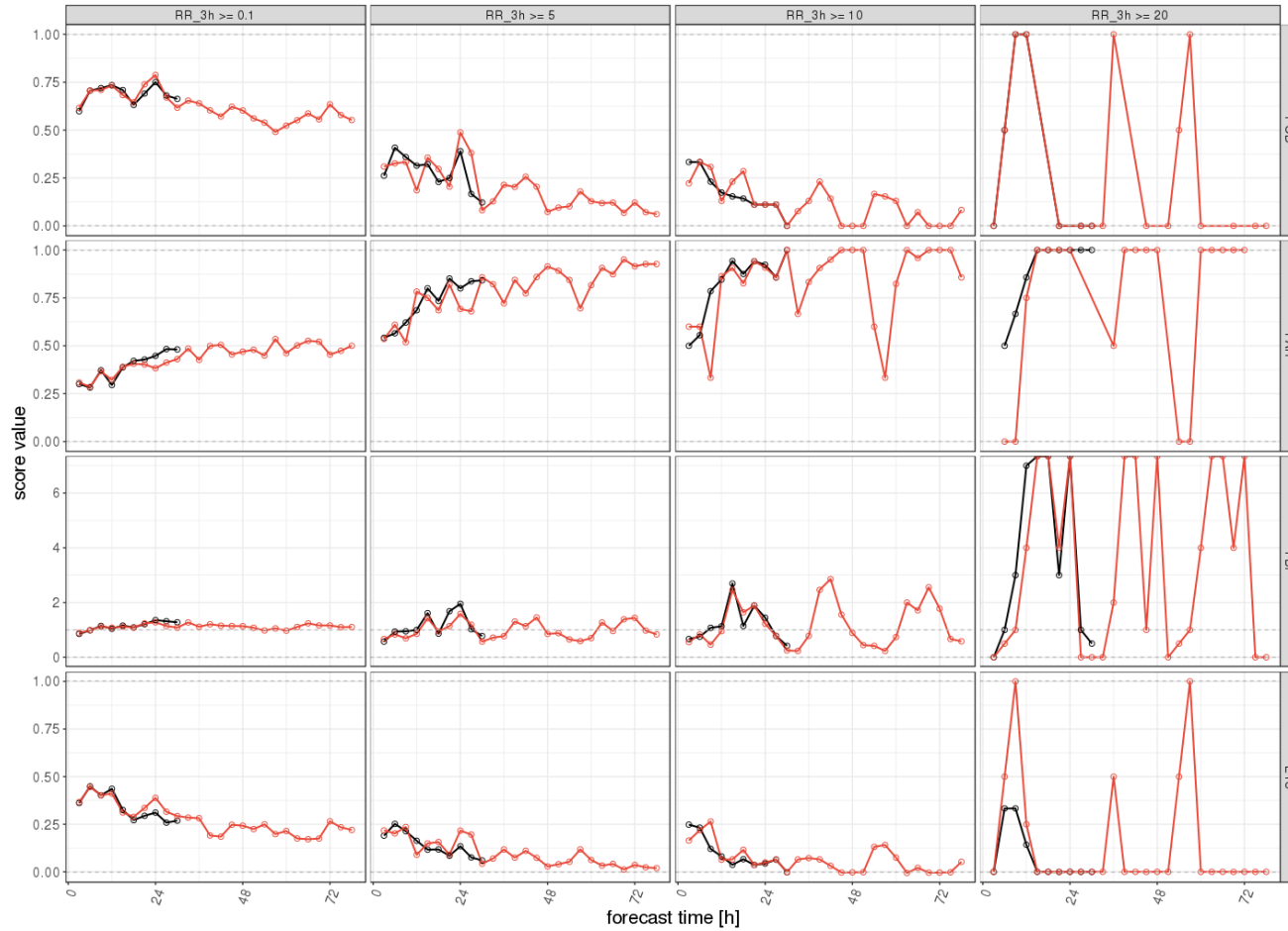


Forecasts initialized from 2021/05/12 to 2021/05/21
 Reduction of RMSE [%], INI; 00UTC, SIGTEST: TF



ICON-2.8 (green) vs. COSMO-2.8 (red)

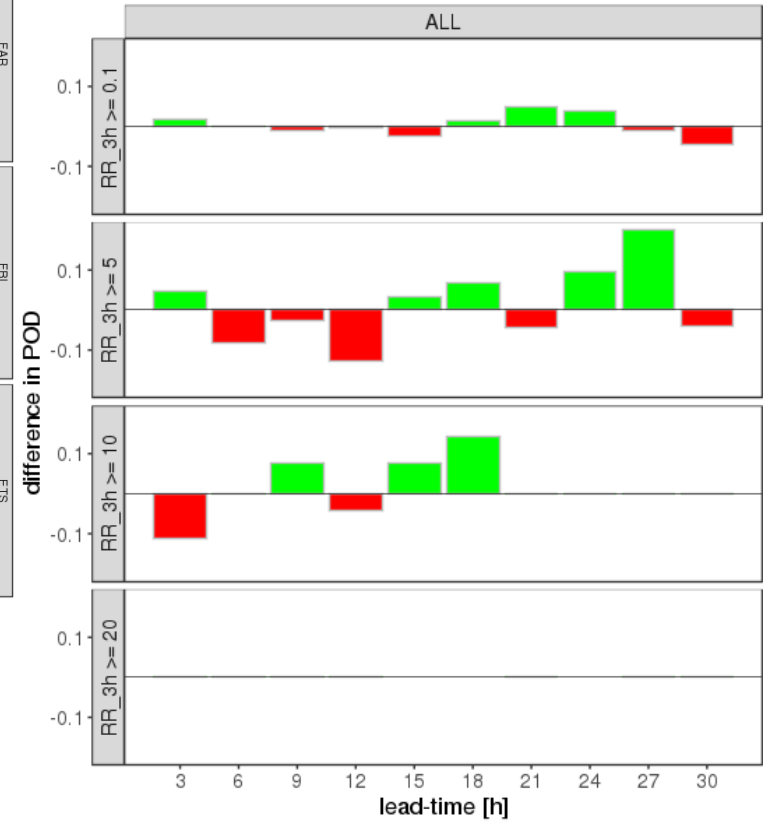
2021.05.12-00UTC - 2021.05.21-21UTC
 VAL: ALL UTC, INI: 00, STAT: ALL, DOM: ALL



RR_3h

Forecasts initialized from 2021/05/12 to 2021/05/21
 Difference in POD

■ COSMO-2p8km higher ■ ICON-2.8km higher

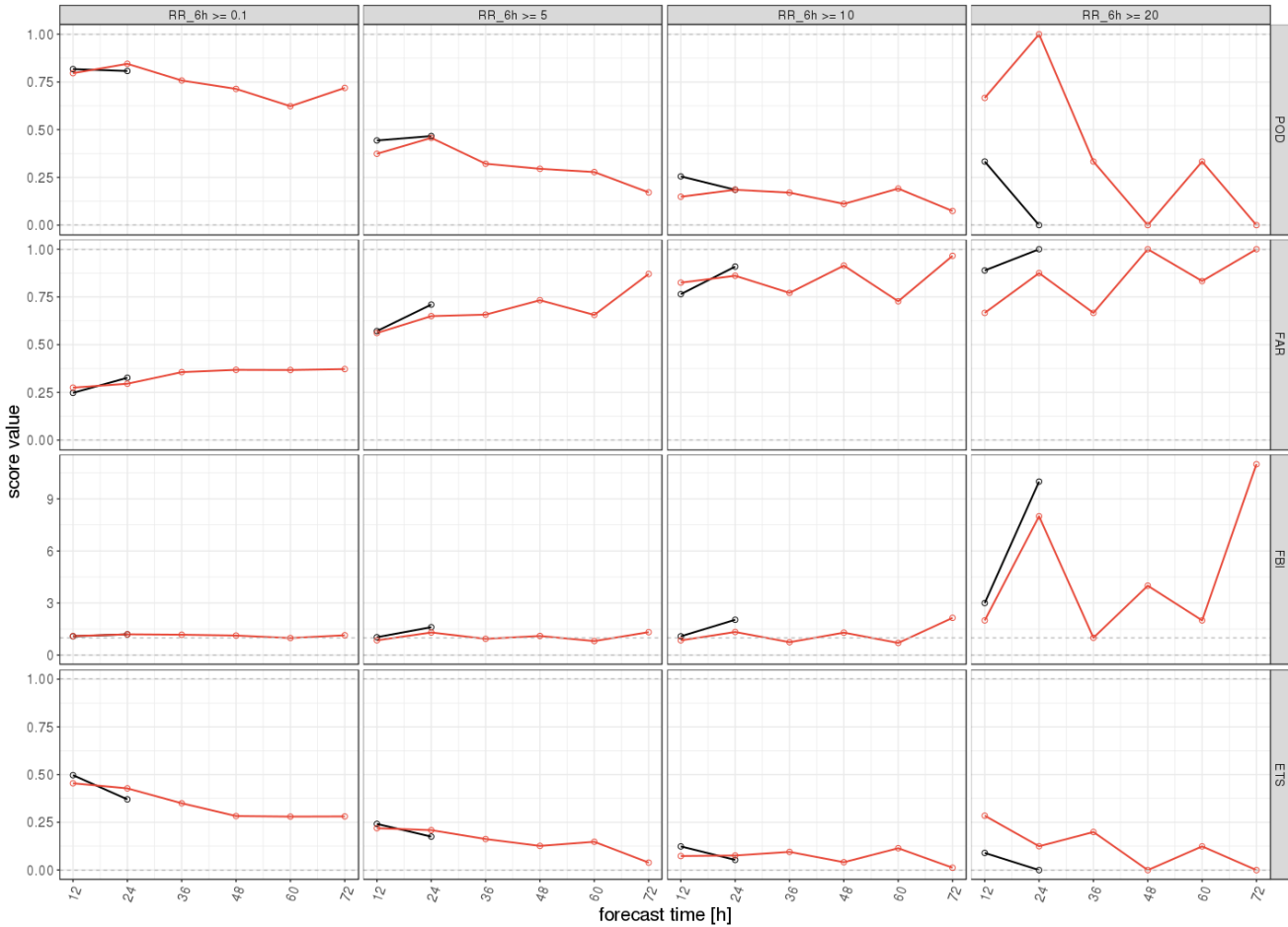


COSMO-2.8 (black) vs. ICON-2.8 (red)

ICON-2.8 (green) vs. COSMO-2.8 (red)

Test Cases: 12 May – 21 May 2021

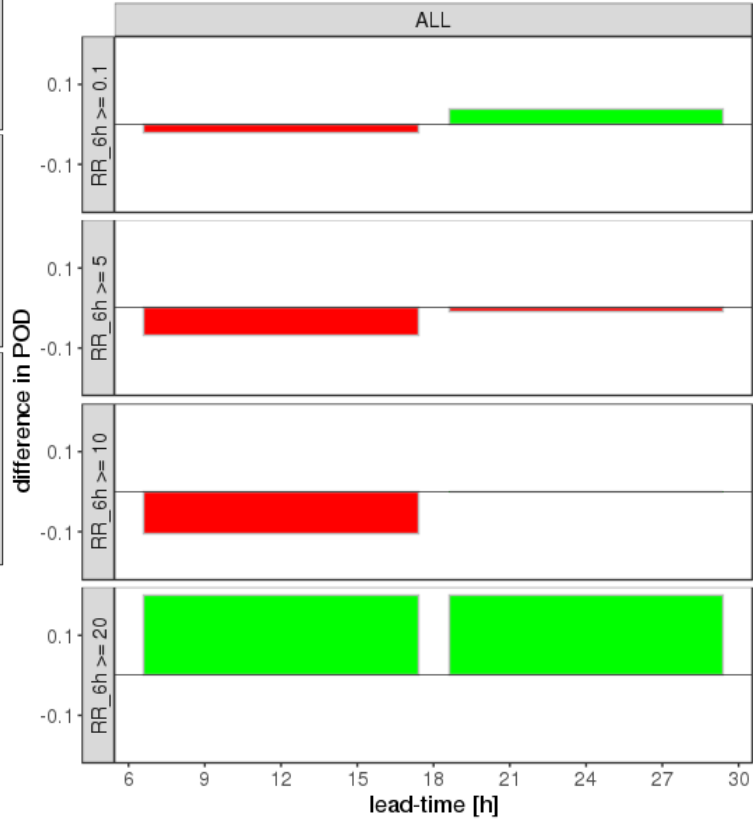
2021.05.12-00UTC - 2021.05.21-21UTC
VAL: ALL UTC, INI: 00, STAT: ALL, DOM: ALL



RR_6h

Forecasts initialized from 2021/05/12 to 2021/05/21
Difference in POD

■ COSMO-2p8km higher ■ ICON-2.8km higher

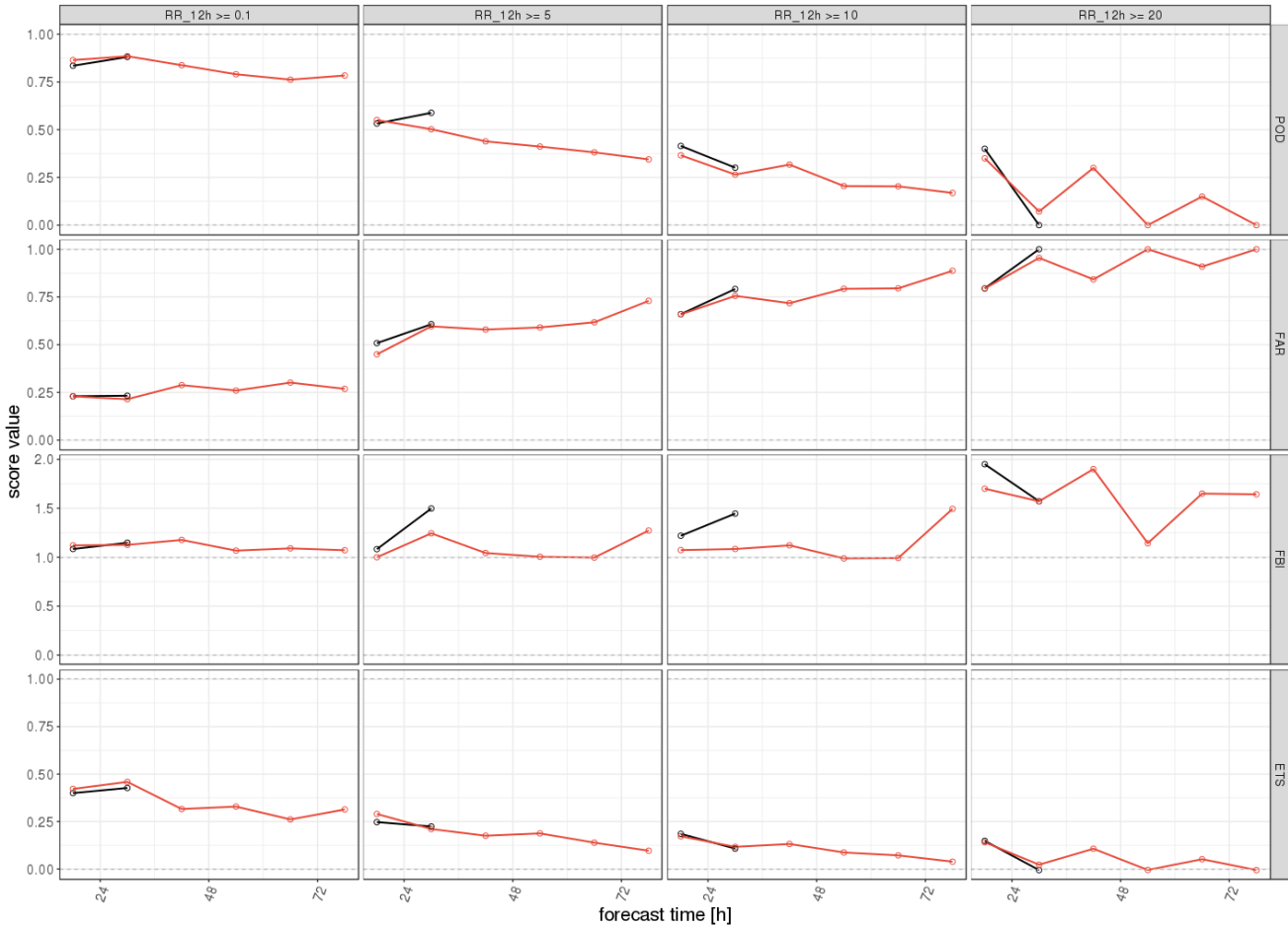


COSMO-2.8 (black) vs. ICON-2.8 (red)

ICON-2.8 (green) vs. COSMO-2.8 (red)

Test Cases: 12 May – 21 May 2021

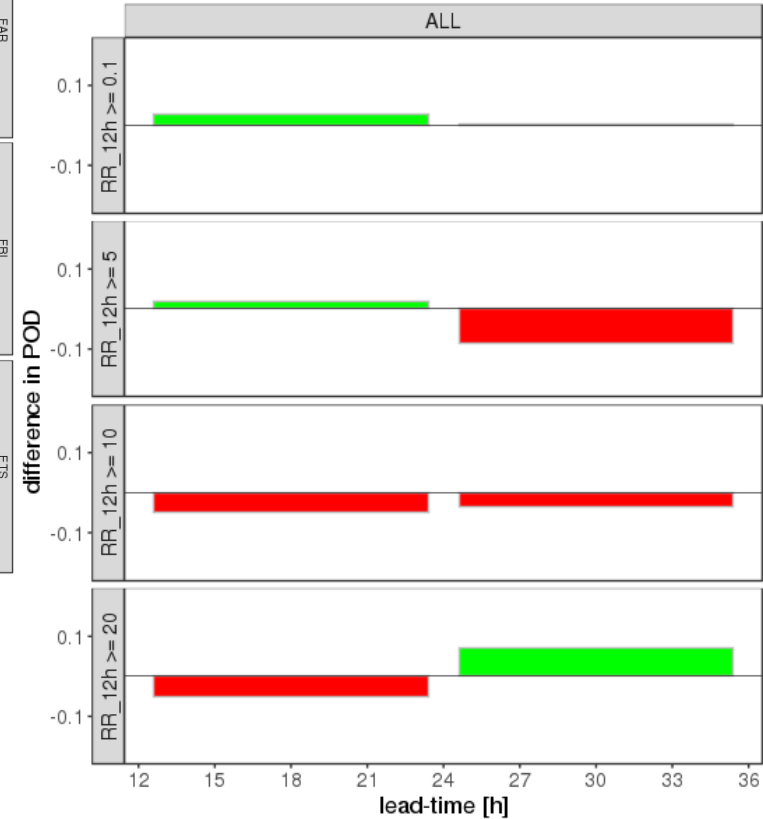
2021.05.12-00UTC - 2021.05.21-21UTC
VAL: ALL UTC, INI: 00, STAT: ALL, DOM: ALL



RR_12h

Forecasts initialized from 2021/05/12 to 2021/05/21
Difference in POD

■ COSMO-2p8km higher ■ ICON-2.8km higher

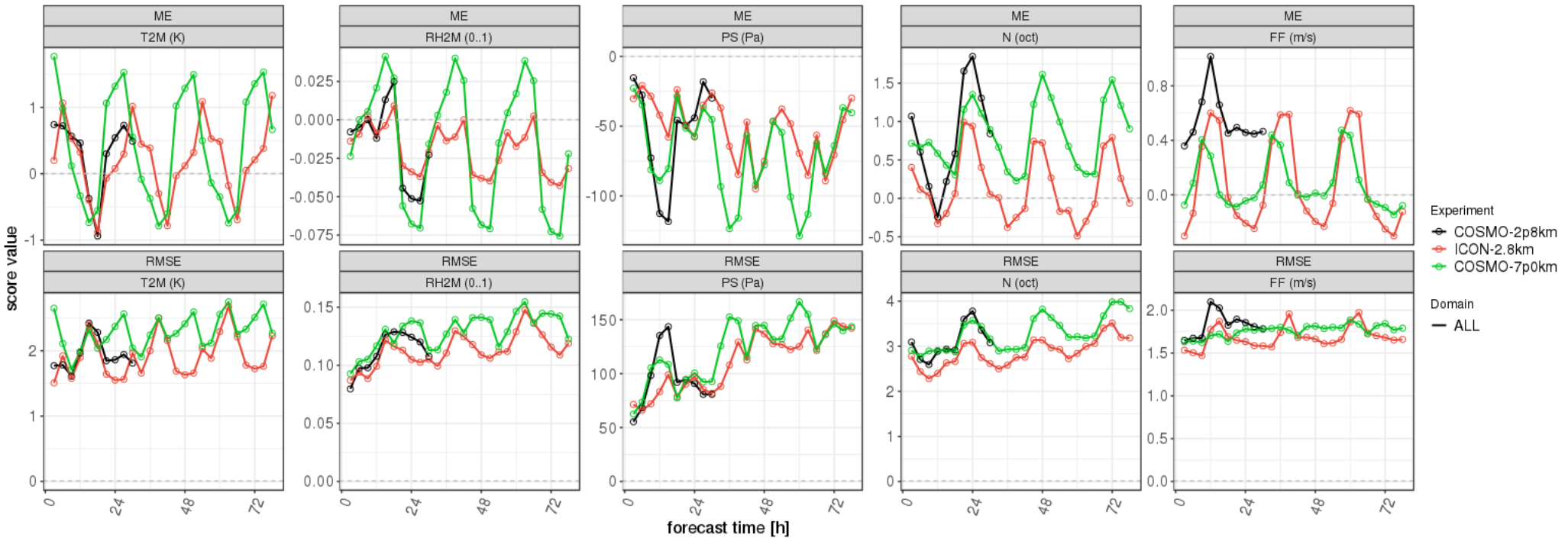


COSMO-2.8 (black) vs. ICON-2.8 (red)

ICON-2.8 (green) vs. COSMO-2.8 (red)

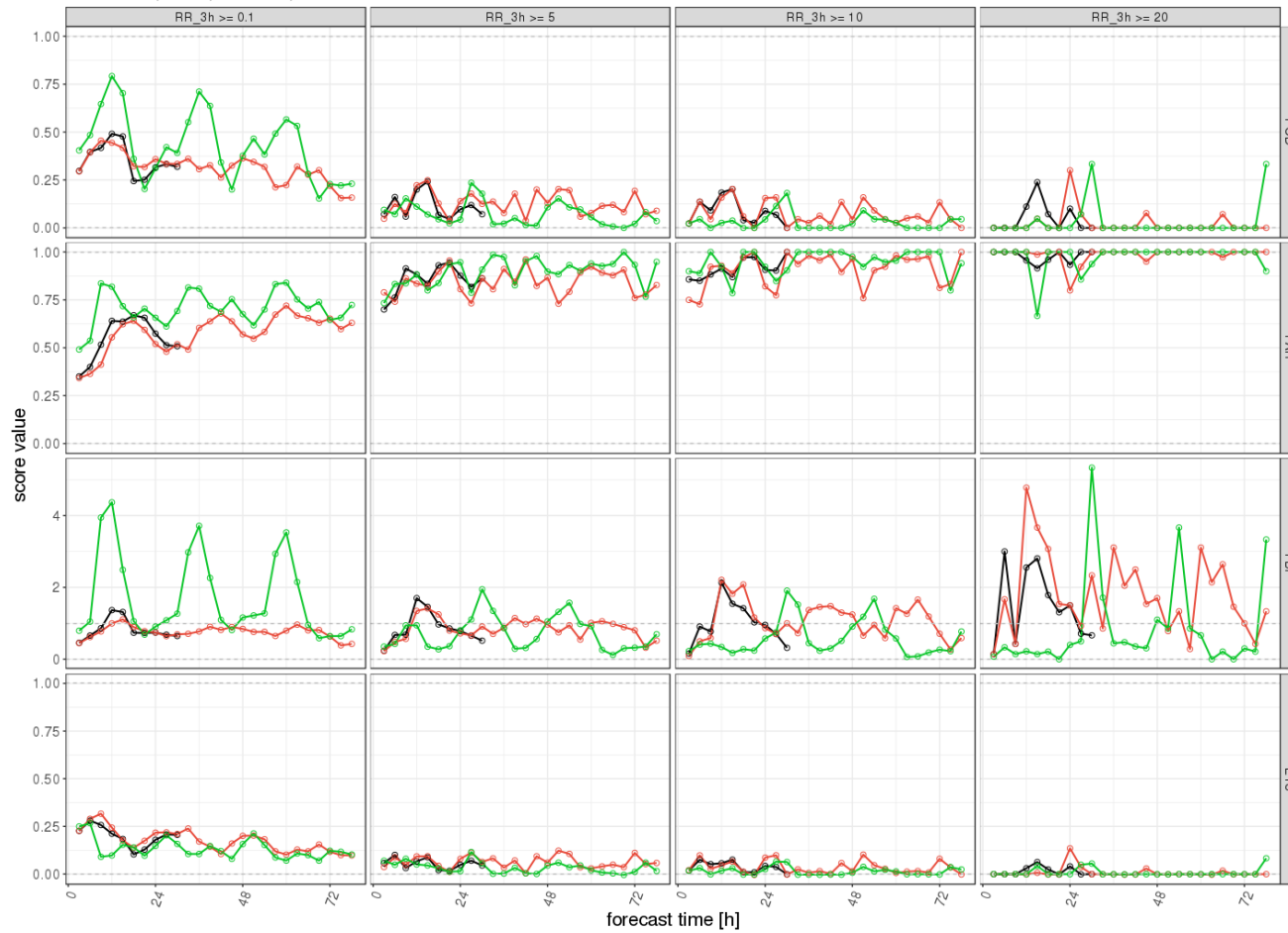
Test Cases: 16 June – 15 July 2021

2021/06/16-00UTC - 2021/07/15-21UTC
 INI: 00 UTC, DOM: ALL, STAT: ALL



COSMO-2.8 (black) vs. ICON-2.8 (red) vs. COSMO-7.0 (green)

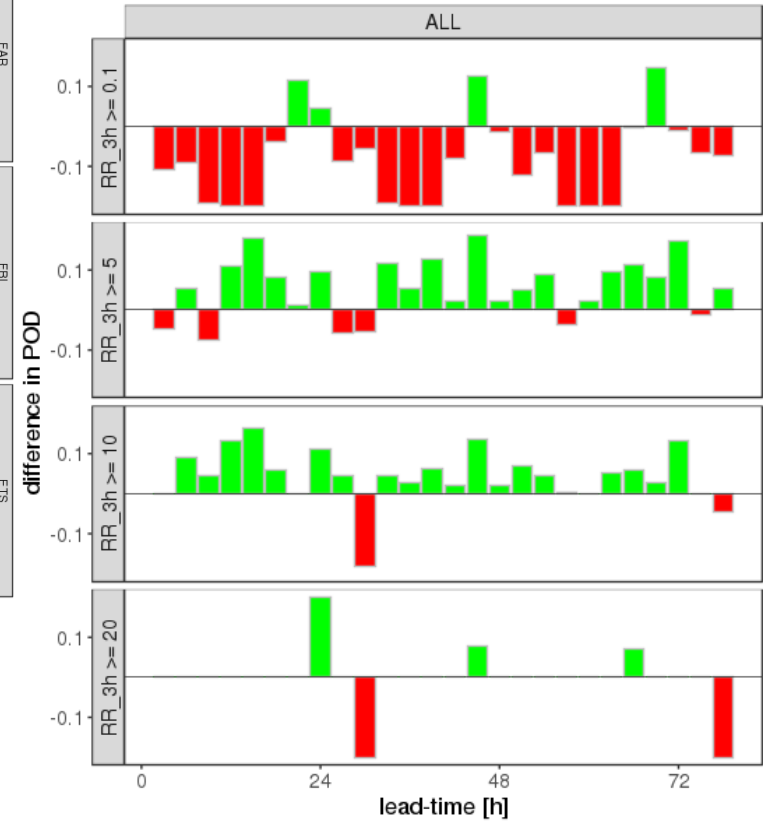
2021.06.16-00UTC - 2021.07.15-21UTC
 VAL: ALL UTC, INI: 00, STAT: ALL, DOM: ALL



RR_3h

Forecasts initialized from 2021/06/16 to 2021/07/15
 Difference in POD

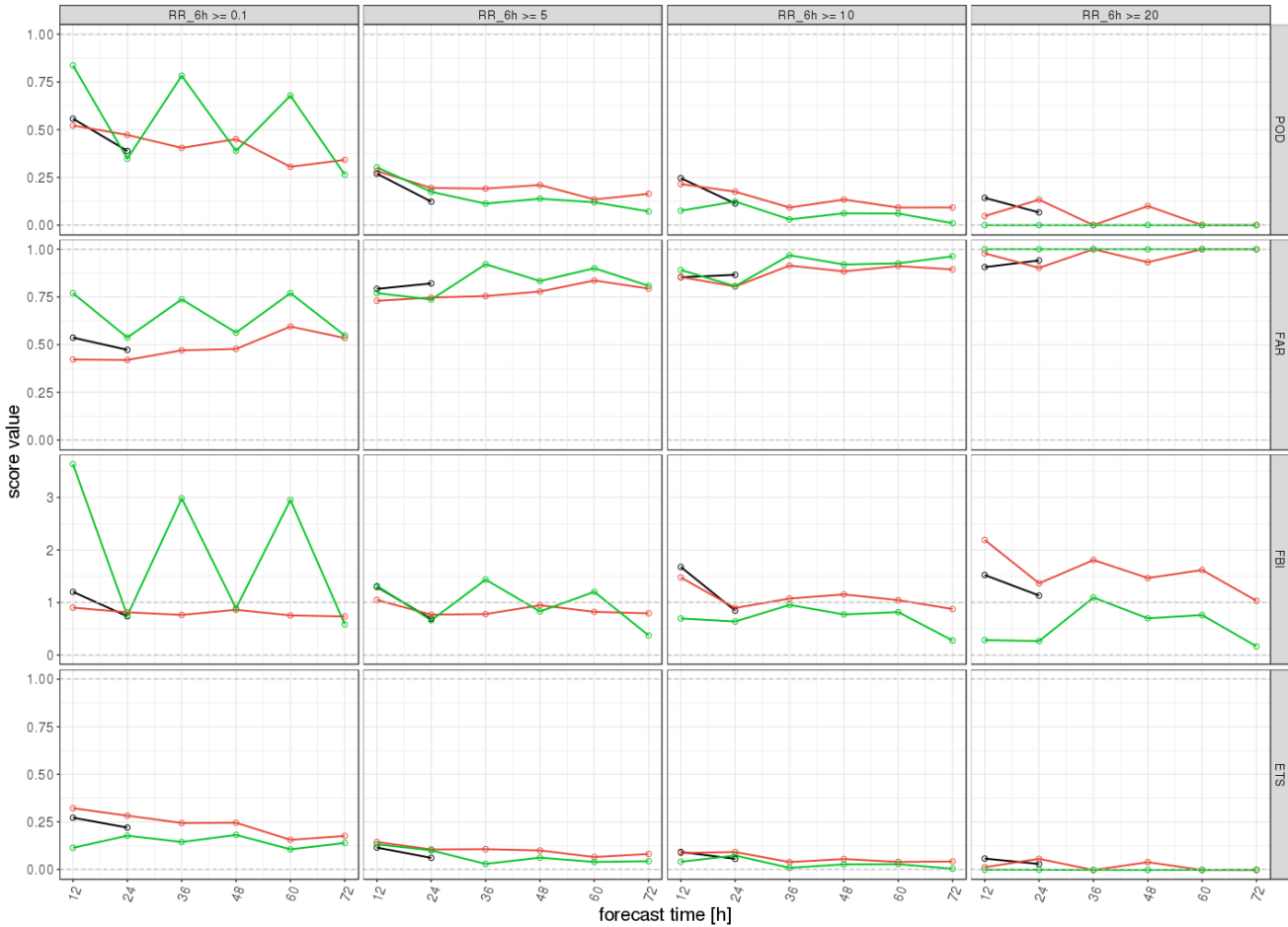
■ COSMO-7p0km higher ■ ICON-2.8km higher



**COSMO-2.8 (black) vs.
 ICON-2.8 (red) vs.
 COSMO-7.0 (green)**

ICON-2.8 (green) vs. COSMO-7.0 (red)

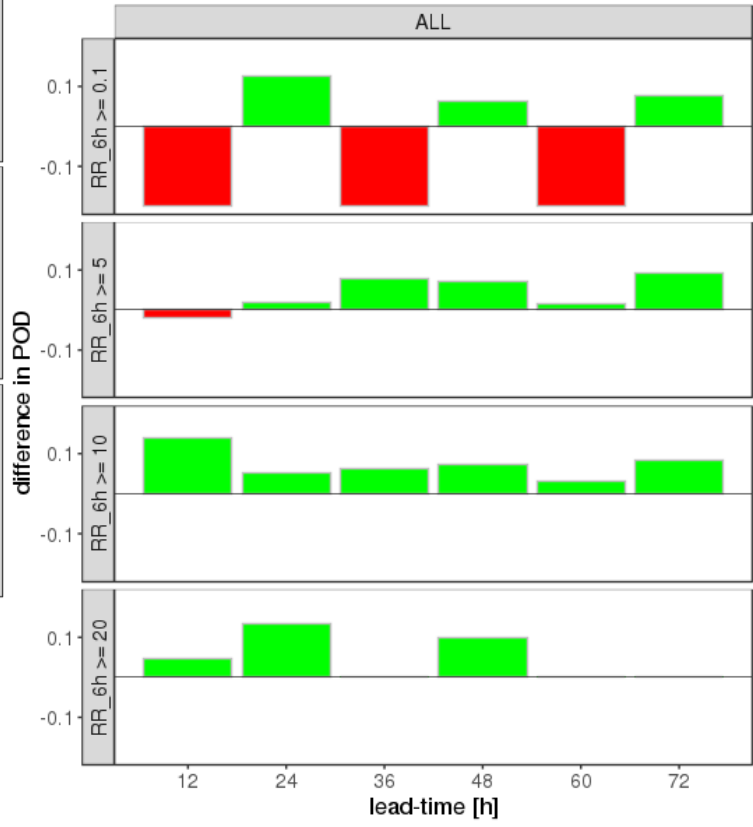
2021.06.16-00UTC - 2021.07.15-21UTC
VAL: ALL UTC, INI: 00, STAT: ALL, DOM: ALL



RR_6h

Forecasts initialized from 2021/06/16 to 2021/07/15
Difference in POD

■ COSMO-7p0km higher ■ ICON-2.8km higher

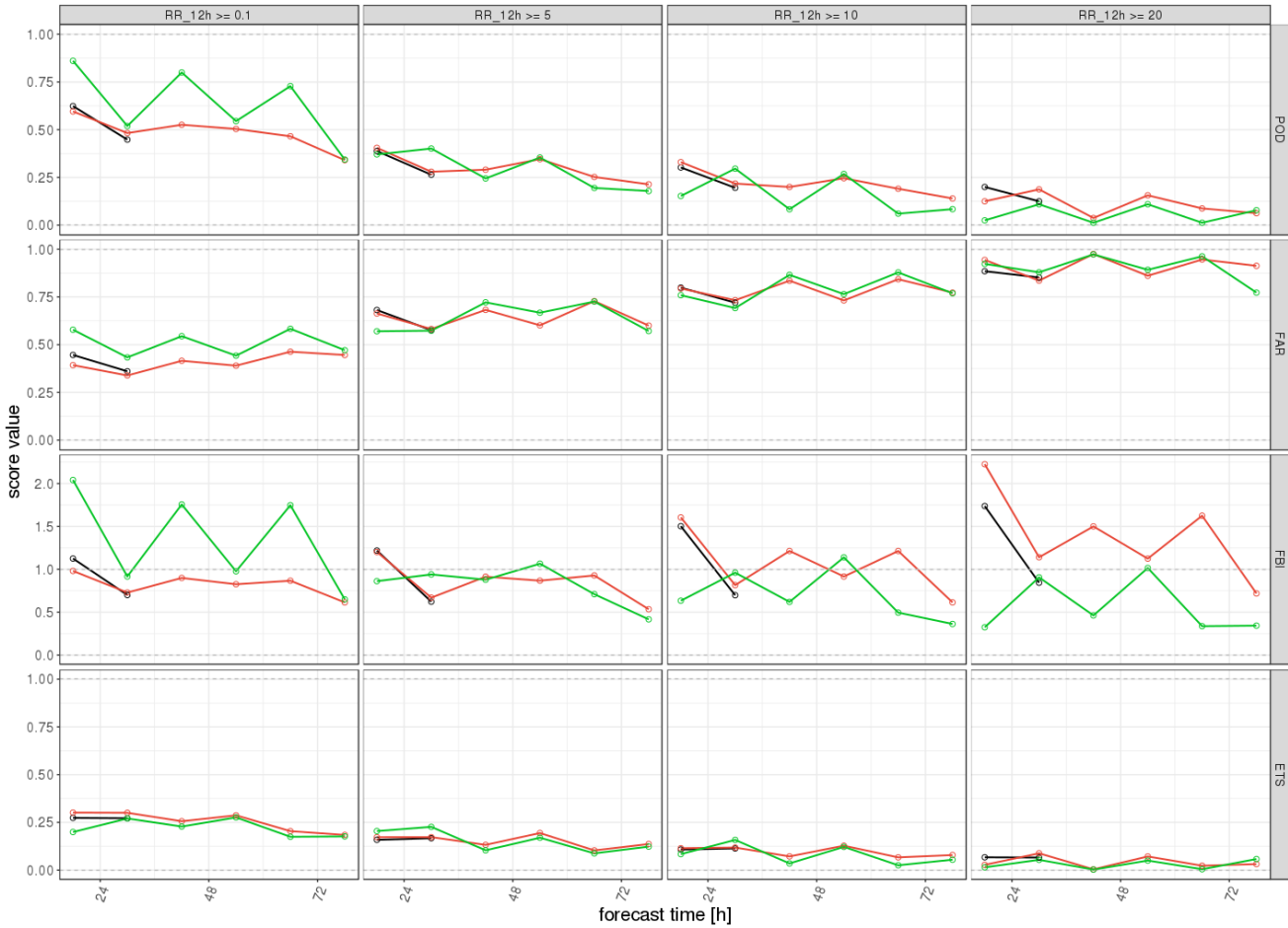


COSMO-2.8 (black) vs. ICON-2.8 (red) vs. COSMO-7.0 (green)

ICON-2.8 (green) vs. COSMO-7.0 (red)

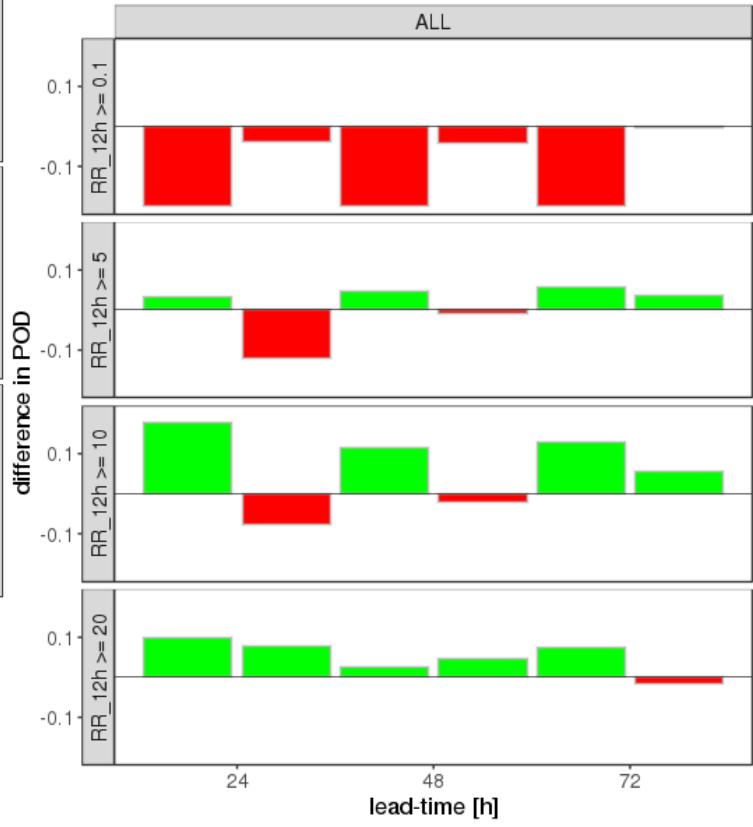
Test Cases: 16 June – 15 July 2021

2021.06.16-00UTC - 2021.07.15-21UTC
VAL: ALL UTC, INI: 00, STAT: ALL, DOM: ALL



RR_12h

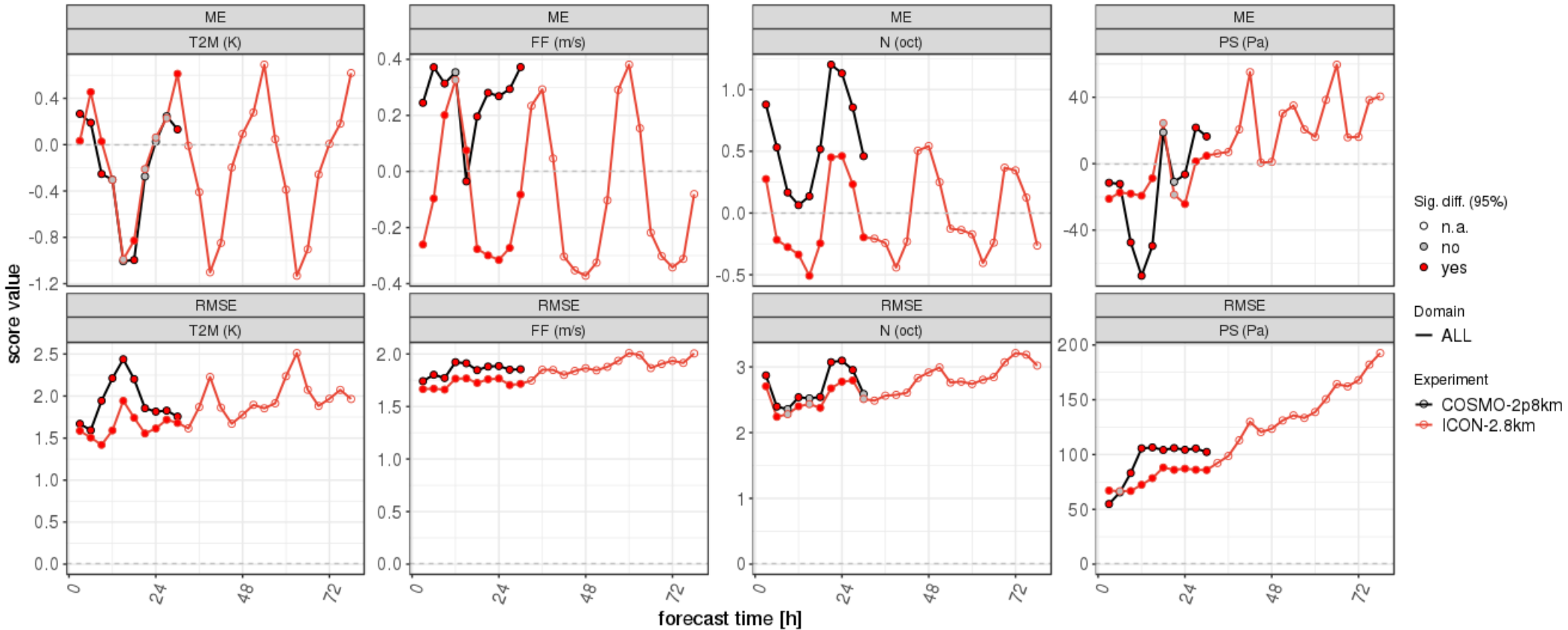
Forecasts initialized from 2021/06/16 to 2021/07/15
Difference in POD
■ COSMO-7p0km higher ■ ICON-2.8km higher



COSMO-2.8 (black) vs. ICON-2.8 (red) vs. COSMO-7.0 (green)

ICON-2.8 (green) vs. COSMO-7.0 (red)

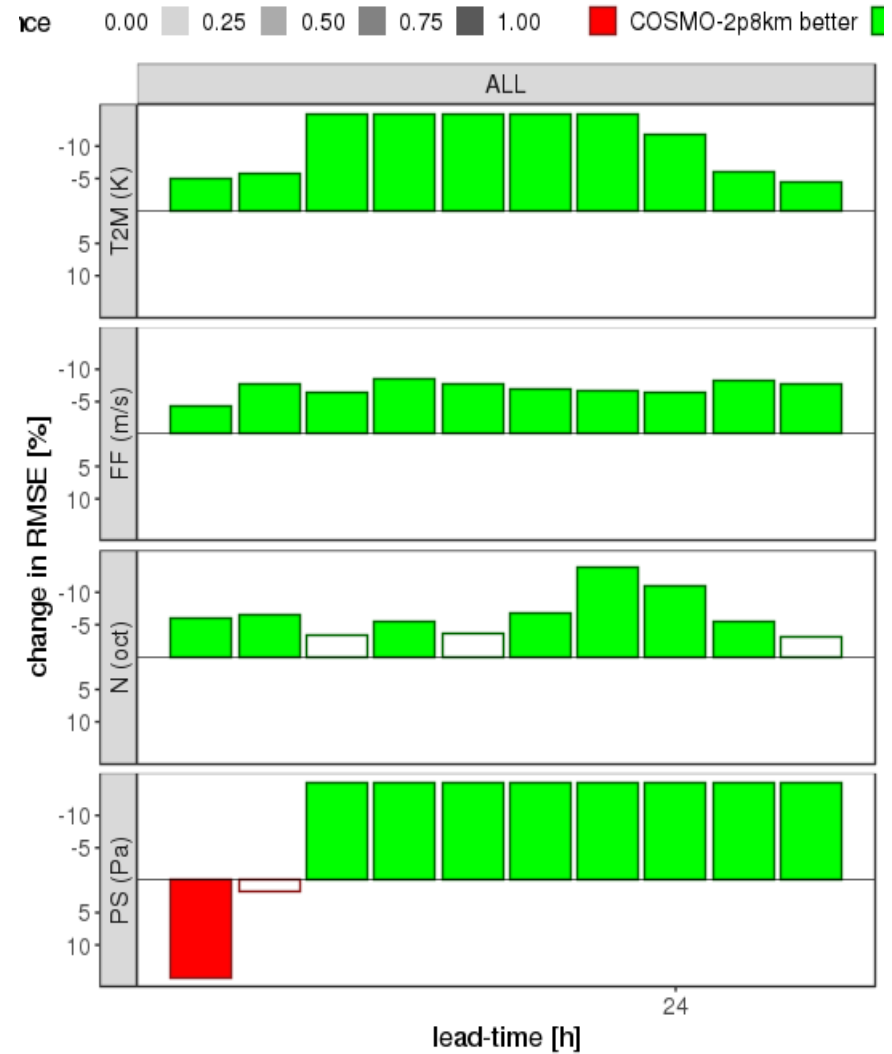
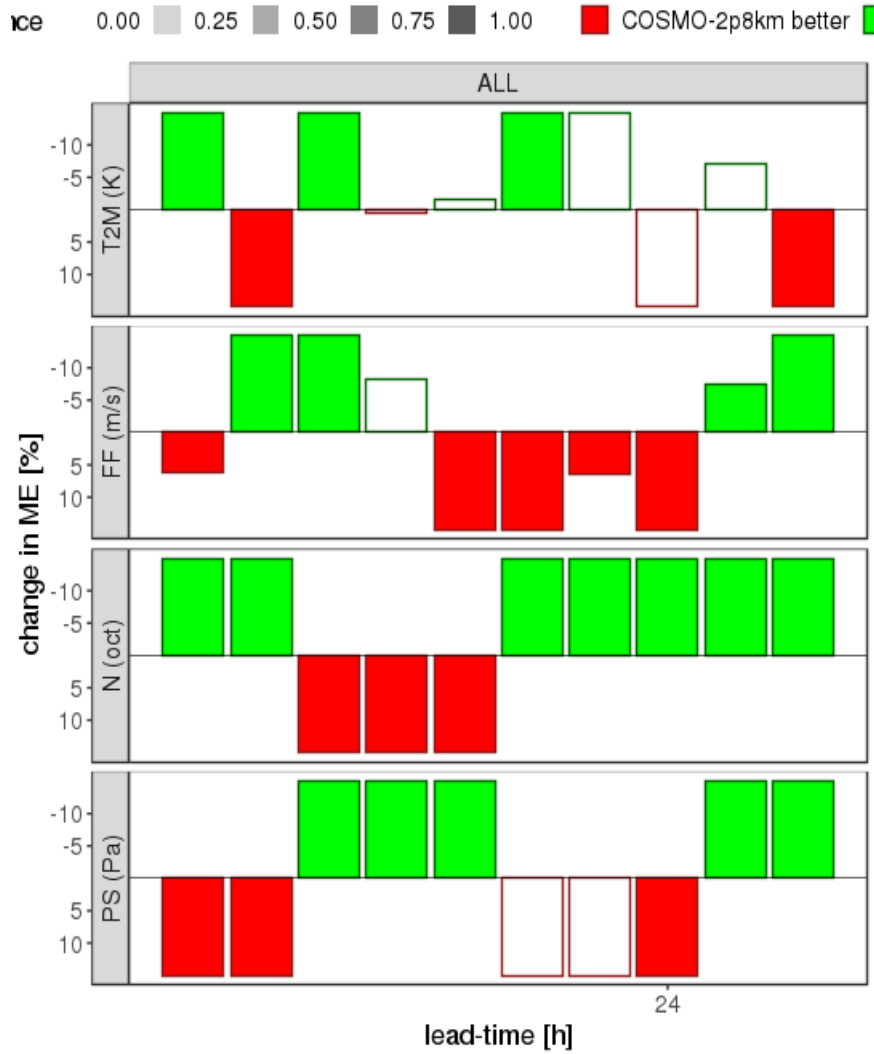
2021/03/01-03UTC - 2021/05/31-21UTC
 INI: 00 UTC, DOM: ALL, STAT: ALL



COSMO-2.8 (black) vs. ICON-2.8 (red)

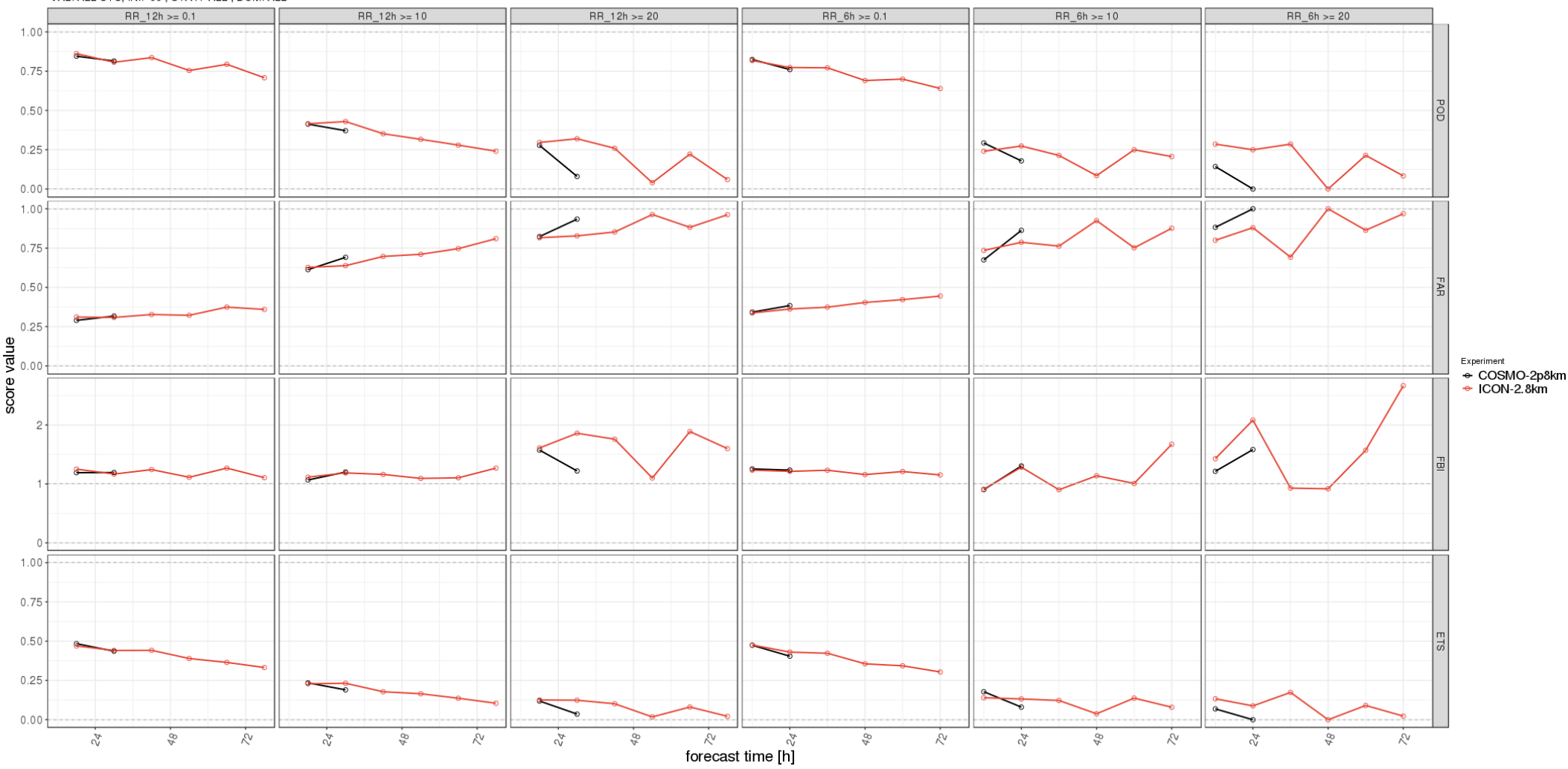
Forecasts initialized from 2021/03/01 to 2021/05/31
 Reduction of ME [%], INI; 00UTC, SIGTEST: TRUE

Forecasts initialized from 2021/03/01 to 2021/05/31
 Reduction of RMSE [%], INI; 00UTC, SIGTEST: TF



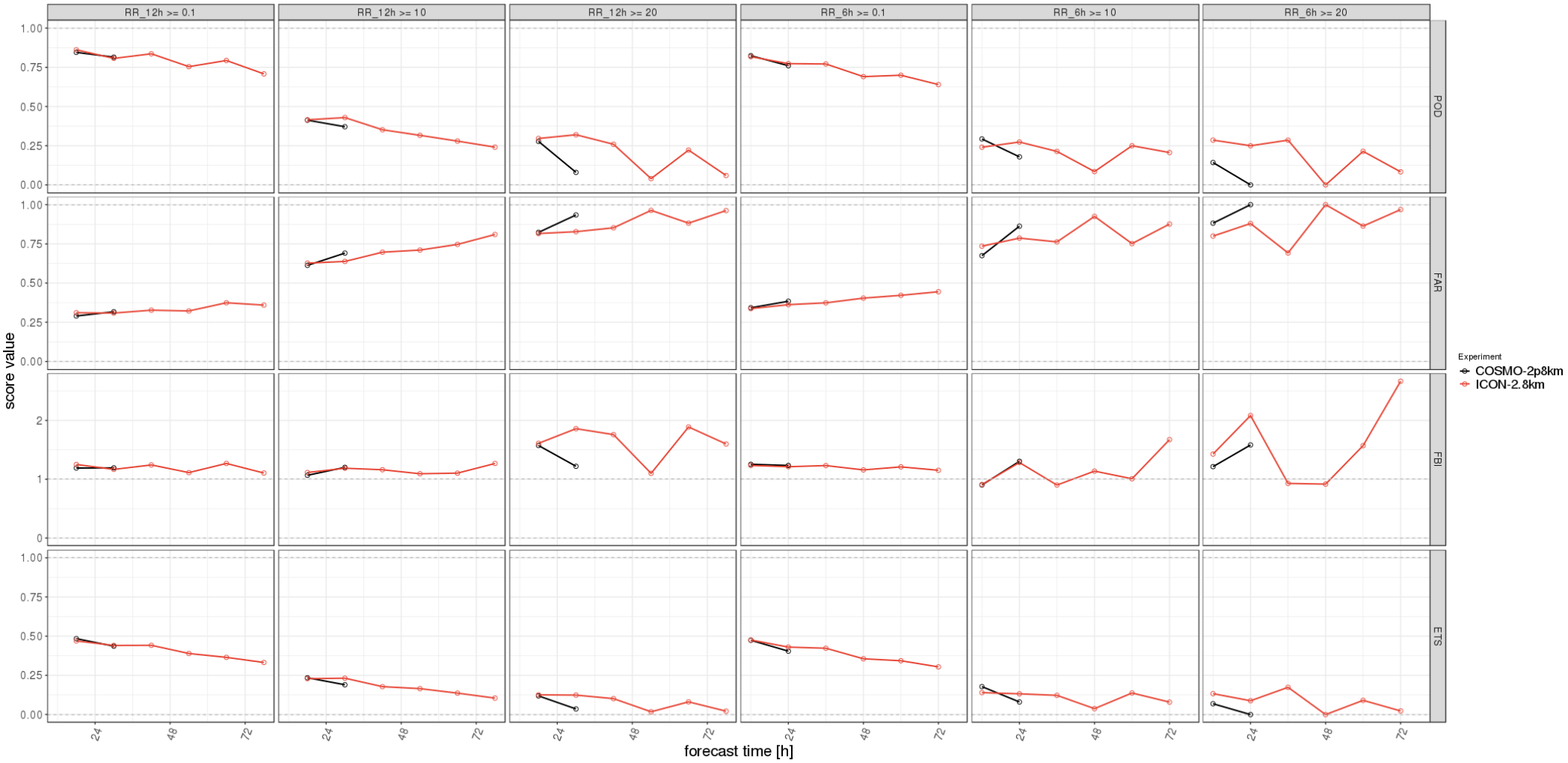
ICON-2.8 (green) vs. COSMO-2.8 (red)

2021.03.01-03UTC - 2021.05.31-21UTC
 VAL: ALL UTC, INI: 00, STAT: ALL, DOM: ALL



COSMO-2.8 (black) vs. ICON-2.8 (red)

2021.03.01-03UTC - 2021.05.31-21UTC
 VAL: ALL UTC, INI: 00, STAT: ALL, DOM: ALL

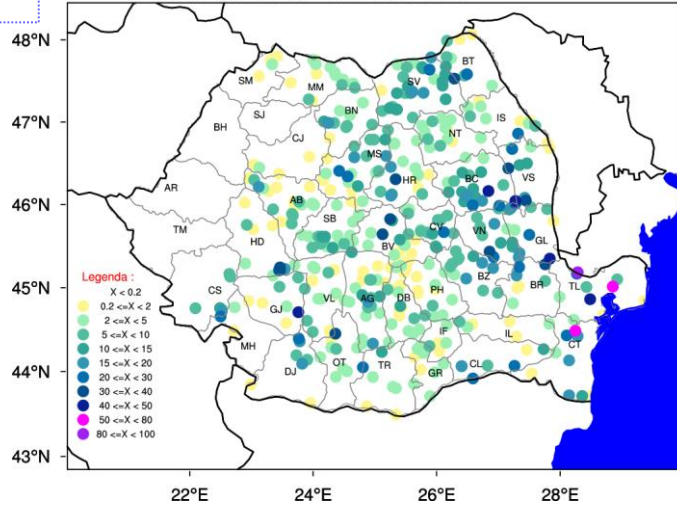


COSMO-2.8 (black) vs. ICON-2.8 (red)

- **Operational 12 UTC run and evaluation**
- *Data assimilation (opportunities still being evaluated)*
- some verification for upper air (TEMP observations)
- survey from forecasters – **ongoing**
- **Tests for v2.6.3 – ongoing**
- ***Main Issue: Precipitation***

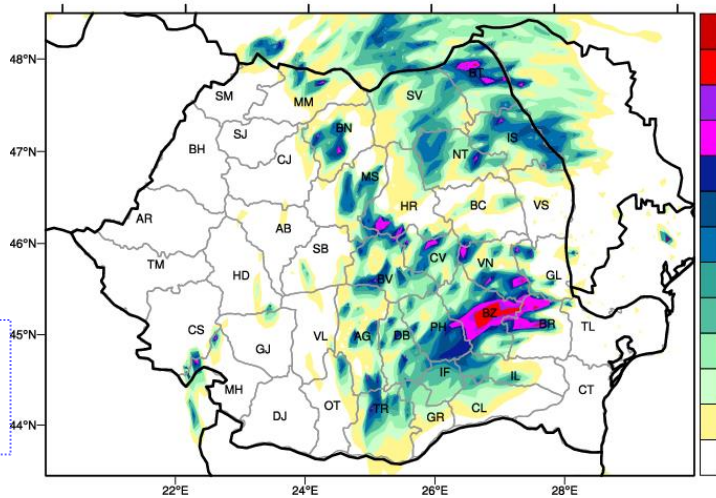
OBS

SYNOP+PLUVIO+HYDRO+DESWAT Cantitatea de precipitatii cumulata in intervalul
 20.06.2021 ora 06 UTC - 21.06.2021 ora 06 UTC



Model: ICON-2.8km Cantitatea de precipitatii prognozata in intervalul
 20/06/2021-06 UTC - 21/06/2021-06 UTC

Baza: 20/06/2021
 Anticipatia: 06 - 30 h
 Unitati: l/m^2

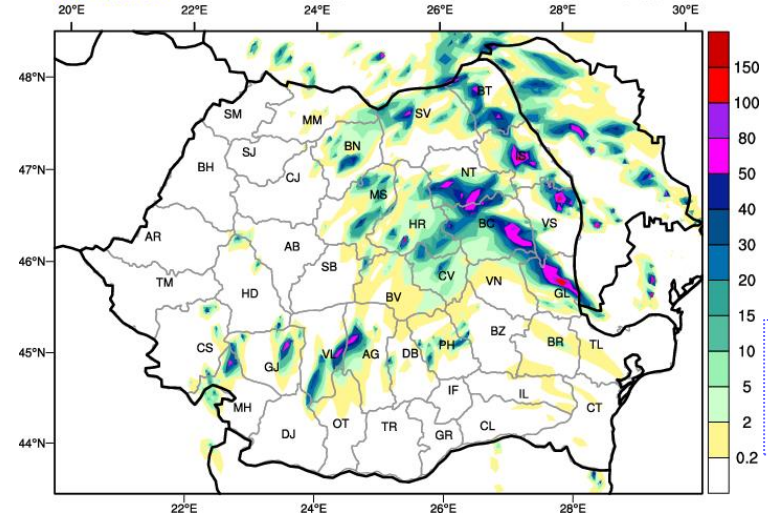


ICON-2.8
6-30h

20-21.06.2021

Model: ICON-2.8km Cantitatea de precipitatii prognozata in intervalul
 20/06/2021-06 UTC - 21/06/2021-06 UTC

Baza: 19/06/2021
 Anticipatia: 30 - 54 h
 Unitati: l/m^2

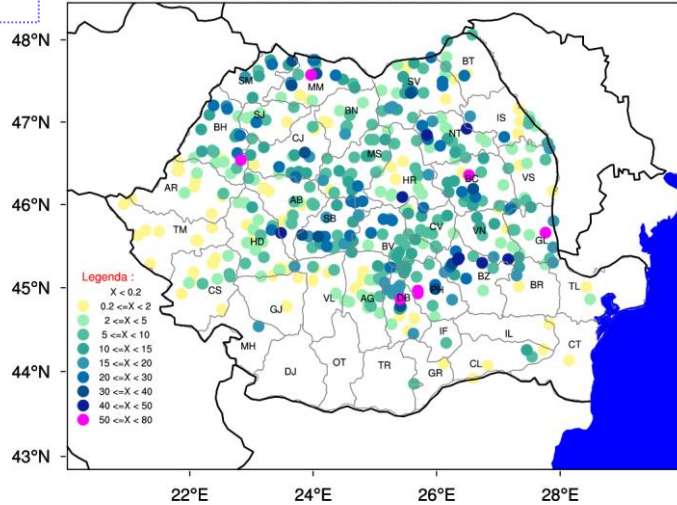


ICON-2.8
30-54h

Problem with Forecast for Precipitation

OBS

SYNOP+PLUVIO+HYDRO+DESWAT Cantitatea de precipitatii cumulata in intervalul
 02.07.2021 ora 06 UTC - 03.07.2021 ora 06 UTC



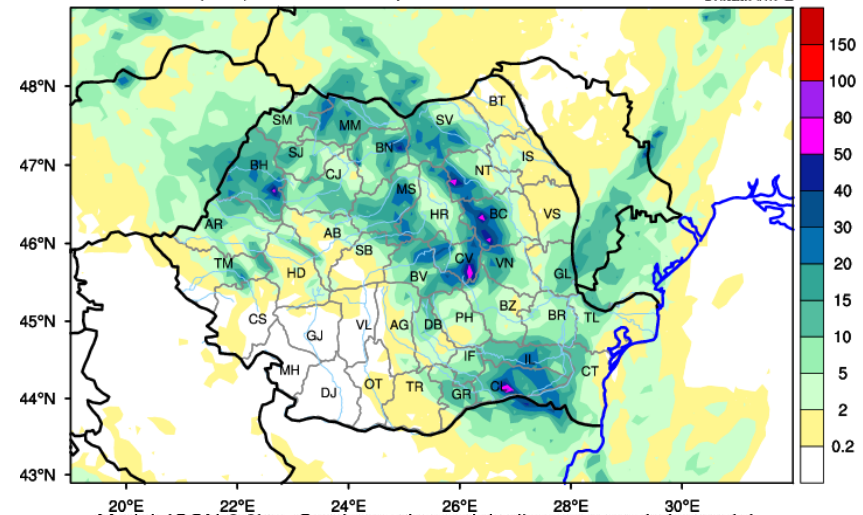
Model: COSMO Cantitatea de precipitatii prognozata in intervalul

02/07/2021-06 UTC - 03/07/2021-06 UTC

Baza: 07/02/2021 (00:00)

Anticipatia: 6 - 30 h

Unitati: l/m²



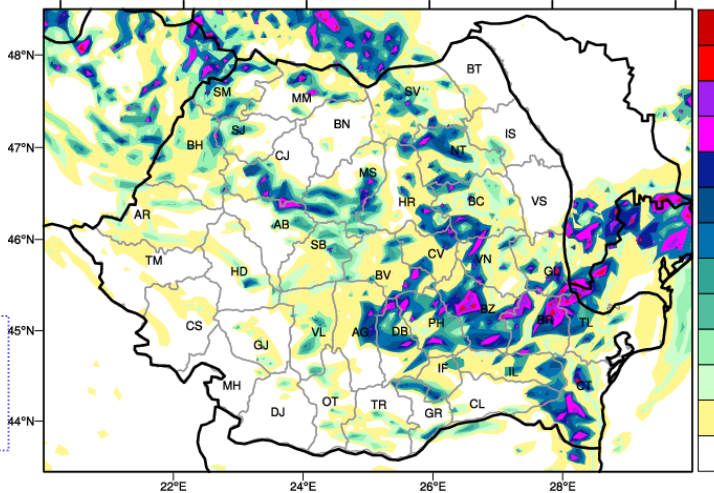
Model: ICON-2.8km Cantitatea de precipitatii prognozata in intervalul

02/07/2021-06 UTC - 03/07/2021-06 UTC

Baza: 02/07/2021

Anticipatia: 06 - 30 h

Unitati: l/m²



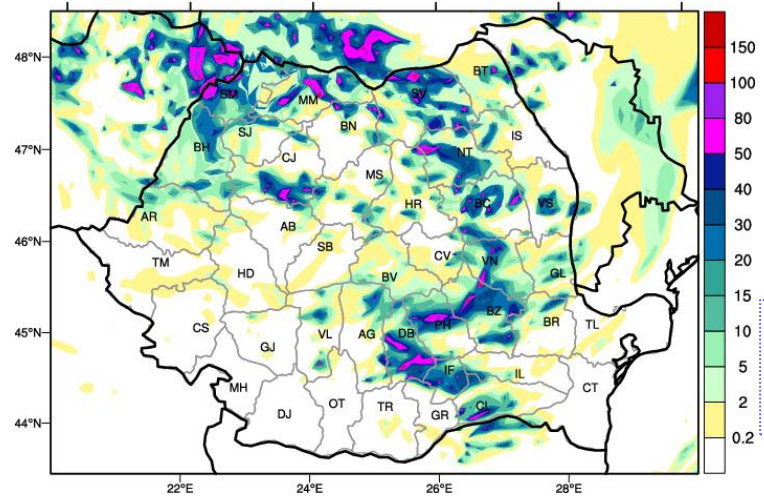
Model: ICON-2.8km Cantitatea de precipitatii prognozata in intervalul

02/07/2021-06 UTC - 03/07/2021-06 UTC

Baza: 01/07/2021

Anticipatia: 30 - 54 h

Unitati: l/m²



ICON-2.8
6-30h

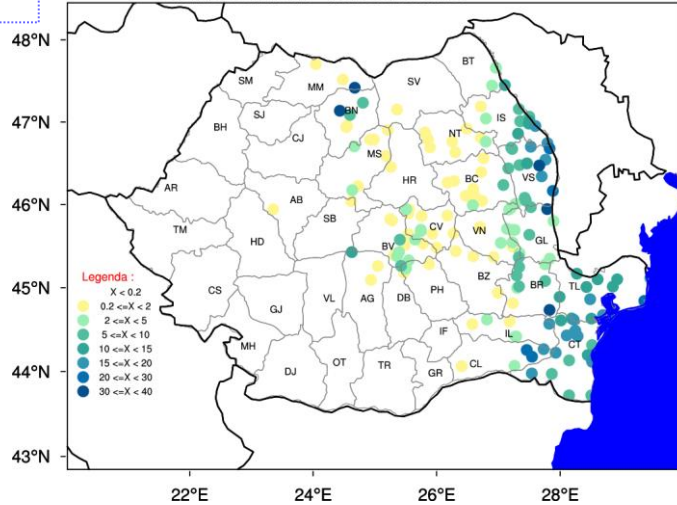
ICON-2.8
30-54h

2-3.07.2021

Problem with Forecast for Precipitation

OBS

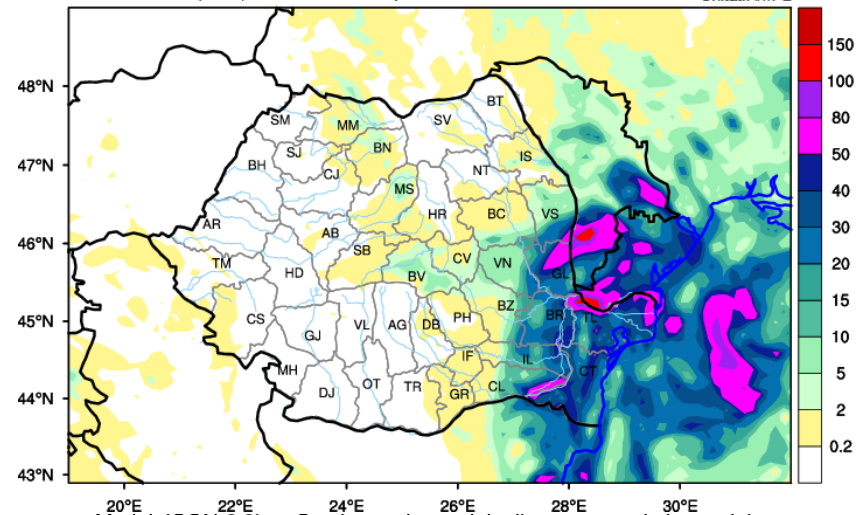
SYNOP+PLUVIO+HYDRO+DESWAT Cantitatea de precipitatii cumulata in intervalul
 05.07.2021 ora 06 UTC - 06.07.2021 ora 06 UTC



Model: COSMO Cantitatea de precipitatii prognozata in intervalul

05/07/2021-06 UTC - 06/07/2021-06 UTC

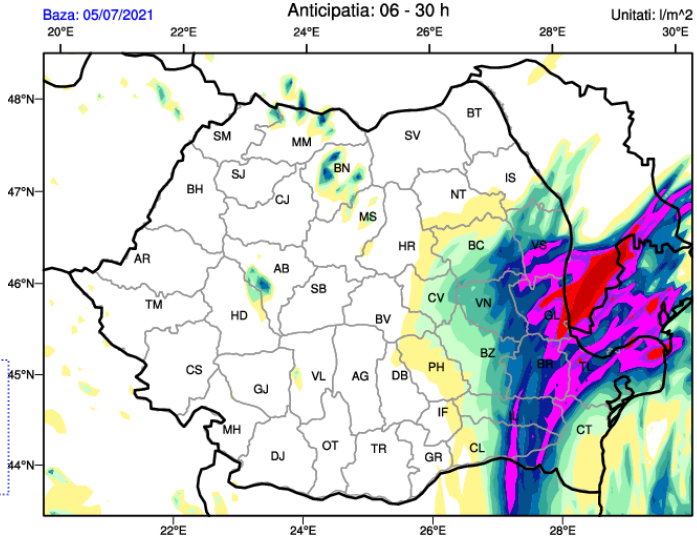
Baza: 07/05/2021 (00:00) Anticipatia: 6 - 30 h Unitati: l/m^2



Model: ICON-2.8km Cantitatea de precipitatii prognozata in intervalul

05/07/2021-06 UTC - 06/07/2021-06 UTC

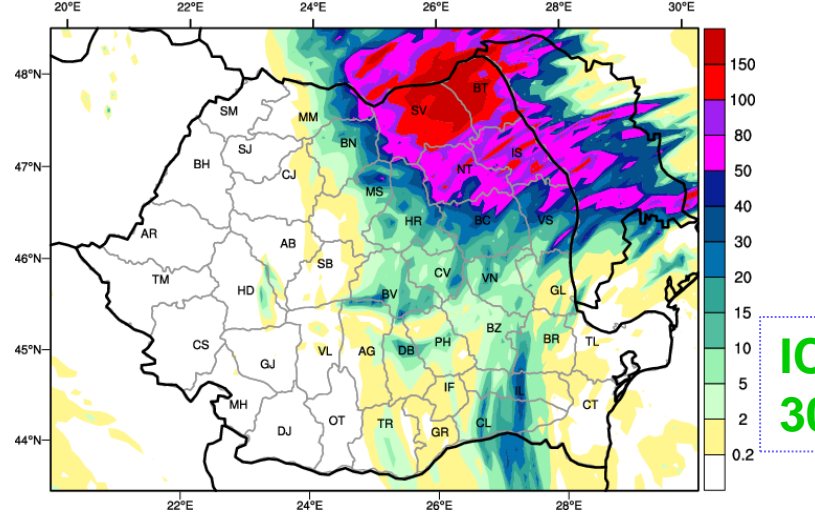
Baza: 05/07/2021 Anticipatia: 06 - 30 h Unitati: l/m^2



Model: ICON-2.8km Cantitatea de precipitatii prognozata in intervalul

05/07/2021-06 UTC - 06/07/2021-06 UTC

Baza: 04/07/2021 Anticipatia: 30 - 54 h Unitati: l/m^2



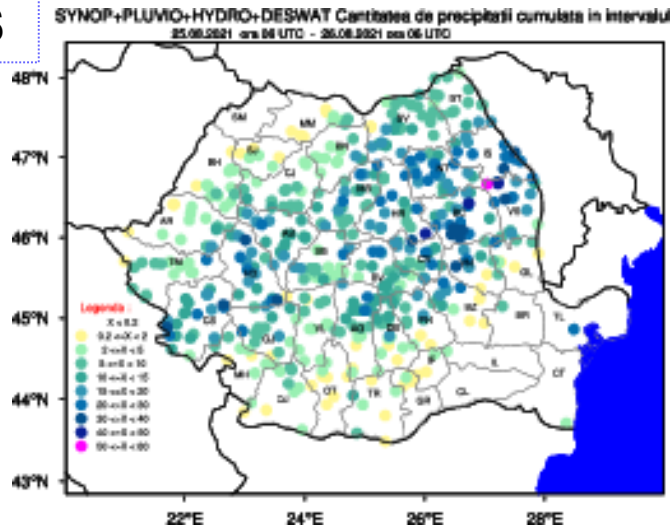
ICON-2.8
6-30h

ICON-2.8
30-54h

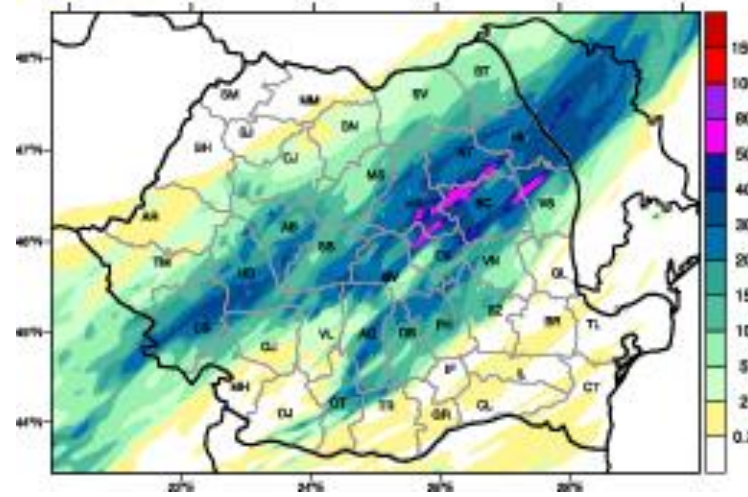
5-6.07.2021

Problem with Forecast for Precipitation

OBS



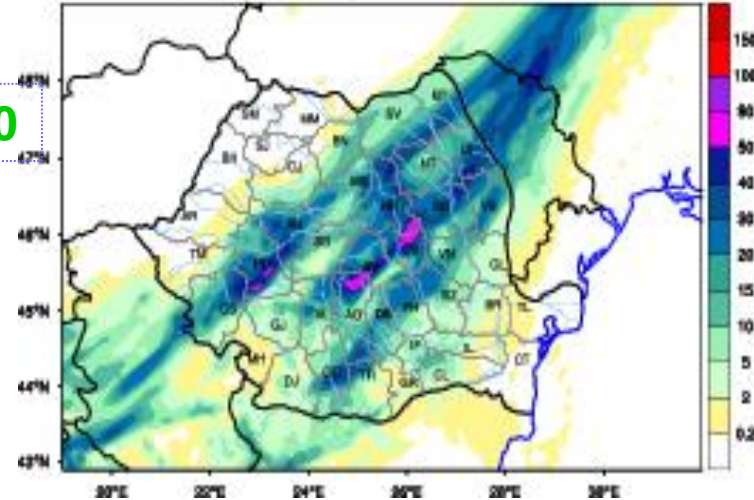
Model: ICON-2.8km Cantitatea de precipitatii prognozata in intervalul
 25/08/2021-06 UTC - 26/08/2021-06 UTC
 Anticipatia: 06 - 30 h



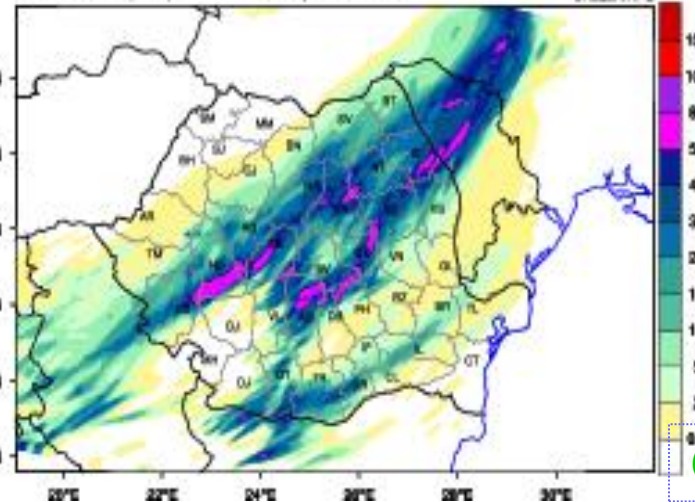
ICON-2.8

Model: COSMO Cantitatea de precipitatii prognozata in intervalul
 25/08/2021-06 UTC - 26/08/2021-06 UTC
 Anticipatia: 6 - 30 h

COSMO-7.0



COSMO2.8 Cantitatea de precipitatii prognozata in intervalul
 25.08.2021 ora 06 UTC - 26.08.2021 ora 06 UTC
 Anticipatia: 6 - 30 h

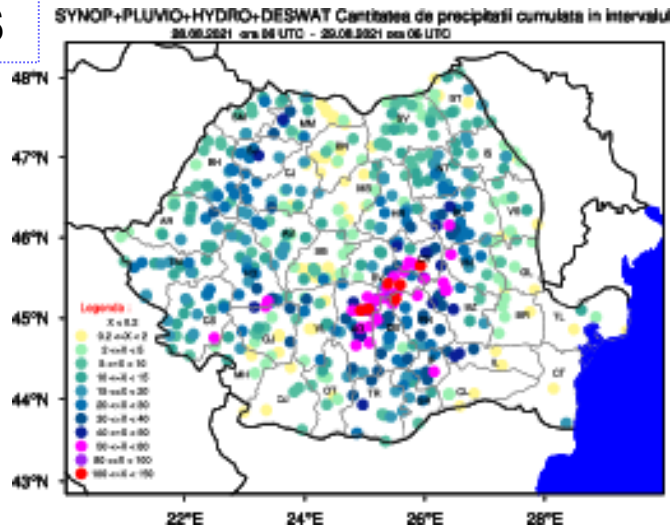


COSMO-2.8

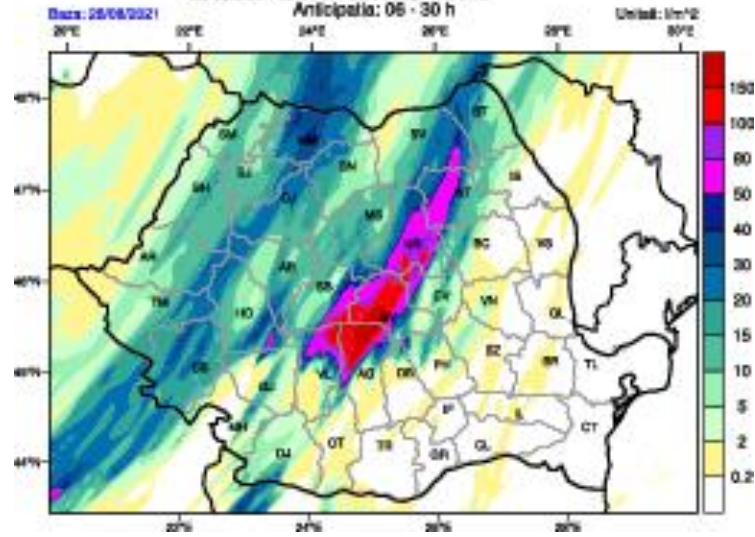
25-26.08.2021

Problem with Forecast for Precipitation

OBS

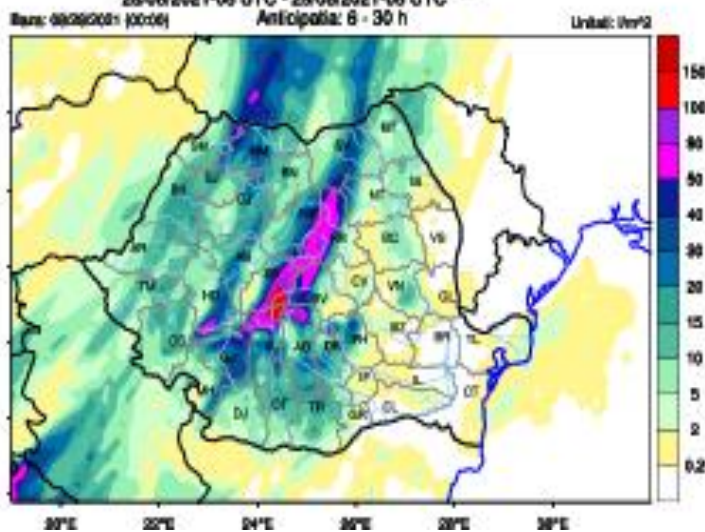


Model: ICON-2.8km Cantitatea de precipitatii prognozata in intervalul
 28/08/2021-06 UTC - 29/08/2021-06 UTC



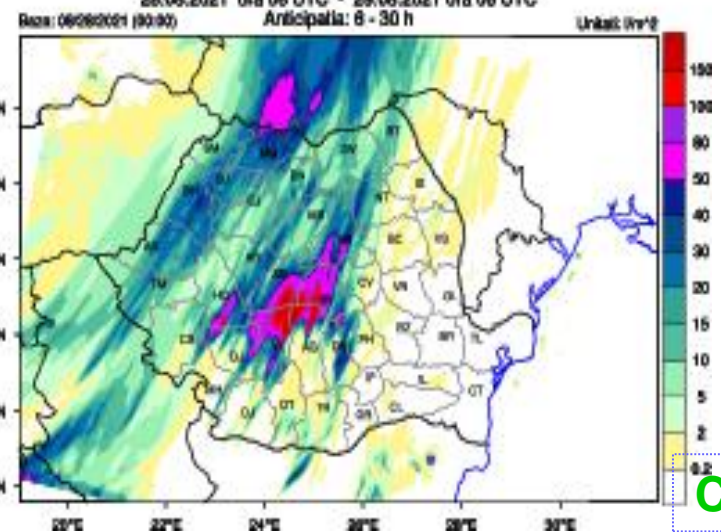
ICON-2.8

Model: COSMO Cantitatea de precipitatii prognozata in intervalul
 28/08/2021-06 UTC - 29/08/2021-06 UTC



COSMO-7.0

COSMO2.8 Cantitatea de precipitatii prognozata in intervalul
 28.08.2021 ora 06 UTC - 29.08.2021 ora 06 UTC

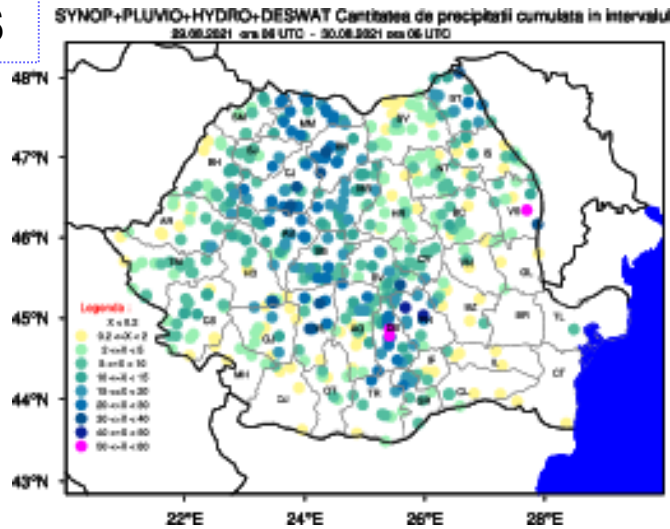


COSMO-2.8

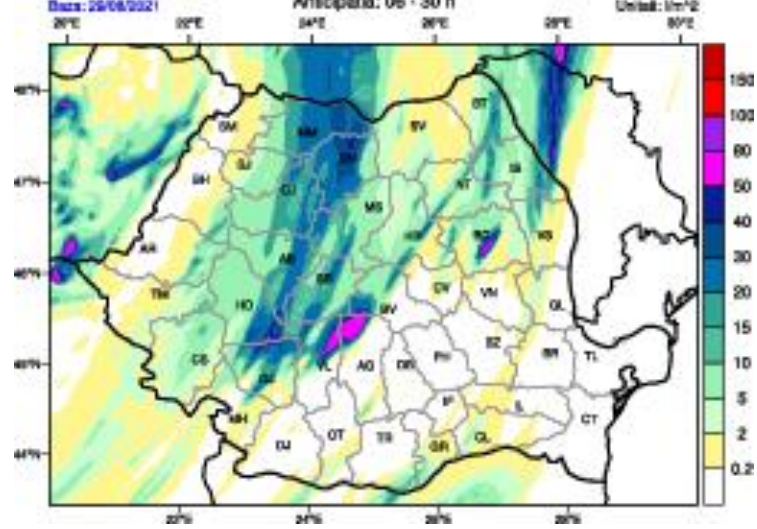
28-29.08.2021

Problem with Forecast for Precipitation

OBS

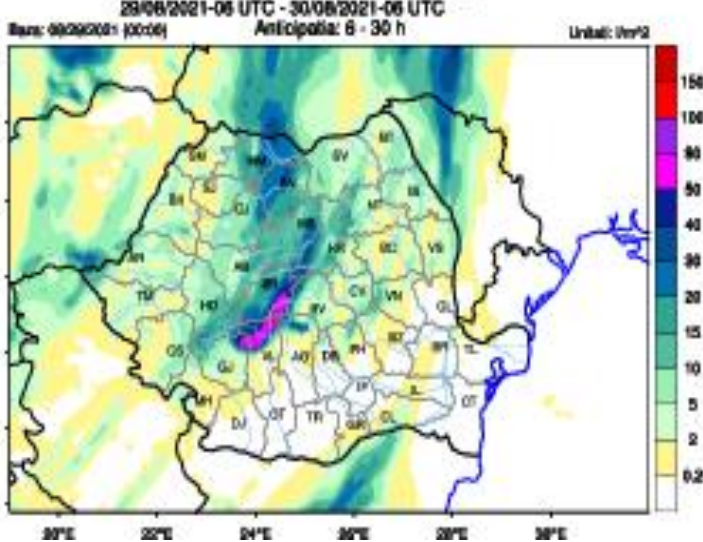


Model: ICON-2.8km Cantitatea de precipitatii prognozata in intervalul
 29/08/2021-06 UTC - 30/08/2021-06 UTC
 Anticipatia: 06 - 30 h



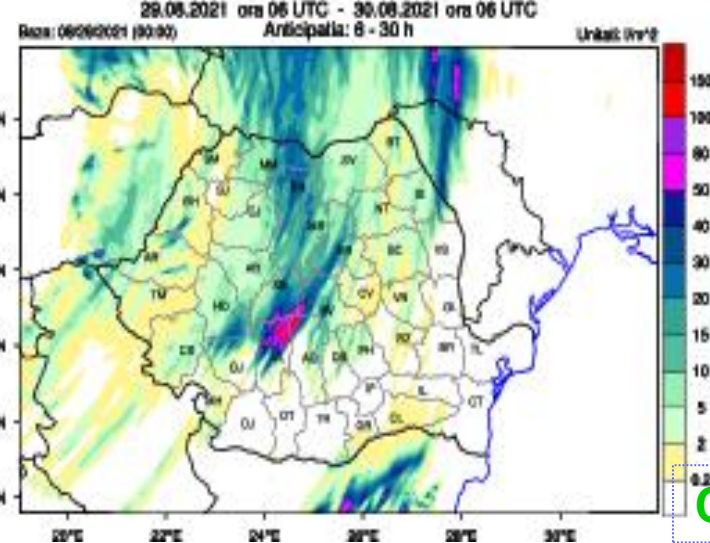
ICON-2.8

Model: COSMO Cantitatea de precipitatii prognozata in intervalul
 29/08/2021-06 UTC - 30/08/2021-06 UTC



COSMO-7.0

COSMO2.8 Cantitatea de precipitatii prognozata in intervalul
 29.08.2021 ora 06 UTC - 30.08.2021 ora 06 UTC



COSMO-2.8

29-30.08.2021

Thank you for your attention!

The screenshot shows a Mozilla Firefox browser window titled "Server Intranet - Mozilla Firefox". The address bar shows "192.168.5.18". The page content includes a header for "Meteo Romania Server Intranet" and a navigation menu with the following items:

- COSMO
- Wind Sketch
- Prognoze ECMWF / ARPEGE proiectie cilindrica
- ALARO/ALADIN-LAE ECMWF
- Imagini Radar
- Imagini Satelitare
- ICON** (circled in red)

An inset window titled "Icon - 2.8 Km - Mozilla Firefox" displays a weather forecast for "ICON-2.8km: Rafala la 10m". The forecast is for "Baza 21.01.2020, 00 UTC" and is valid for "21.01.2020, 17 UTC". The map shows wind speeds in m/s over Romania, with a color scale from 5 to 45. A list of parameters is visible on the left side of the inset window:

- Icon - 00
- Temple potentials
- Neb initial
- Neb joasa
- Neb medie
- Neb totala
- Relativa 500-1000 hPa
- Relativa 700-1000 hPa
- Relativa 700-850 hPa
- Relativa 850-1000 hPa
- Umezeala relativa 2 m
- MSLP
- Ploaie 12 h
- Ploaie 24 h
- Ploaie 3 h
- Zapada 12 h
- Zapada 24 h
- Zapada 3 h
- Gonimea stratului de zapada
- Precip convective 12 h
- Precip convective 24 h
- Precip convective 3 h
- Precip cumulate 6 h
- Precip cumulate 48 h
- Temperatura 2 m
- Temperatura 2 m + MSLP
- Temperatura 850hPa + MSLP
- Diferenta temp 925-1000 hPa
- Temp + Geopotential 300hPa
- Temp + Geopotential 500hPa
- Temp + Geopotential 700hPa
- Temp + Geopotential 850hPa
- Temp + Geopotential 925hPa
- Temp + Geopotential 1000hPa
- Vant 10 m
- Vant 300 hPa
- Vant 500 hPa
- Vant 850 hPa
- Vant max (rafala 10 m)**
- Umezeala relativa - Vant 1000hPa
- Umezeala relativa - Vant 700hPa
- Umezeala relativa - Vant 925hPa
- Viteza verticala la 700 hPa
- Viteza verticala la 850 hPa