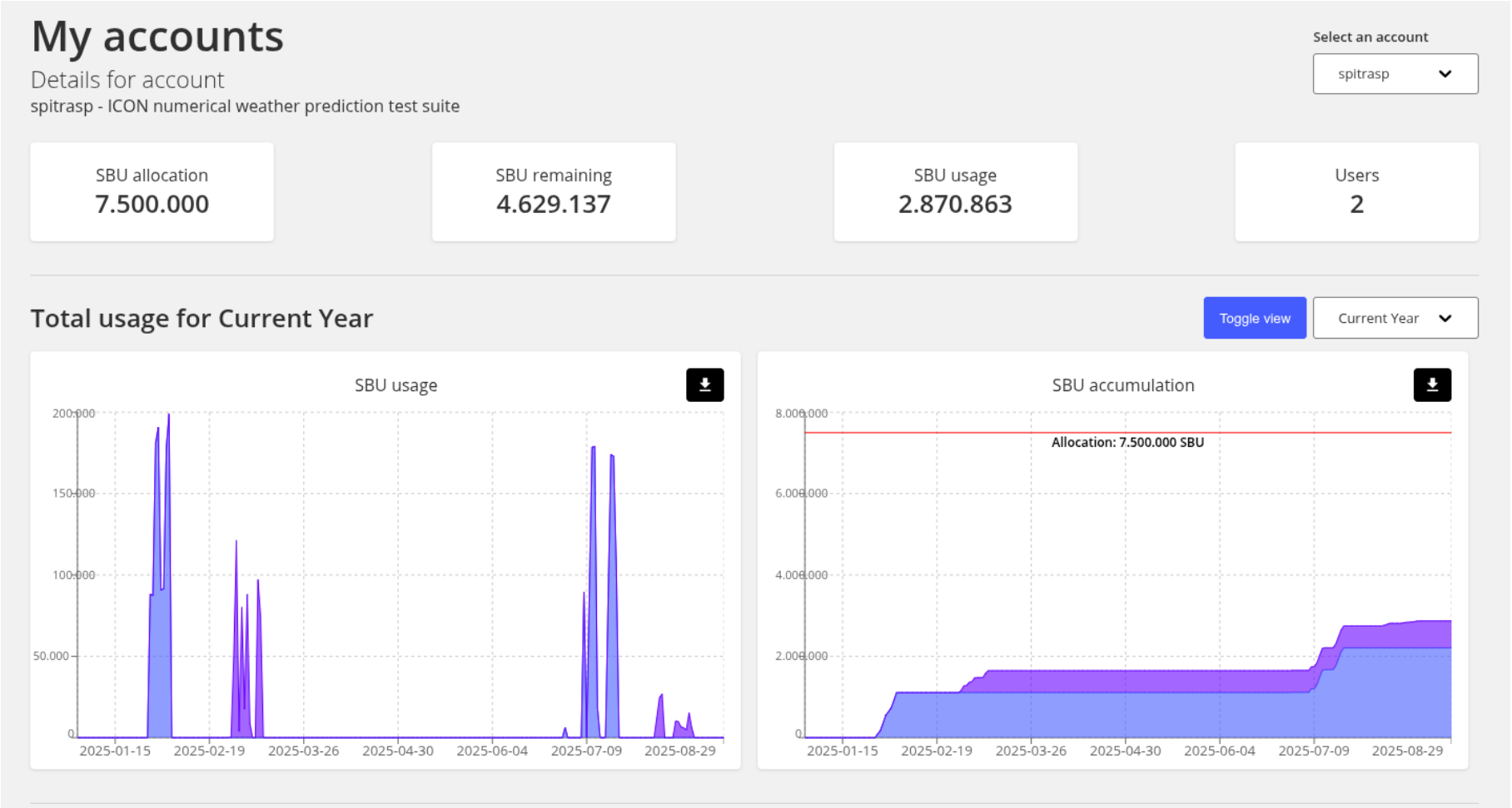
NWP-TS: summary of Icon experiments at 31/08/2025

Experiment ID	Completed by	Icon version	Simulation periods	Namelist	Soil IC + domain	Top boundary nudging	BC frequency	Experiment objectives
icon261	24/01/2023 30/01/2023	2.6.1	Jul 2017 Dec 2017	261-2021	ICON-GL	No	3 hours	Same as icon261_65lev, but: run on Atos; direct nesting in IFS (Icon resolution R2B10); reviewed output format
icon265	01/02/2023 09/02/2023	2.6.5.1	Jul 2017 Dec 2017	261-2021	ICON-GL	No	3 hours	Same as icon261 except for model version 2.6.5.1
S23icon261	06/10/2023 01/01/2024	2.6.1	Jul 2021 Dec 2021	261-2021	ICON-EU	No	3 hours	Same as S23icon265, but: ICON version 2.6.1, namelists as icon261
S23icon265	11/08/2023 17/08/2023	2.6.5.1	Jul 2021 Dec 2021	265-2023	ICON-EU	No	3 hours	Same model version as icon265, but: new simulation periods; updated namelists; new soil IC (ICON-EU); slightly smaller domanin (SE corner); ecflow suite reviewed
S23icon202410	22/12/2024 19/12/2024	2024.10	Jul 2021 Dec 2021	2024	ICON-EU	No	3 hours	Same as S23icon265, but: ICON version 2024.10, updated namelists, new gas climatology
S24xicon202410	20/11/2024	2024.10	01/12/2021 *only one day*	2024	ICON-EU	Yes	3 hours	Test the separate impact of Top Nudging and hourly BC, mainly for check & debug of S24 suite
S24yicon202410	12/12/2024 08/12/2024	2024.10	Jul 2021 Dec 2021	2024	ICON-EU	No	1 hour	Test the separate impact of Top Nudging and hourly BC, mainly for check & debug of S24 suite
S24icon202410	31/01/2025 04/02/2025	2024.10	Jul 2021 Dec 2021	2024	ICON-EU	Yes	1 hour	Same as S23icon202410, but upper boundary nudging and hourly BC form IFS
S24icon202504	20/07/2025 13/07/2025	2025.04-1	Jul 2021 Dec 2021	2025	ICON-EU	Yes	1 hour	Same as S24icon202410, but new model version and updated convection setup (DWD+IMS)

NWP-TS: budget of billing units at 31/08/2025



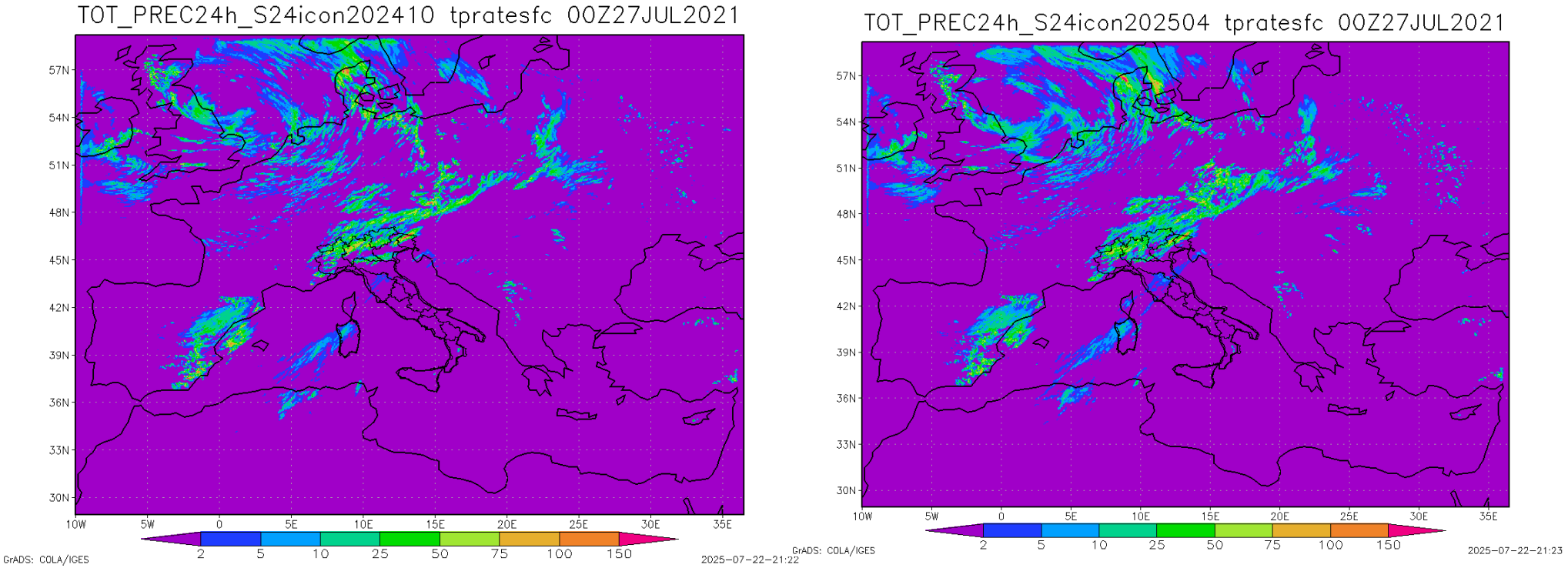
≈ 1.1M SBU required for each experiment,
4.6M SBU remaining: up to 3 more experiments are possible in 2025

NWP-TS: possible developments

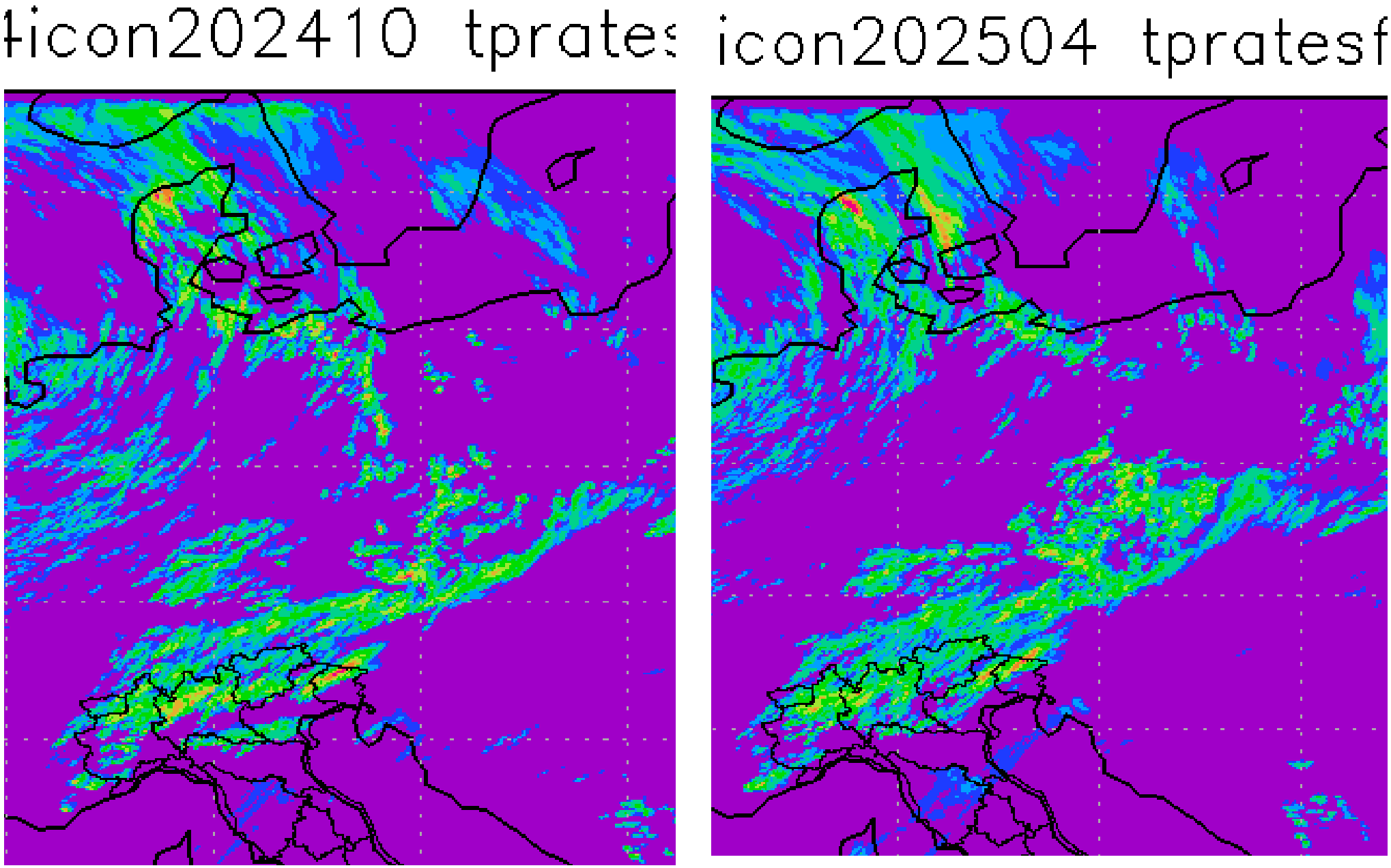
Differences in NWP-TS experiments are almost always very small, and maybe not significative.

This is a result (*we check that the new release doesn't have any major flaw*), but maybe it could be interesting to extend the verification:

- more emphasis on precipitation: use extra observations and/or radar estimates; scores for strong convection.
- detailed verification of a set of intense episodes (heavy precipitation, heat/cold waves...) that occurred during the test period (*pros: larger differences between experiments, hints on the behaviour of the different model versions in high impact weather. Cons: extra work, results may be case-specific and not statistically significant*)



24 hours precipitation for 26 Jul 2021: Icon 2024-10 (left) and Icon 2025-04-1 (right)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