

NWP-TS updates

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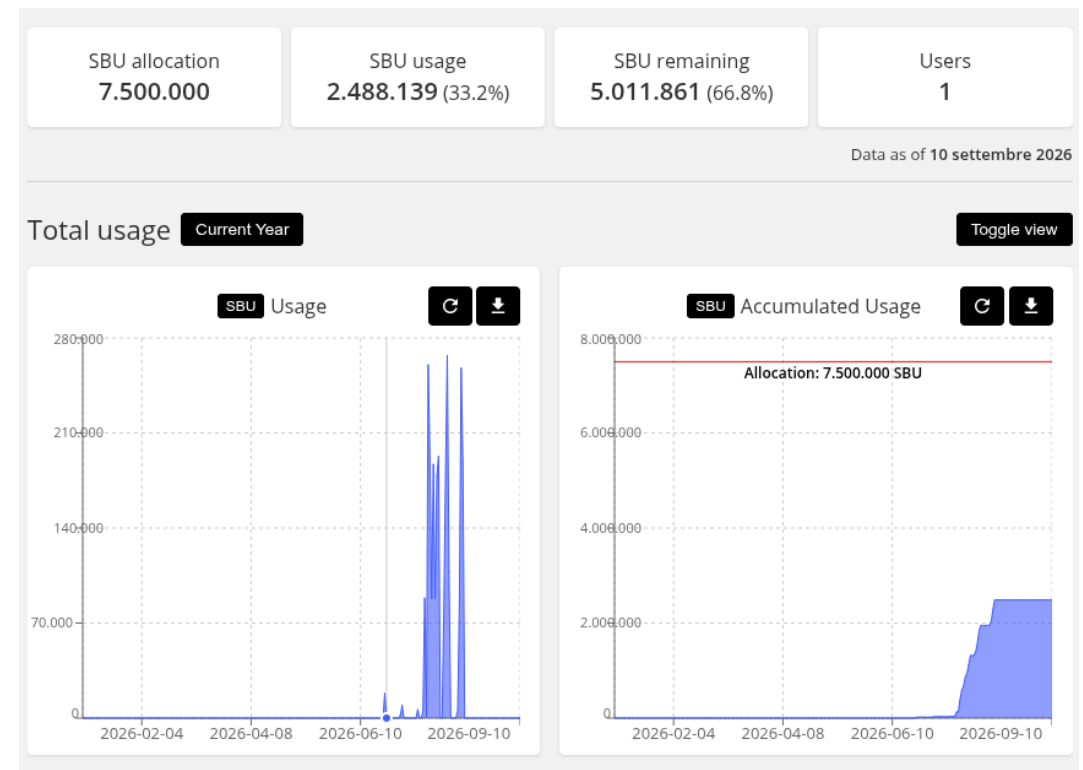
COSMO General Meeting, September 14th-19th 2026, Rome

Recent developments

- The core of the suite and the setup of experiments hasn't been changed in the last year
- Outputs now use CCSDS compression
- Request to use NWP-TS as a test suite for Icon-LEPS: Icon namelists and software versions has been moved to external files, and are now directly comparable with LEPS
- The source codes of the suite have been moved to DKRZ gitlab server (*access on request*)

Resources

- A new R&D project for 2027-2029 has been submitted
- For 2026 we have 5M SBU still available, corresponding to ≈ 8 months of simulation
- *Note that a full 2 months experiment is less expensive than a single Icon-LEPS forecast!*



Additional experiments with version 2026-04 to test urban parametrisation (Terra-Urb)

- S24icon202604: Icon version 2026-04; base case, with default Terra-URB setup (run Jul+Dec, verification in progress)
- S24icon202604r: Same as base case, with Terra-URB off (run only Jul)
- S24icon202604i: Same as base case, with “traditional” Terra-URB setup (same setup as ARPA Piemonte experiments; run only Jul)

Synergy with other Cosmo activities on urban areas (contact person: Valeria Garbero)?

Experiment ID	Completed by	Icon version	Simulation periods	Namelist	Soil IC + domain	Top boundary nudging	BC frequency	Experiment objectives
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)
S24icon202604	25/07/2026 31/07/2026	2026.04 (cmp. TS)	Jul 2021 Dec 2021	2026	ICON-EU	Yes	1 hour	Same as S24icon202410, but new model version; urban model ON (DWD setup); sscds compresison ON
S24icon202604r	20/07/2026	2026.04 (cmp. TS)	Jul 2021	2026	ICON-EU	Yes	1 hour	Same as S24icon202410, but new model version; urban model OFF; sscds compression ON
S24icon202604i	08/08/2026	2026.04 (cmp. TS)	Jul 2021	2026	ICON-EU	Yes	1 hour	Same as S24icon202410, but new model version; urban model ON (Italain setup); sscds compression ON

- Standard verification of S24icon202604
- Special verification focused on urban heat island (?).
 - Should experiments S24icon202604r and S24icon202604i be completed with the winter season?
 - *Special experiment for summer 2026 heat waves (?)*
- *Add to standard verification a spatial verification of precipitation (vs radar), at least in specific areas (?)*