

# Short Overview on the Status of TERRA-URB in the COSMO-Model

## September 2021

## Actions during the last Months

- 2018-2020:
  - TERRA-URB implemented in COSMO 5.05\_urb1-7 and tested in PT AEVUS
- February / March 2021:
  - Implementation of technical modifications for tile approach in official COSMO Version 5.09
  - Distribution of cosmo\_210309\_5.10\_beta (including TERRA-URB) to colleagues working in PT AEVUS2, IMGW Poland (Adam Jaczewski) and AIT Vienna (Hans Züger)
  - Patches with fixes also distributed in March and April

## Actions during the last Months

### → June 2021:

→ Distribution of cosmo\_210624\_5.10\_beta, which is based on github master version 5.09b. Modifications to the TERRA-URB code:

- TERRA: Modifications for better vectorization (no result changes) to port this version to ICON
- GRIB 2 output for tiles
- Porting to GPUs

### → July 2021:

→ Implementation of TERRA\_URB to official github version 5.10

### → August 2021:

- Latest official version 5.12 has an important change for TERRA-URB:
- ntiles has been eliminated as Namelist variable, because it only depends on lterra\_urb and is set internally now.

## Summary

- TERRA-URB is available in the official COSMO-Version. The implementation corresponds to the latest test-version available for the AEVUS team (cosmo\_210624\_5.10\_beta).
- Also, the necessary changes to INT2LM are contained in the last version 2.09.
- The additional namelist switches are described in the COSMO User Guide (and the INT2LM User Guide). In the Physical Parameterization documentation there is a link to the TERRA-URB documentation.

## Near Future Planning

→ Port latest modifications of sfc\_terra.f90 from COSMO to ICON