

Introducing PT_AEVUS 2

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COSMO GM 2019

Rome, 10th September 2019

h 16:30 - 18:00

Introduction to PT AEVUS2

During the PT AEVUS meeting at ICCARUS 2019, the possibility of a new PT AEVUS 2 follow-up was discussed, and all the participants agree on it.

A PT proposal has been submitted:

- Task Leader: CIRA
- Duration, start/end data. (October 2019- October 2020)
- COSMO Participants: CIRA, Arpa Piemonte, DWD, RHM
- External partners: Flemish Institute for Technological Research (VITO), Ruhr University of Bochum, Polytechnic of Torino.
- FTE: 1.1 Year.

PT AEVUS-2: Technical content

Several issues are still open and needs to be addressed:

- The use of hard-coded values for the urban canopy parameters
- Even the basic urban canopy parameters, the ISA fraction and QF, are far away from being perfect in the existing datasets available in EXTPAR. Further dataset needs to be investigated.
- A better calibration of parameters is needed
- Increase the number of test cases using skin temperature formulation (itype_canopy =2)
- Mapping Europe into local climate zones is a possible input for urban climate modelling.
- Preparation for the TERRA-URB implementation into ICON model

PT_AEVUS 2 has been conceived to address these items.

PT_AEVUS 2 has been submitted to STC. We are waiting for a official approval.

PT AEVUS 2 – Sub tasks

Sub task 1: Code developments and tests

Implementation of the option to define urban canopy parameters (e.g. building heights).

Sub task 2: Testing of new external parameters

Detailed testing of new datasets representing the urban canopy parameters.

Sub task 3: Calibration of COSMO for urban areas

Investigation of the sensitivity to several parameters defined in TUNING and INPUT_PHY. Focus on the canopy parameterization (itype_canopy).

Sub task 4: Test with different driving models

Sub task 5: Towards TERRA URB implementation in ICON

The preparation towards the implementation of the TU scheme in the ICON model will be started.

Sub task 6: Production of the final report

Gantt chart

	Time	09/19	10/19	11/19	12/19	01/20	02/20	03/20	04/20	05/20	06/20	07/20	08/20
Task													
1													
2													
3													
4													
5													
6													

Duration: 12 months

Start date: 09/2019 End date: 10/2020

FTE summary

	Institution	CIRA	ARPA P.	RHM	DWD	VITO/ Bochum	Polytechnic of Torino
Task							
1		0.07	0.07	0.07	0.10	0.10	
2		0.07	0.07	0.07		0.20	
3		0.07	0.07	0.07	0.10		
4		0.02	0.02	0.02			
5				0.1			0.30
6		0.07	0.02	0.02			
Total FTEs		0.30	0.25	0.35	0.20	0.30	0.30

Total of : 1.10 FTE (COSMO) + 0.6 FTE (External partners)