COSMO-GM 2022 – Snow Session Agenda

09:00 - 09:30	Status of snow analysis at DWD.	(Martin)
09:30 - 10:00	Status of new snow scheme in COSMO at MCH	(Varun)
10:00 - 10:15	Discussion & Open Questions	(All)
10:15 - 10:30	Break	
10:30 - 10:45	Status of new snow scheme in ICON	(Sascha)
10:45 - 12:00	Towards regional and global snow modelling in ICON - Define a common strategy	(All)

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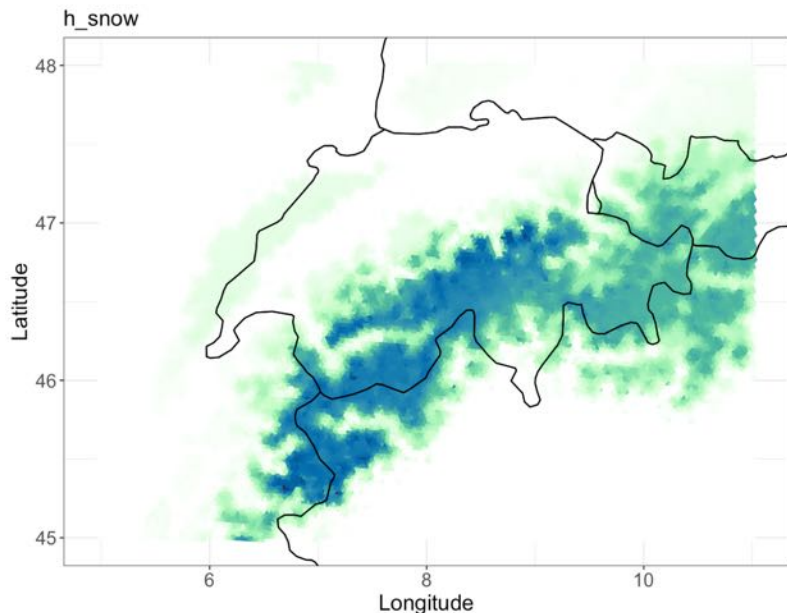# ICON-SNOW - status, timeline, resources …

WG3b - Snow Session

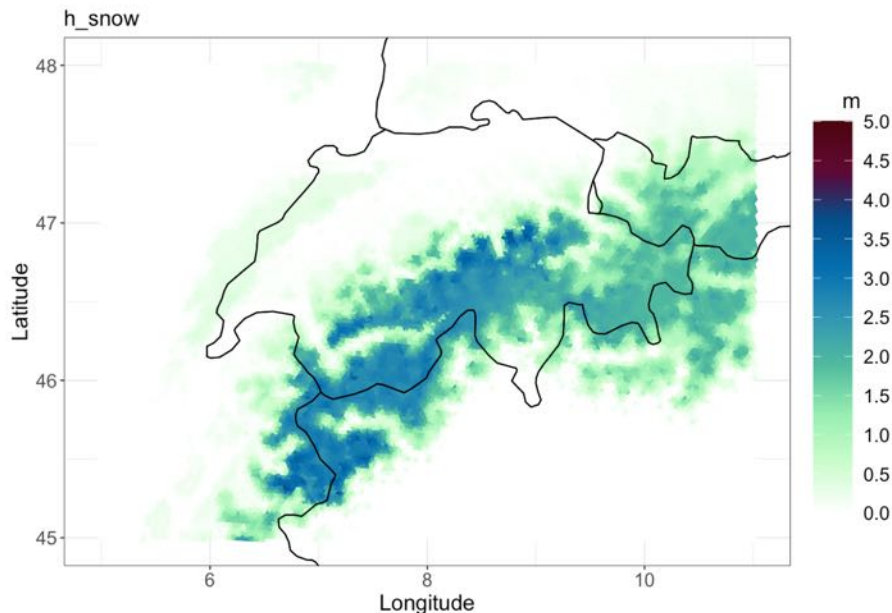**Sascha Bellaire[1]** , Varun Sharma[1], Jean-Marie Bettems[1]

[1]MeteoSwiss, Zurich, Switzerland
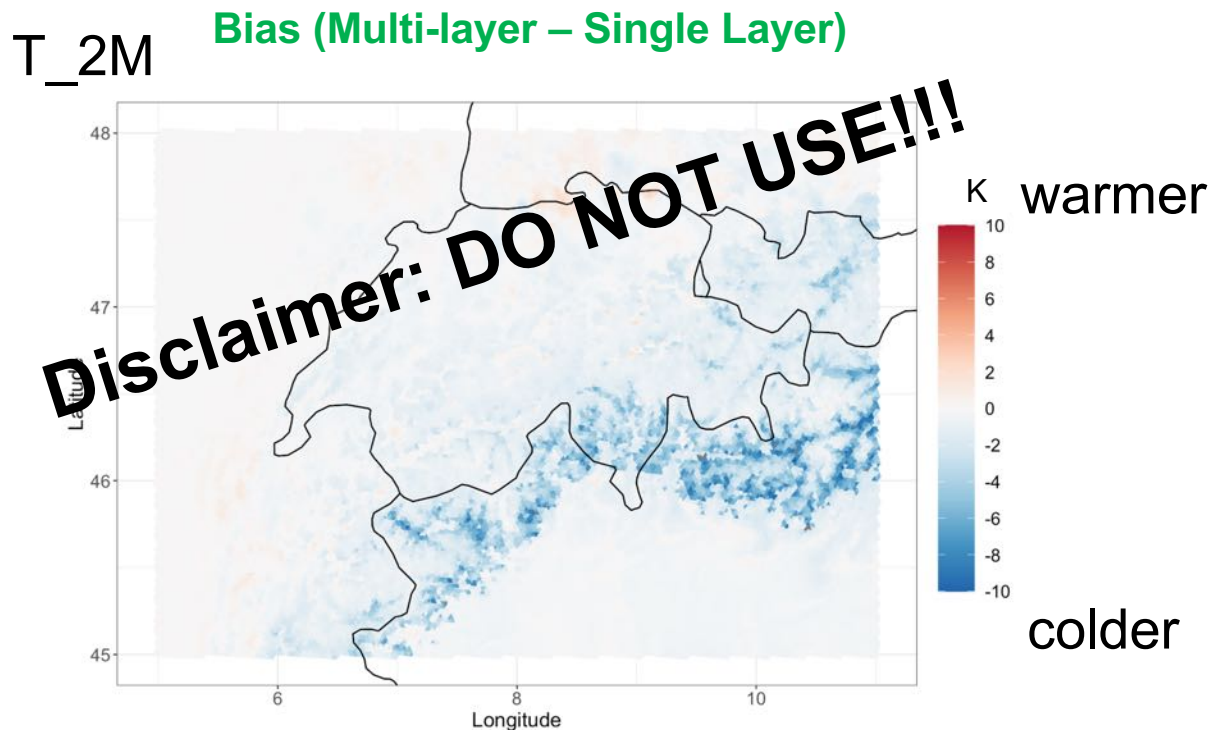
Implementation Strategy – Current status

Single layer

Multi-layer

ICON-D2 – 20210317 12 UTC

Implementation Strategy – Current status

T_2M

Bias (Multi-layer – Single Layer)

warmer

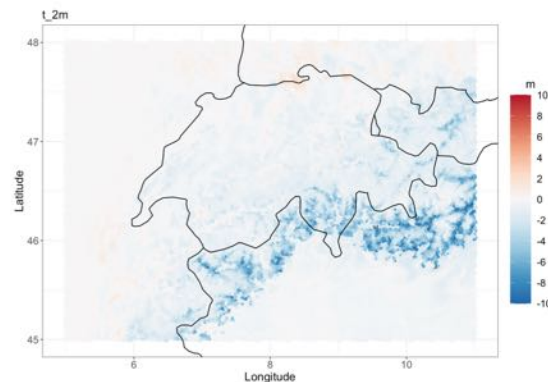colder

ICON-D2 – 20210317 12 UTC
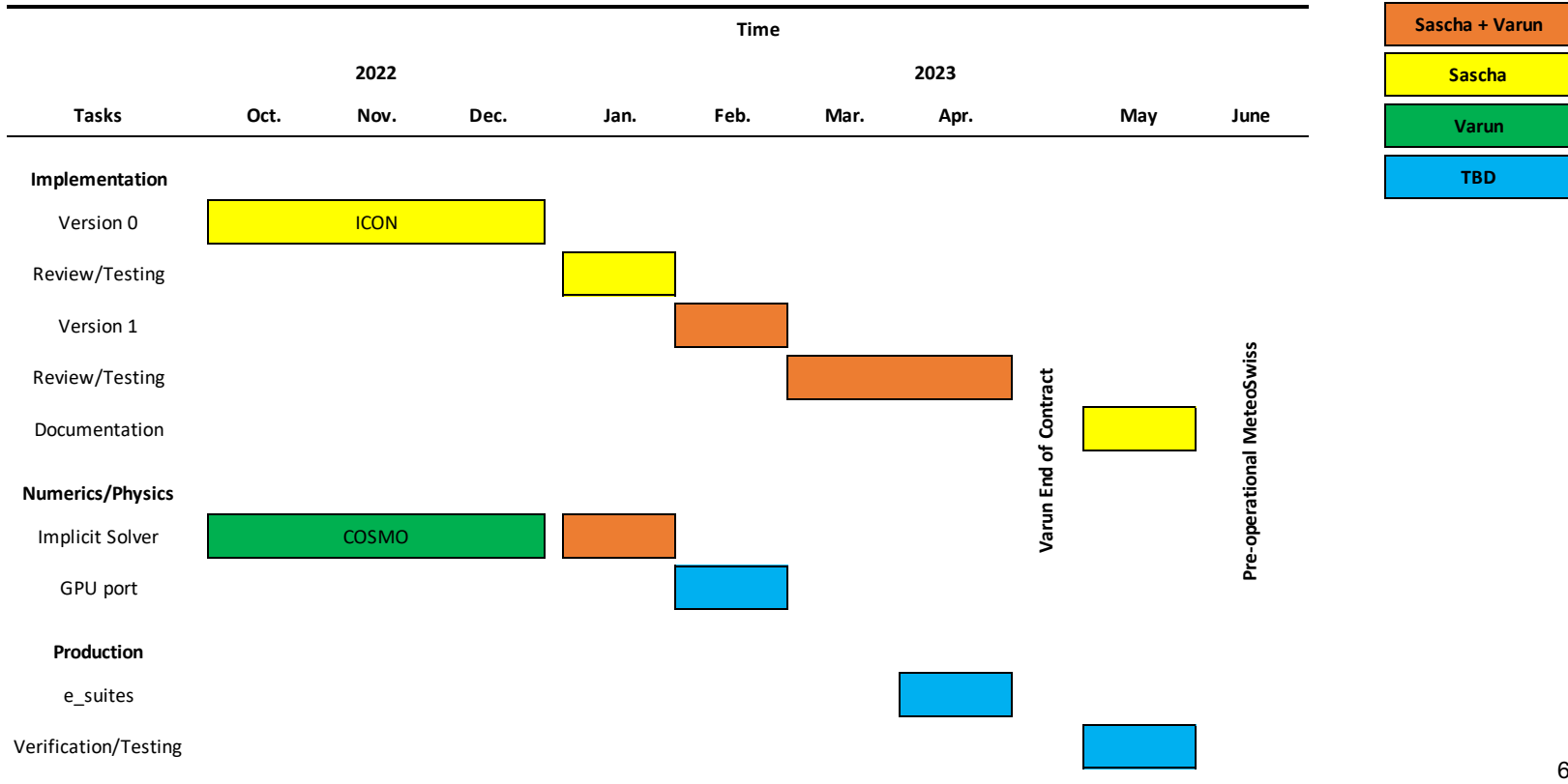
Implementation Strategy – Lessons learned

o Buggy version used, but produced reasonable, physical results. Proof of concept!

o Review by Günther Z.

o Code is not performant on the NEC. 'Loop swapping' required. Note, this will only help a bit! Implicit solver as a potential solution!

o Seems to run stable, at least for a few test cases, extensive testing pending.

o GPU version required for seasonal testing (MeteoSwiss).

Multi-layer – Single Layer

Implementation Strategy – 'Tight' Timeline (TBD)

Summary & open questions (short-term and long-term)

- We 'probably' know what we are doing, but there might be many pitfalls!
- As always timeline and resources are more than tight!

- How could we share the work load? Are there anymore resources?
    - Varun (50%) until April 2023, Sascha (80%) until December 2023
- We **need** a 'senior' code developer involved from the very beginning! This proved to be very helpful to be efficient. Ideally someone with snow/soil **and** code experience? Any volunteers?
- Should we organize a 'Snow Hackathon'? When? Where? Who?

- How could the testing on larger scales (time and space) be organized?
- How do we integrate this in the framework of ICON-S? Do we need to consider JSBACH and or even a rewrite of TERRA in terms of snow?

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Thanks!
Comments or Questions?

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