# Summary of EWGLAM Surface Sessions 2023

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# Status of the C-SRNWP project on ESA-CCI land cover

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**The EUMETNET Assembly decided in 2020 to support our proposal of a three year position (2021-2023) dedicated to "Evaluation and updates of ESA-CCI global land cover map for NWP needs". The position has been held by Doctor Sandro Oswald at Austrian Met Service, GesoSphere Austria. Sandro has now delivered updated ESA-CCI land cover maps:**

**The updated land cover files are provided in this google drive directory**

**Data are available both as netCDF and GeoTIFF files. In short the updates mean that the original ESA-CCI global land cover is complemented with two main information:**

- **The original data includes only one class for urban cover. The updated files include 10 different covers with urban information based on the Local Climate Zones.**
- **The original data includes only one class for water. The updated files include a separation between sea, lake and river waters.**

**Please refer to this report by Sandro et al. for more detailed information.**

**A big THANKS to Sandro for his work!!**

# New surface aspects - snow

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**We had reports on institutes going towards multi-layer snow schemes:**

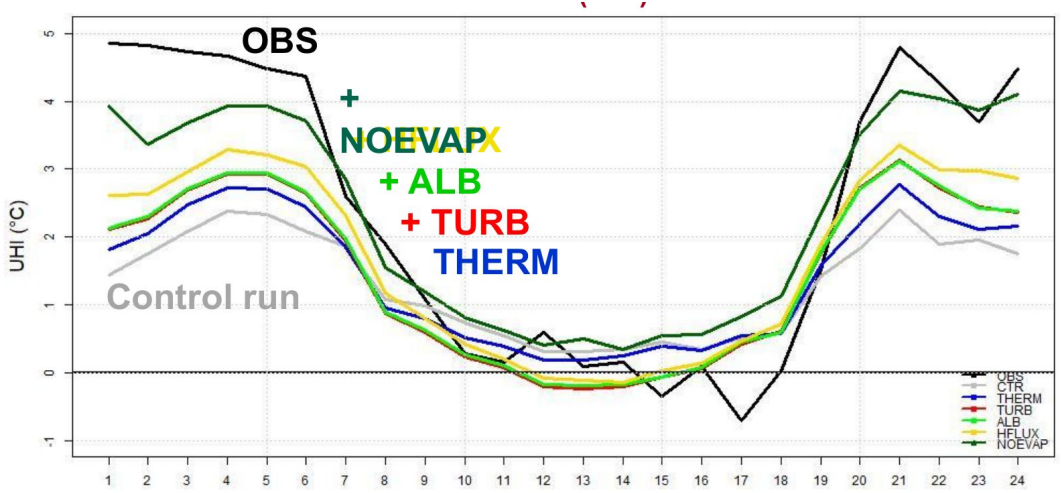
- **ECMWF: The 5-layer snow scheme in EcLand**
- **COSMO: NIX (earlier SNOWPOLINO) in ICON**
- **ACCORD: The 12-layer Explicit Snow Scheme in SURFEX**

**For example, Souhail showed the positive impact on winter near-surface temperature where an earlier warm bias is significantly reduced.**

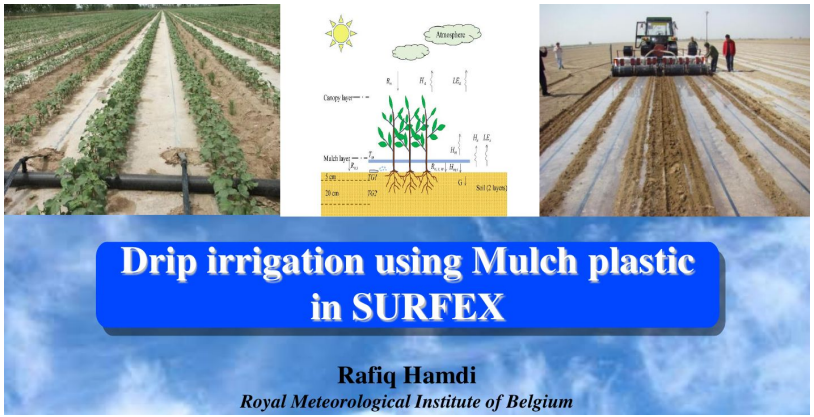
# New surface aspects - urban

We had reports on work on urban schemes:

- ECLand: Souhail reported on the implementation of the urban scheme by McNorton et al. in IFS.
- COSMO: an intense development period has lead to a successful implementation of TERRA_URB in ICON. Jan-Peter illustrated clearly how different TERRA_URB options finally results in the observed urban heat island effect.

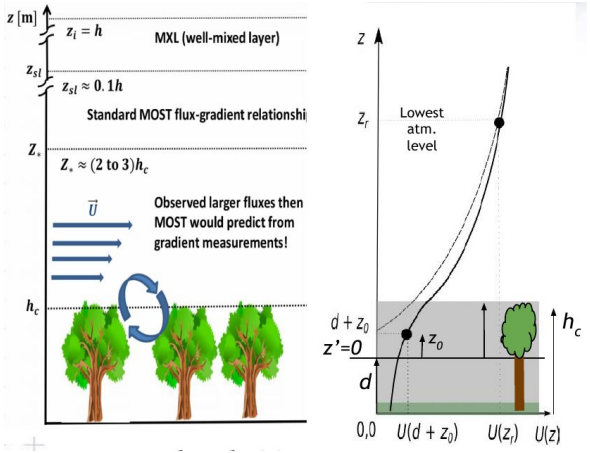


# Parallel session on surface aspects




In northern China plastic sheets are frequently used to limit evaporation loss of water from agricultural fields.

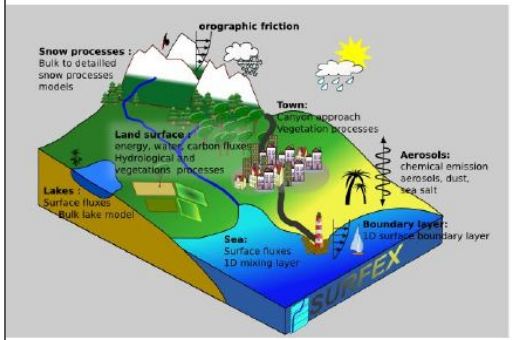
Rafiq Hamdi showed how this mulch plastic has been implemented in SURFEX to allow simulations of the processes.




To correctly simulate fluxes and profiles over rough surfaces (like forest) one needs to take into account the effect of the roughness sublayer.

Samuel Viana showed how this parameterization has been implemented in SURFEX and how it performs.

# Surface comments




HIRLAM

Météo-France

LACE/ALARO

cy49t repository

SURFEX-NWP offline repository

**Martina Tudor showed how Ján Mašek currently makes good progress here!**

**One of the aspects we could have discussed further in my mind:**
**Souhail mentioned how routing via CaMaFlood is implemented into ECLand… Hydrologists though are seldom impressed over how we treat hydrology and runoff in NWP systems. Would be interesting to discuss further how NWP and its customers may benefit from including routing in our systems.**