

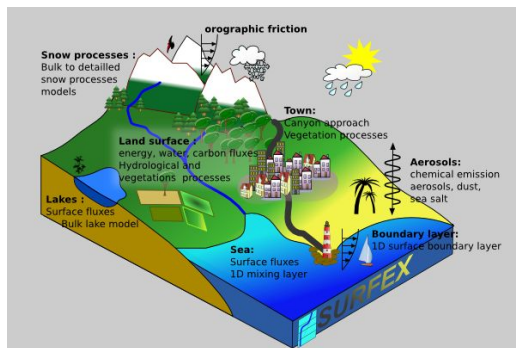
A Consortium for CONvection-scale modelling  
Research and Development

## **ACCORD contributions to SURFEX**

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2024-05-27, SURFEX Steering Committee, Hybrid

# SURFEX contributions from different NWP sources

SURFEXv8.1 code from different sub-consortia in ACCORD has now, for the first time, been merged into a common SURFEX code for NWP:



SURFEX team v8.1  
Marie Minvielle

HIRLAM v8.1 in cy46h  
Patrick Samuelsson

Météo-France v8.1\_plus in cy48t  
Adrien Napoly  
Météo-France cy49t contributions  
Patrick Samuelsson

LACE/ALARO1 v8.1  
Ján Mašek

cy49t1 released 2024-01-26  
cy49t2 released 2024-04-03

[cy49t GitHub repository](#)

These are synced

[SURFEX-NWP offline GitHub repository](#)

A contribution to v9

[SURFEX team Git repository v9](#)

# SURFEX-NWP offline as contribution to SURFEXv9

The files from the `ACCORD_NWP_v81@SURFEX-NWP` GitHub branch are copied into the `ACCORD_NWP_v81_DEVPS@Surfex_Git2` branch and committed/pushed. [See updated branch here](#).

For V9 contribution a development branch has been created off the `SURFEX_V9_DEV` branch: `SURFEX_V9_DEV_NWP@Surfex_Git2` branch

All contributions summarized on the previous slide are now merged into this branch (as one single commit). The merge gave rise to conflicts in 188 files. A team consisting of Patrick Samuelsson, Adrien Napoly and Andrea Zonato is currently working on solving these conflicts.

# SURFEX-NWP offline as contribution to SURFEXv9

## Next steps:

- The hope is that we manage to solve all conflicts before summer holiday and that we have a successful compilation of the branch in the offline environment.
- This offline code will be used in a cy49t2 environment and tested in Davai. Any additional issues will be solved.
- The Davai-tested code will then be tested in the SURFEX STRATO environment, including development of additional STRATO components. This process will be active during the autumn.

## Question:

- In the IAL code the JPHOOK environment has been implemented. What are the plans for the Surfex\_Git2 repository?

# Organization of NWP SURFEX contributions after V9

- We are currently in a transition period where three different repositories for NWP SURFEX code are synced:
  - ACCORD offline SURFEX-NWP in GitHub
  - Its synced version in the IAL repository in GitHub
  - NWP branches in the Surfex\_Git2 repository

Beyond this transition period the plan is to relate only to the upcoming SURFEX GitHub repository by the SURFEX team. A NWP branch from this repository will be used in building of IAL binaries via a bundling tool.

**Question: How should NWP SURFEX contributions be organised in the future?**

The best solution is probably to still gather NWP contributions and test them before they are submitted as Pull Request to the main SURFEX repository... The procedure will be discussed by the ACCORD Management Group.

# Content of the NWP contributions

An overview of the contributions was presented during the ACCORD Autumn Surface Working Week last November. [Please see here.](#)

# Content of the NWP contributions

A discussion was held at last ACCORD All Staff Workshop in April about principles of code contributions... Are there some occasions when contributions should not be under a namelist flag/key? And what about recommended settings?

- **Bug corrections**
  - Assumed not to be under namelist flag but well documented if they change results. The contributions include hard coded bug corrections.
- **A modification of a parameterization that is meant to be used by all at all occasions. Thus, if under a namelist, its default value should be True and its False settings should never be used.**
  - The contributions currently include hard coded modifications (Rh2m diagnostics, D95 snow melt) not under namelist flag
- **Recommended namelist settings**
  - The contributions include recommended settings under namelist flag but currently set to False (Expl Snow scheme snow-soil heat flux).