



# Surface organisation and plans at GMAP

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*Adrien Napoly, april 2022*

# Work Force

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## Official

- Camille Birman : surface assimilation
- Philippe Marguinaud : coupling (mse), IO, FA format
- Florian Suzat : Data Base, Climatology (including PGD)
- Yann Seity : physics in Arome (including Surface)
- Ghislain Faure : Arome over seas (including CMO)
- Eric Bazile
- Adrien Napoly : surface physics

# Work Force

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## Reality (2021-2022)

- Camille Birman : surface assimilation (20%)
- Philippe Marguinaud : coupling (mse), IO, FA format (0%)
- Florian Suzat : Data Base, Climatology (including PGD) (10%)
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- Adrien Napoly : surface physics (20%)

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## What are they doing ?

- Camille Birman : validation of cy48 / trainee supervision
- Philippe Marguinaud : GPU
- Florian Suzat : many ponctual tasks (technical)
- Yann Seity : physics in AROME (atmosphere)
- Ghislain Faure : team leader of COOPE (cooperation team)
- Adrien Napoly : validation of cy48 / code management / tainee supervision

# Applications (using SURFEX)

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## Today

- ARPEGE (global)
- PARP (global ensemble forecasts)
- AEARP (global ensemble assimilation)
- Arome France
- PARO (arome france ensemble forecast)
- AEAROM (arome france ensemble assimilation)
- Arome-OM (over seas x4)
- Arome commercial (x?)
- Arome military (x?)

## Soon

- AROME-500m
- DestinE-LAM
- AROBASE

# NWP Environment

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- Compilation tool : GMKPACK
- Surfex code : inside the arpifs code structure
- Format : FA format
- Coupled simulations only : difficult to make simple tests.
- Surface Assimilation : canari, changes in schemes used in SURFEX will need an adaptation in canari.
- Gauss grid for ARPEGE : many problems with the prep step since v8.1
- Technical limitation : cpu / weight of output files

# Plans

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## Code management

- Move to surfex v8.1 in cy48
- Try to stick to a recent master version in next cycles

## Technical work

- Run pgd/prep in parallel

## Physics

- short term
  - Change airport roughness in cy48
  - Use Mercator instead of OSTIA and activate CMO in Arpege
- mid term
  - Flake in ARPEGE
  - ECOCLIMAP-SG
- long term
  - DIF, ES in Arome
  - Patches, MEB, Ag-s



**Thank you for your attention !**

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