

Experiences with ICON-CLM and its starter package

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Burkhardt Rockel

Trang van Pham

Klaus Keuler



Climate Limited-area
Modelling Community

Thanks to Trang Van Pham !!

who did by far the most work in getting a first version of ICON-CLM and the necessary run scripts running.

COSMO

Fopts

Options for different systems in
directory LOCAL

make

ICON

mh-OS (mh-linux on mistral/DKRZ)

Options for different systems in
file mh-linux

configure
build_command

COSMO

all through INT2LM

In the beginning of COSMO (past)
lec2lm=TRUE for IFS
(yinput_model='IFS')

COSMO (today)
lcm2lm=TRUE for Climate Standard
(yinput_model='CM')

ICON

horizontal mapping by iconremap
all other preparation in ICON

In the beginning of ICON (today)
init_mode = 2 (IFS I&B)

ICON (future)
init_mode = 8 ???

Only IFS as I&B for ICON presently !!

Work around for pressure-hybrid vert. coordinates B&I: ccaf2icaf

T
U
V
QV
LNSP (or from PS)
FIS (or from HSURF)
FR_LAND
T_SKIN
W -- set to 0
FI lowest level -- set to FIS
QC -- set to 0
QI -- set to 0
W_I -- set to 0
T_SNOW -- T_SKIN
W_SNOW -- set to 0
RHO_SNOW -- set to 250 (where W_SNOW > 0)
T_SO -> STL1, STL2, STL3, STL4 -- artificial profile calculated from T_SKIN
W_SO, W_SO_REL -> soil moisture index SMIL1, SMIL2, SMIL3, SMIL4 c -- set to 0
ALB_SNOW
Z0

red: mandatory COSMO
red+blue: mandatory ICON
green: optional ICON

T

U

V

QV

LNSP (or from PS)

W -- set to 0

FI lowest level -- set to FIS

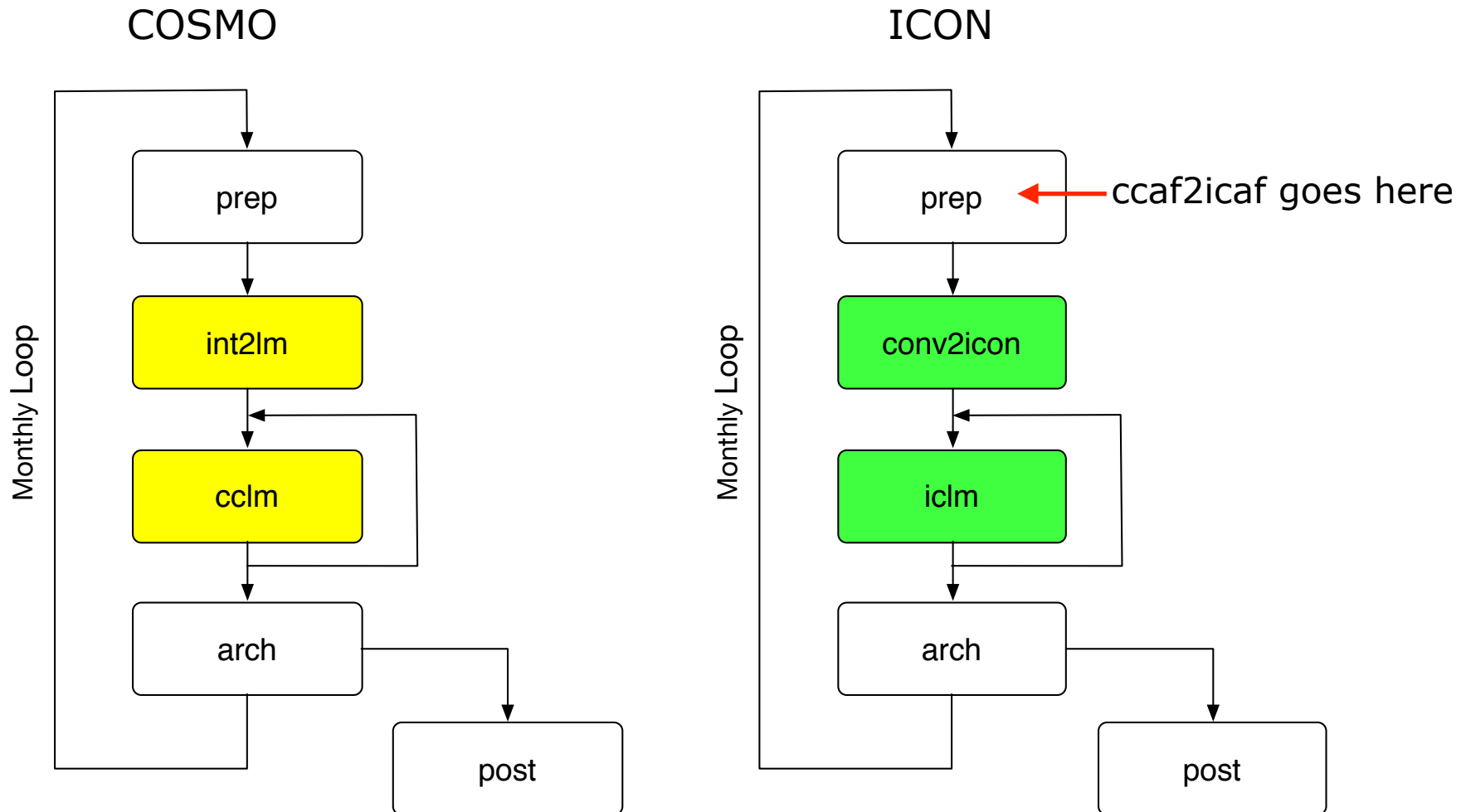
QC -- set to 0

QI -- set to 0

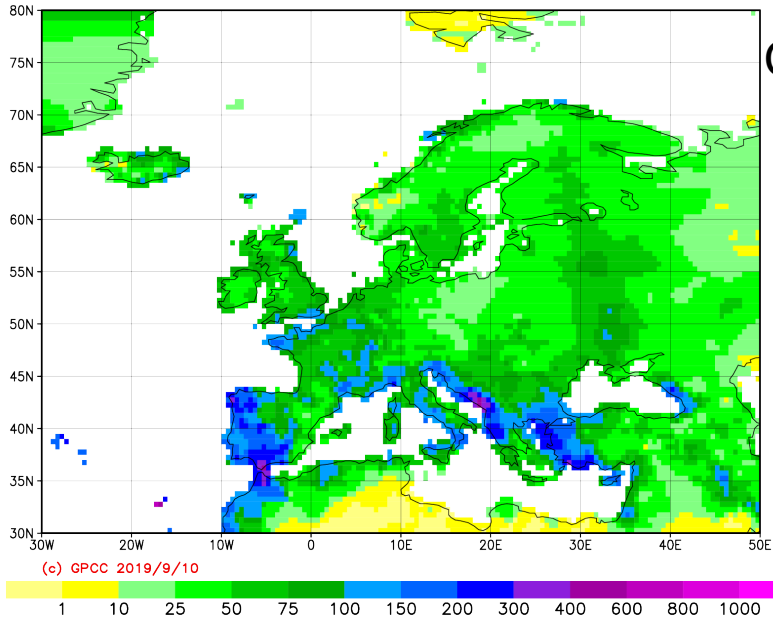
Starter Package

The starter package is structured similar to that one for CCLM.

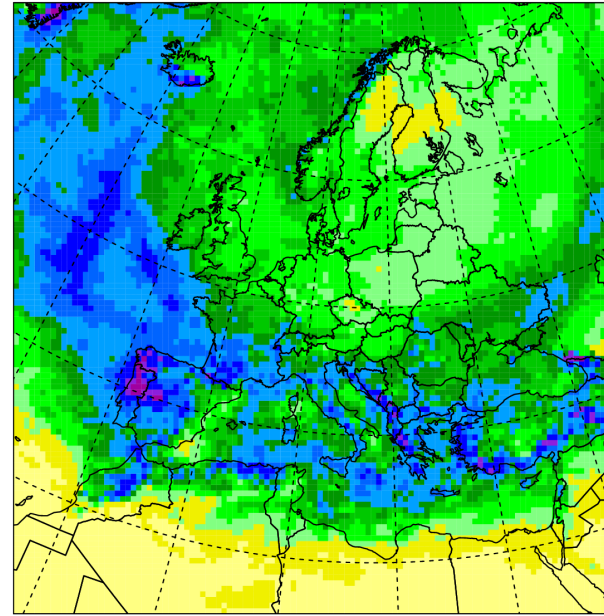
Chain mode (subchain) works like for CCLM.



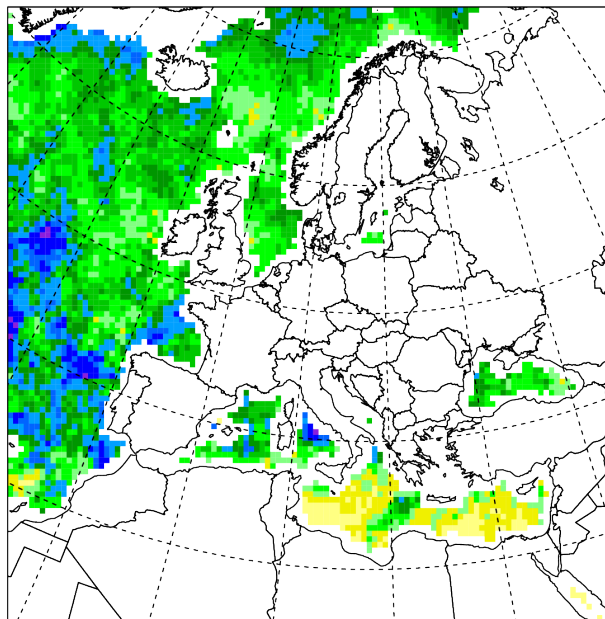
Some Results



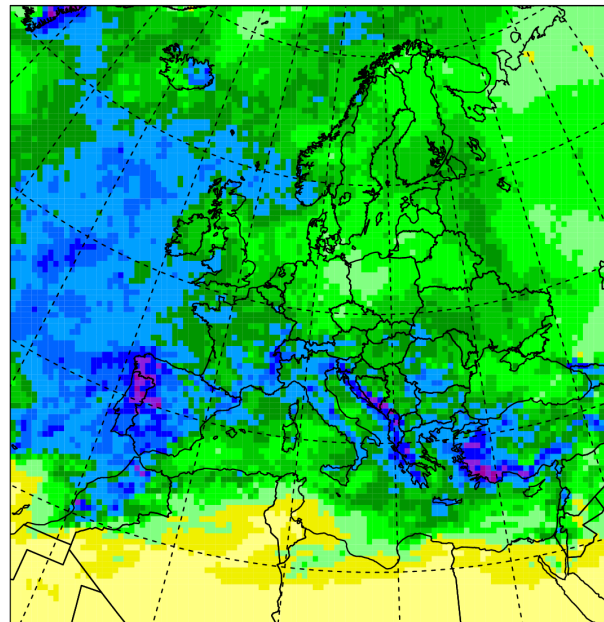
GPCC



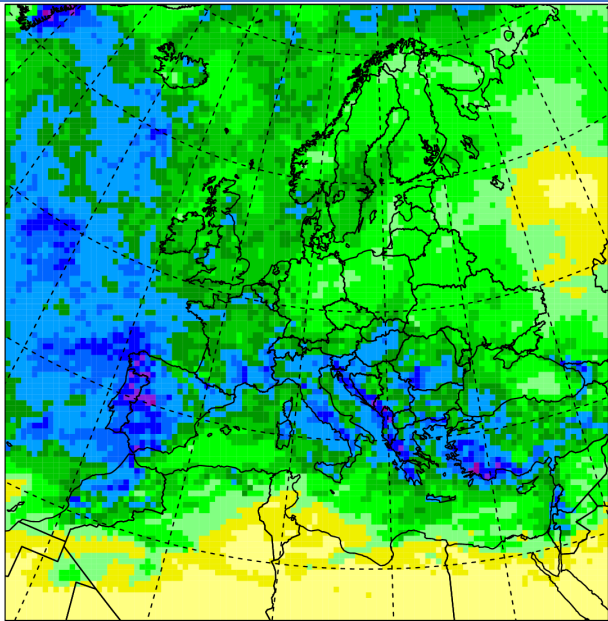
ERA-Interim all



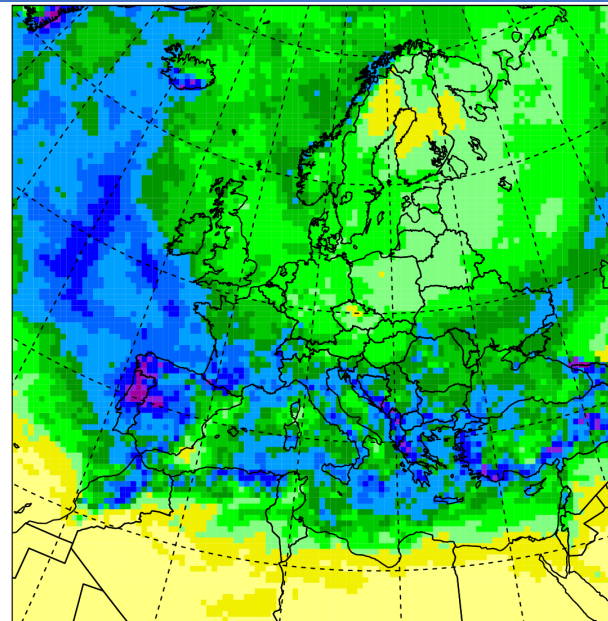
HOAPS



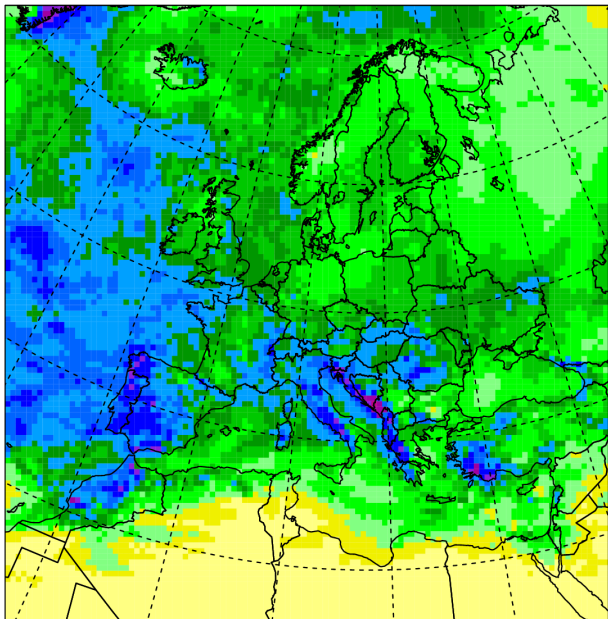
ERA-Interim caf



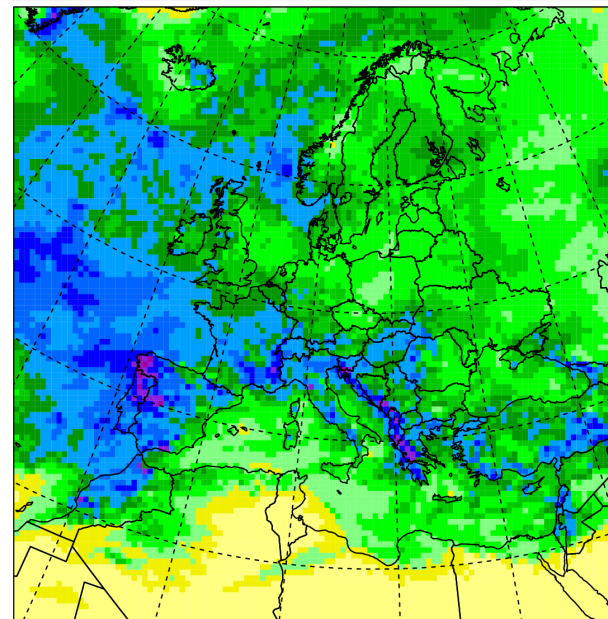
ERA5 caf



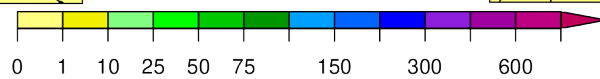
ERA1 all



MERRA2 caf



JRA55 caf



To-Dos

Join PG ICON ! Put a small piece in the puzzle!

Open Tasks:

https://redc.clm-community.eu/projects/pgicon/wiki/Status_of_ICON_development

Thank You!