Updated Filename Protocol: 30-09-2020*

Key info on directory structure and filenaming highlighted in **yellow**

*Thanks to Han Juergen Panitz for examples and testing with DKRZ QA-Checker

Important notes from discussions with DKRZ:

- New and/or extended global attributes won’t be accepted for publication in ESGF nor will they pass the DKRZ QA-checker
- Directory and file name structures have to fulfill the CORDEX standards as do the names of the mandatory global attributes
- DRS for CORDEX:
  `<activity>/<product>/<Domain>/<Institution>/<GCMModelName>/<CMIP5ExperimentName>/<CMIP5EnsembleMember>/<RCMModelName>/<RCMVersionID>/<Frequency>/<VariableName>`

Therefore, the changes we chose to implement are to the CORDEX Data Reference Syntax (DRS) element: `RCM_VERSION_ID`. This element is flexible, and we can modify it as needed.

This resulted in our `fpsconv-x#n#-v#` syntax agreed in Toulouse (Nov. 2019)

Summary of nesting info (N.B. updated from old document (30-09-2019))

No nest: use “`fpsconv-x0n1-v1`”
One nest, no differences: use “`fpsconv-x1n2-v1`”
One nest, differences between nests: use “`fpsconv-x2yn2-v1`”
One nest, additional differences between nests: use “`fpsconv-x2ynz2-v1`”

Example directory structure for double nest run in FPSC mandatory domain ALP-3 carried out by CLMcom-KIT, basic forcing is from ERA-Interim, inner nest (i.e., CPRCM) model version is CLMcom-KIT-CCLM5-0-14, variable is hourly precipitation:

- `CORDEX-FPSCONV/output/ALP-3/CLMcom-KIT/ECMWF-ERAINT/evaluation/r1i1p1/CLMcom-KIT-CCLM5-0-14/fpsconv-x2yn2-v1/1hr/pr/`
- **Note:**
  - Project_id = `CORDEX-FPSCONV` is fixed for the FPS Community
  - Domain= `ALP-3` is fixed for the FPS Community
  - Structure of `rcm_version_id` is also is fixed for the FPS Community: `fpsconv-x2yn2-v1`; the “n2” indicates that it is a 2nd nest run;

Example file name structure for a run in FPSC mandatory domain ALP-3 carried out by CLMcom-KIT, basic forcing is from ERA-Interim, inner nest (i.e., CPRCM) model version is CLMcom-KIT-CCLM5-0-14, variable is hourly precipitation, period the whole year 2000

- `pr_ALP-3_ECMWF-ERAINT_evaluation_r1i1p1_CLMcom-KIT-CCLM5-0-14_fpsconv-x2yn2-v1_1hr_200001010030-200012312330.nc`

The information in `RCM_VERSION_ID` are flags which alert the user to differences. Since these differences cannot be described in the *mandatory* global attributes we instead recommend all groups include information on nests and differences in the NetCDF files by
using the following optional global attributes; the optional attributes will be accepted by the QA Checker.

- :nesting_levels: the number of nests
- :comment_nesting: general info
- :comment_1nest: info referring to outer nest run
- :comment_2nest: info referring to inner nest-run

Current status with respect to DKRZ QA-checker for CosmoCLM (will need to be checked for other model systems):

- FPSC data CMORized with my modified CCLM2CMO tool won’t pass the present official version of the checker
  - Reasons:
    - Unknown project-id = CORDEX-FPSCON
    - Unknown domain = ALP-3
    - Unknown frequency, e.g 1hr
    - Unknown variables, e.g. CAPE and CIN
  - But: all the messages are only “warnings”
  - This can be seen from a further document being attached that summarizes the results of the checker: ALP-3_ECMWF-ERAINT_CLMcom-KIT-CCLM5-0-14_evaluation_Summary_OrigChecker
  - However, for test purposes I modified some of the tables related to the checker. These modifications solved the “problems” mentioned above; see further document being attached: ALP-3_ECMWF-ERAINT_CLMcom-KIT-CCLM5-0-14_evaluation_modifiedTables
  - Such modifications of the tables might also be necessary for other projects like CORDEX-CORE
  - However, a further problem remains: data on pressure levels other than the CORDEX standard levels (200 hPa, 500 hPa, and 850 hPa) or even data on Z-levels will not be accepted by the checker; here, modifications of some tables would not be not enough; changes in the source code of the checker would be necessary**

** These issues to be taken up with DKRZ in collaboration with other FPSs