

## Modifications of DRS elements for simulations with two nesting steps

*Table 1: Modifications of the DRS elements used in the CORDEX directory structure and the filenames for simulations with more than one nesting step. ETH is used as representative for the member institution. Please note, that the information below describes the current status of the discussion within CORDEX. It is not an official standard yet! At the time of writing there is no official standard for simulations with more than one nesting step. This document will be updated once an official standard has been defined.*

DRS element	Old	New
<b>No name assigned yet</b> (potentially RCMDomain)	<b>&lt;CORDEX_domain&gt;</b>  Example: EUR-44	<b>&lt;rcm_domain&gt;</b> nest could be nest1, nest2, nest3 depending on the level.  Example: EUR-11
<b>No name assigned yet</b> (potentially RCMModelName)		<b>&lt;rcm_model_id&gt;= &lt;rcm_nest1_institute_id&gt;- &lt;rcm_nest1_model_acronym&gt;</b>  Example: CLMcom-ETH-CCLM5-0-6
<b>No name assigned yet</b> (potentially RCMModelVersionID)		<b>&lt;rcm_version_id&gt;</b>  Example: v1
<b>No name assigned yet</b> (potentially CPRCMDomain)	none (similar to <CORDEX-domain> in former simulations)  (Example: EUR-44)	<b>&lt;cprcm_domain&gt;</b>  Example: ALP-3
<b>No name assigned yet</b> (potentially CPRCMModelName)	none	<b>&lt;cprcm_model_id&gt; = &lt;cprcm_institute_id&gt;- &lt;cprcm_model_acronym&gt;</b>  <b>&lt;cprcm_institute_id&gt; = CLMcom-ETH &lt;cprcm_model_acronym&gt; = CCLM5-0-6</b>  Model ID of the model used for the second nesting step.  Example: CLMcom-ETH-CCLM5-0-6

<b>No name assigned yet</b> (potentially CPRCMModelVersionID)	none	<b>&lt;cprcm_version_id&gt;</b>  Example: v1
<b>No name assigned yet</b> (potentially CPRCMNestingVersionID)	none	<b>&lt;nesting_information&gt;</b>  Element describing the number of nesting levels (n) and possible differences between simulations at same nesting level which cannot be indicated otherwise (x). [SEE MORE DETAILED DESCRIPTION AND EXAMPLES AFTER THE TABLE]  Example: x2yn2v1 ("n2" is the number of nesting levels, "x2" flags that there is a difference between nestings and the "y" is a flag for that difference), "v1" flags the version
<b>Example path with Example-DRS-Names</b>	<activity>/<product>/<Domain>/<Institution>/<GCMModelName>/<CMIP5ExperimentName>/<CMIP5EnsembleMember>/<CPRCM_Model_Id>/<CPRCMNestingVersionID>/<Frequency>/<VariableName>	
<b>Example path</b>	cordex-fpsc/output/ALP-3/CLMcom-ETH/MPI-M-MPI-ESM-LR/rcp26/r1i1p1/CLMcom-ETH-CCLM5-0-6/x2yn2v1/day/tas	
<b>Example file</b>	tas_ALP-3_MPI-M-MPI-ESM-LR_rcp26_r1i1p1_CLMcom-ETH-CCLM5-0-6_x2yn2v1_day_20060101-20101231.nc	

\* CPRCMNestingVersionID additional information

**"x#n#v#"**

"n" specifies the number of nesting levels. Where direct nest nesting\_level=1; and with one nest in between: nesting\_level=2, and so on... Information about the intermediate model is contained in under global attributes as follows (using the above example):

```
rcm_domain = "EUR-11" ;
rcm_institute_id = "CLMCom-KIT" ;
rcm_model_id = "CLMcom-ETH-CCLM5-0-6" ;
rcm_version_id = "v1" ;
```

"x" signifies any differences (e.g. nudging, physics, model versions, etc.) between an intermediate nest and the final cp domain. If there are no differences but there is an intermediate model or data source (e.g. the cprcm is nested directly in a EUR-11 simulation using the same model and configuration (minus the convective parameterization, of course!)) then use "x1". If there are differences then use "x2"

x0 = no nesting

x1 = one nest; no difference between nests

x2 = one nest; differences exist and this calls for extra flags, which is designated by a letter(s), being y,z,j or k

The reason for the extra flags associated with “x2” is due to the possibility that a model team may run more than one simulation with differences between nesting levels. In this case, without an extra flag, the filenames would be the same and this is not permitted.

“v” signifies the version of the simulation. This can be changed in the event of a rerun with an updated version of either the intermediate model or the cprcm.

#### An example of the special case with “x2”

The ETH example could be

ETH CP is nested on EUR11 from another CCLM group use x2y

if ETH CP is nested on EUR11 from another CCLM group and uses nudging will be x2yz

In these cases two additional attributes should be inside the file to explain the “y” and “z”

We reserve a limited number of letters, “y,z,j,k” should be enough for now. Note that they are flags and as such can have different meaning from simulation to simulation.

#### **THE SPECIAL CASE OF DIRECT DOWNSCALING TO CP SCALES N.B.!**

Use “x0n1v1”. The nesting flag is self-explanatory while the “x0” is maybe redundant but signifies that the downscaling is direct from a GCM or Reanalysis product with no intermediate step.

#### **SUMMARY OF NESTING INFORMATION**

No nest: use “x0n1v1”

One nest, no differences: use “x1n2v1”

One nest, differences between nests: use “x2yn2v1”

One nest, additional differences between nests: use “x2yzn2v1”