PP-CITTÀ – recent activities in IMGW-PIB

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04/11/2021, COSMO PP CITTA' kick-off meeting

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Subtask 2.2 New urban external parameters in EXTPAR for ICON(-LAM)

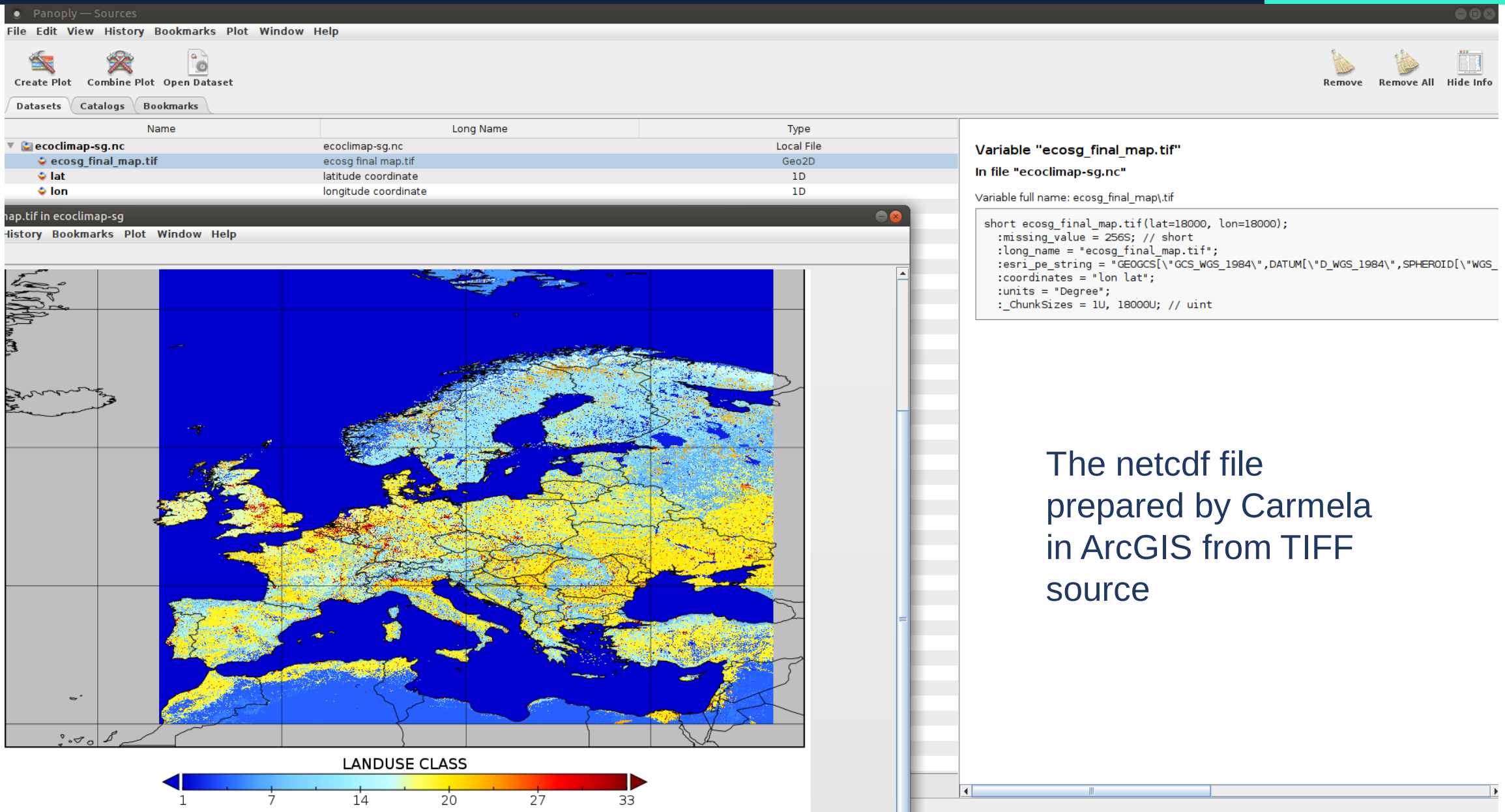
CMCC and IMGW-PIB will contribute to implement the dataset in EXTPAR and to test its impact on the modelled thermal environment.

Apreda C., Schulz J.-P., Reder A., Mercogliano P.: Update on urban canopy parameters for EXTPAR, Survey of the existing datasets to derive ISA, 23rd COSMO General Meeting, 2021

LCZs looks very promising for the aims of PP-CITTÀ

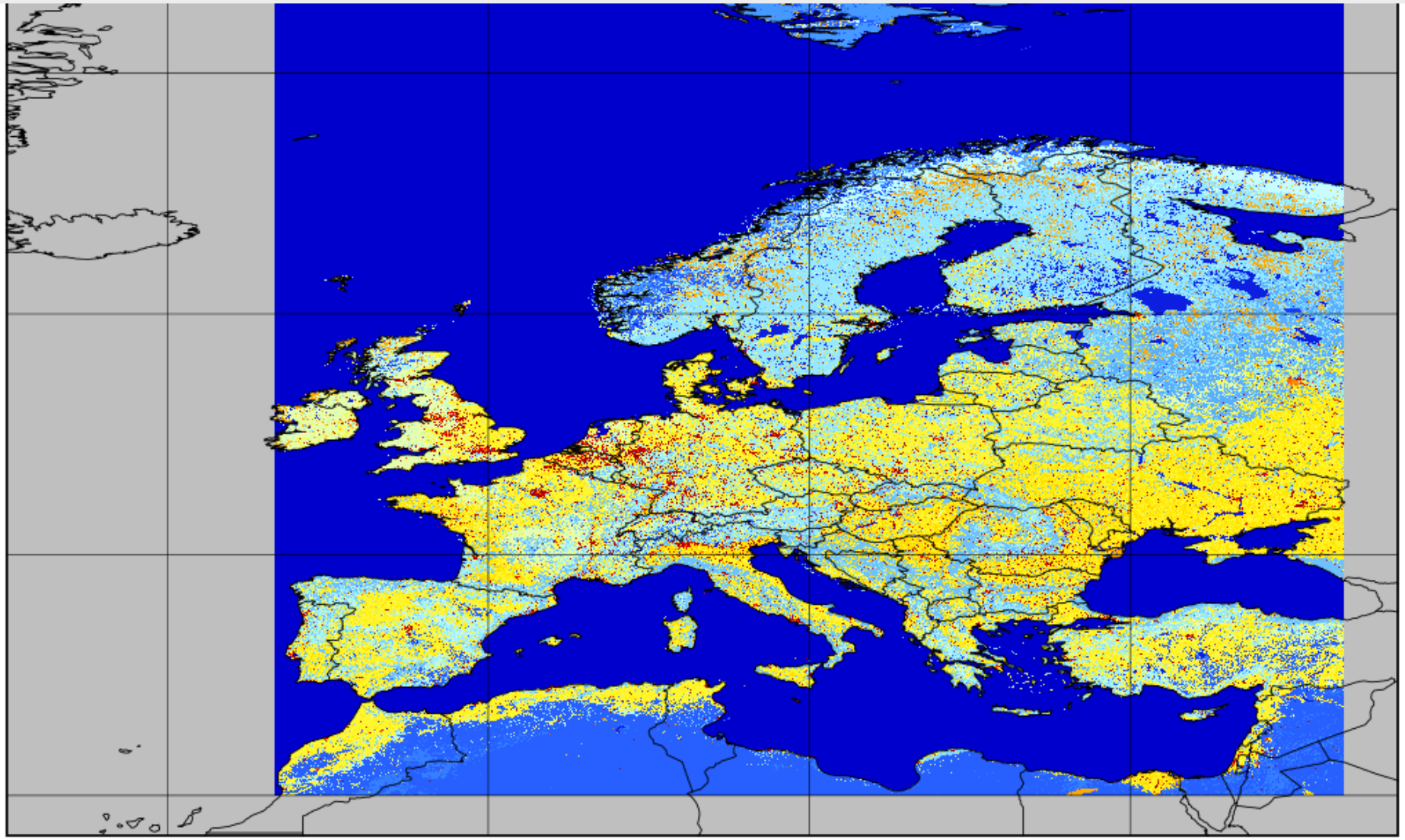
Land cover dataset with LCZs classes - ECOCLIMAP-SG

ECOCLIMAP netcdf file visualisation



The netcdf file prepared by Carmela in ArcGIS from TIFF source

ECOCLIMAP netcdf file visualisation



It looks correctly

EXTPAR source code

EXTPAR (COSMO software for production of external parameters) source code is available in a private repository in the C2SM organization on GitHub.

The latest version is 5.7

EXTPAR needs the following Python-packages and installations:

- at least Python 3.6
- module netCDF4

! Problem was found preventing installation of the netCDF4 module in conda environment with python version 3.10 (bug in conda) – 3.9 was chosen instead

EXTPAR input data

This repository contains ~380 GB of data.

	aerosols	albedo	emiss	flake	landuse *	ndvi	soil	urban	cru	topo *	era5
memory usage	125 MB	7.1 GB	1.2 GB	2.7 GB	380 MB	1.7 GB	3.6 GB	14 GB	3.3 MB	138 GB	117 MB

The input data is available on mistral (DKRZ) through GitLab.

Extpar-input-data requires a git-lfs installation.

Ongoing work

Access to both repositories has been granted with Jonas Jucker help.

EXTPAR compilation and input data downloading in IMGW-PIB need some HPC's software update (python update to 3.6, git lfs installation) but data cloning from github/gitlab repositories has been successfully tested on desktop machine.

The repositories' screenshots

extpar-data › extpar-input-data › **Repository**

master | extpar-input-data / | + | History | Find file | Web IDE | Clone

Merge branch 'ahf_isa' into 'master'
Jonas Jucker authored 2 months ago — ea0864a9

Name	Last commit	Last update
aerosols	CAMS aerosols	3 months ago
albedo	lat/lon according to CF conventions	1 year ago
cru	Replace wrong initial data set CRU_T2M_SURF_clim.nc	1 year ago
emiss	Emiss docu	1 year ago
era	Update doc_era.md	8 months ago
flake	lake data from Kesch WebPep	1 year ago
landuse	Merge branch 'ecci_dataset' into 'master'	1 year ago
linked_data	data linking	1 year ago
ndvi	NDVI	1 year ago
raw_data_tools	CAMS aerosols	3 months ago
soil	Update doc_soil.md	1 year ago
topo	Merit	2 months ago
urban	Update doc_urban.md	2 months ago
.gitattributes	Globe topography	1 year ago

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master | 15 branches | 40 tags | Go to file | Add file | Code

jonasjucker Merge pull request #259 from C2SM-RCM/develop — 9032f2f 8 days ago — 435 commits

bin	Merge branch 'master' of github.com:C2SM-RCM/extpar into develop	29 days ago
bundled	Optionally build with bundled CDI.	2 years ago
config	Add building system.	2 years ago
contrib	Release 5.5 (#219)	7 months ago
doc	Release 5.7 (#249)	2 months ago
m4	Optionally build with bundled CDI.	2 years ago
mkhelper	Add building system.	2 years ago
python	Release 5.7 (#249)	2 months ago
run_scripts	disable sgsl preproc for eth	2 years ago
src	insert abort for itopo_type = 3 with COSMO-grids	9 days ago
test	Release 5.7 (#249)	2 months ago
.gitignore	add urban-script to makefile, add compiler flag for line-lenght on Da…	last month
.gitmodules	Release 5.4.1 (#198)	11 months ago
Makefile.in	add urban-script to makefile, add compiler flag for line-lenght on Da…	last month
Options.arollaln	Enable Extpar on Tsa (#137)	2 years ago
Options.ccblogin	Corine ecmwf (#147)	2 years ago

Thank you

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