

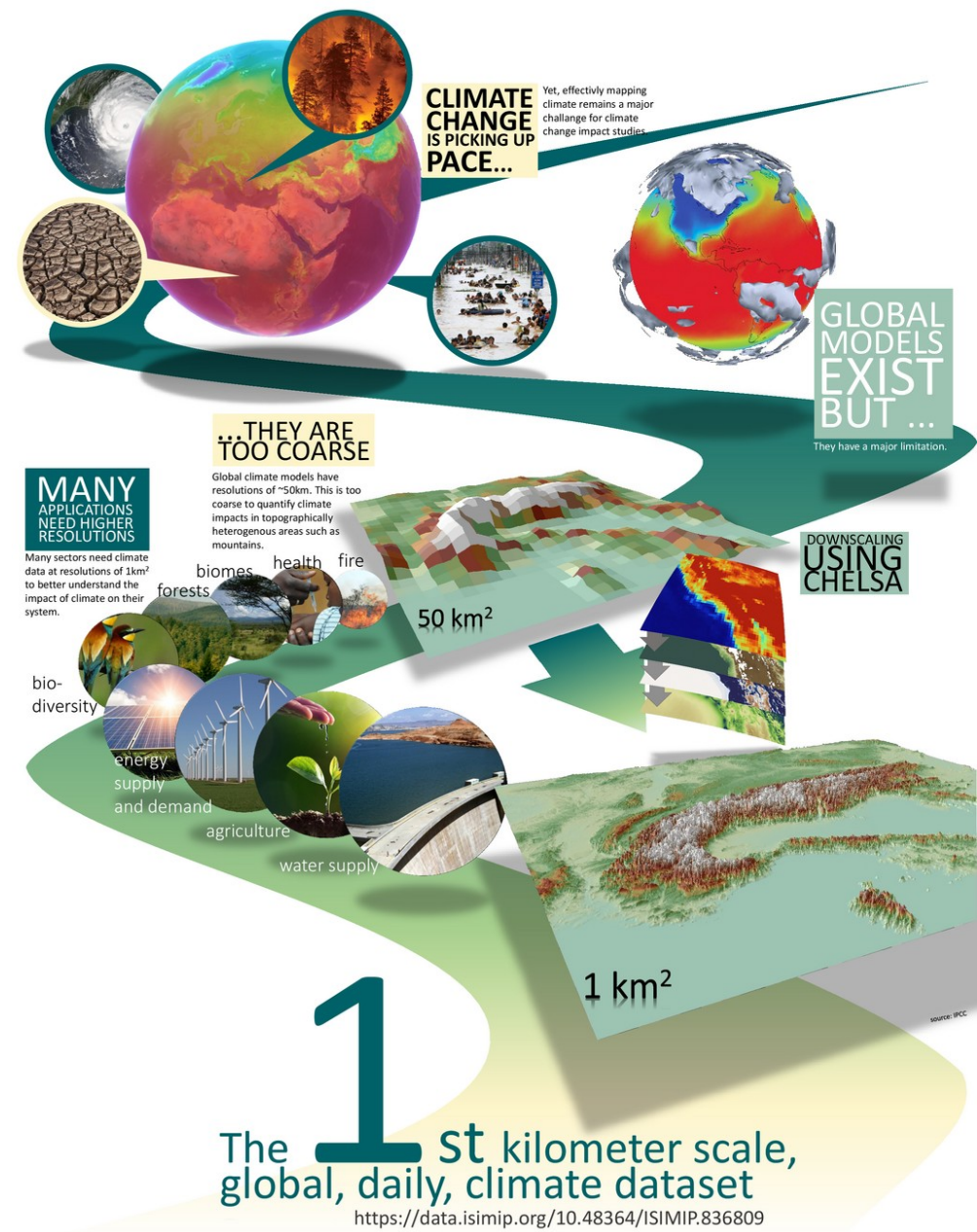


A research institute
of the ETH Domain

Adohris - Advantages of downscaling climate to high resolution for climate change impact studies

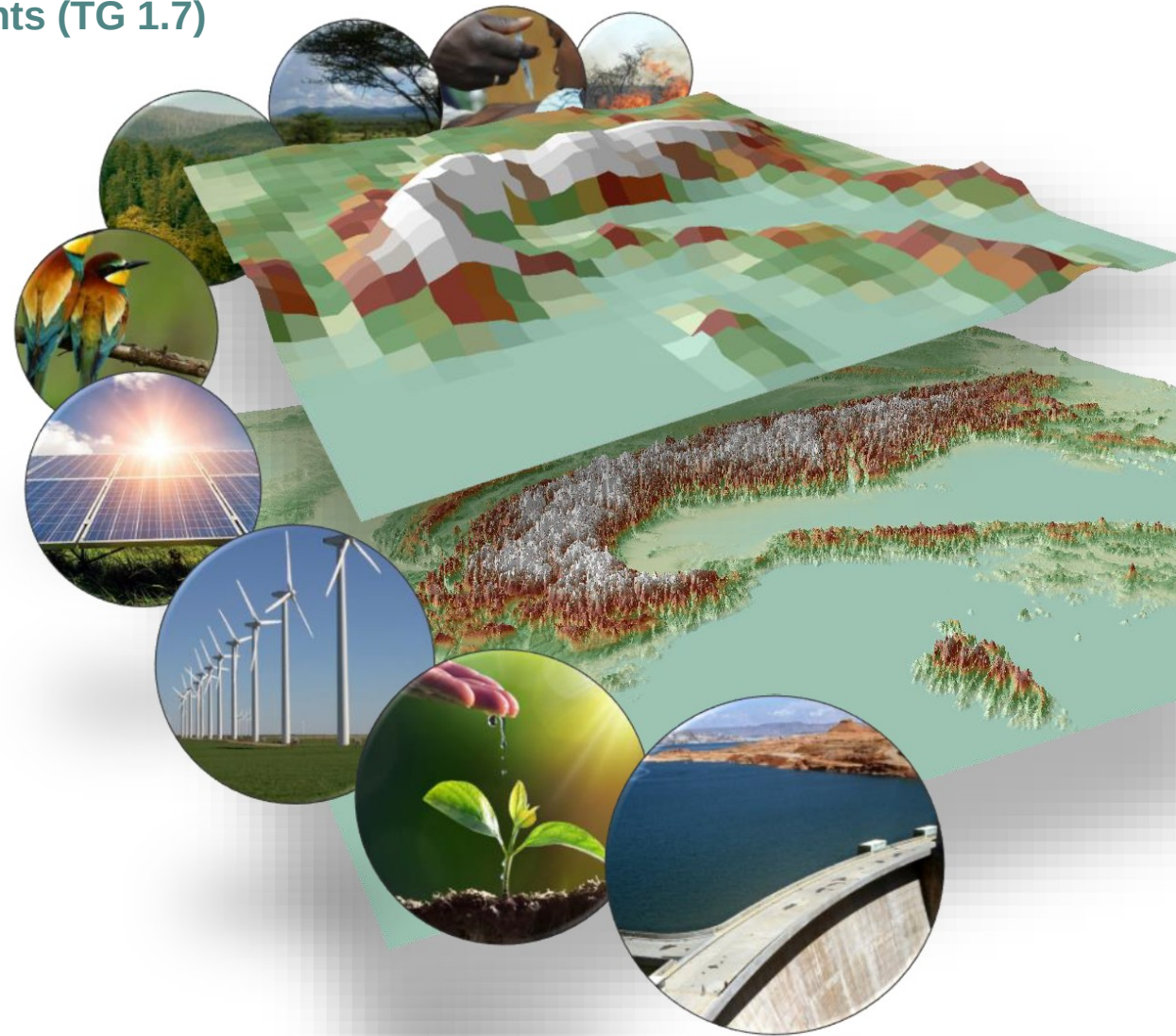
Swiss Federal Research Institute WSL
Zürcherstrasse 111, 8903 Birmensdorf, Switzerland

Test how we can actually profit from high spatial resolution in impact models?



Break out session 2: ISIMIP High resolution climate forcing data and experiments (TG 1.7)

- **High-resolution forcing data**
 - Current development status, where are we headed?
 - Additional cloud-based applications for CHELSA-ISIMIP3 data?
 - Missing variables, other high-resolution data (LUC)
- **Overview and progress of the high-resolution sensitivity experiments (ADOHRIS project)**
 - How can I still join with my sector and model?
 - Discussions of first results
 - Paper planning



Room DP107




High-resolution forcing data

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Discussion

Additional cloud-based applications for CHELSA-ISIMIP3 data?



Software Note |  Open Access |  

chelsa-cmip6 1.0: a python package to create high resolution bioclimatic variables based on CHELSA ver. 2.1 and CMIP6 data

Dirk Nikolaus Karger , Yohann Chauvier, Niklaus E. Zimmermann

First published: 14 April 2023 | <https://doi.org/10.1111/ecog.06535>

Discussion

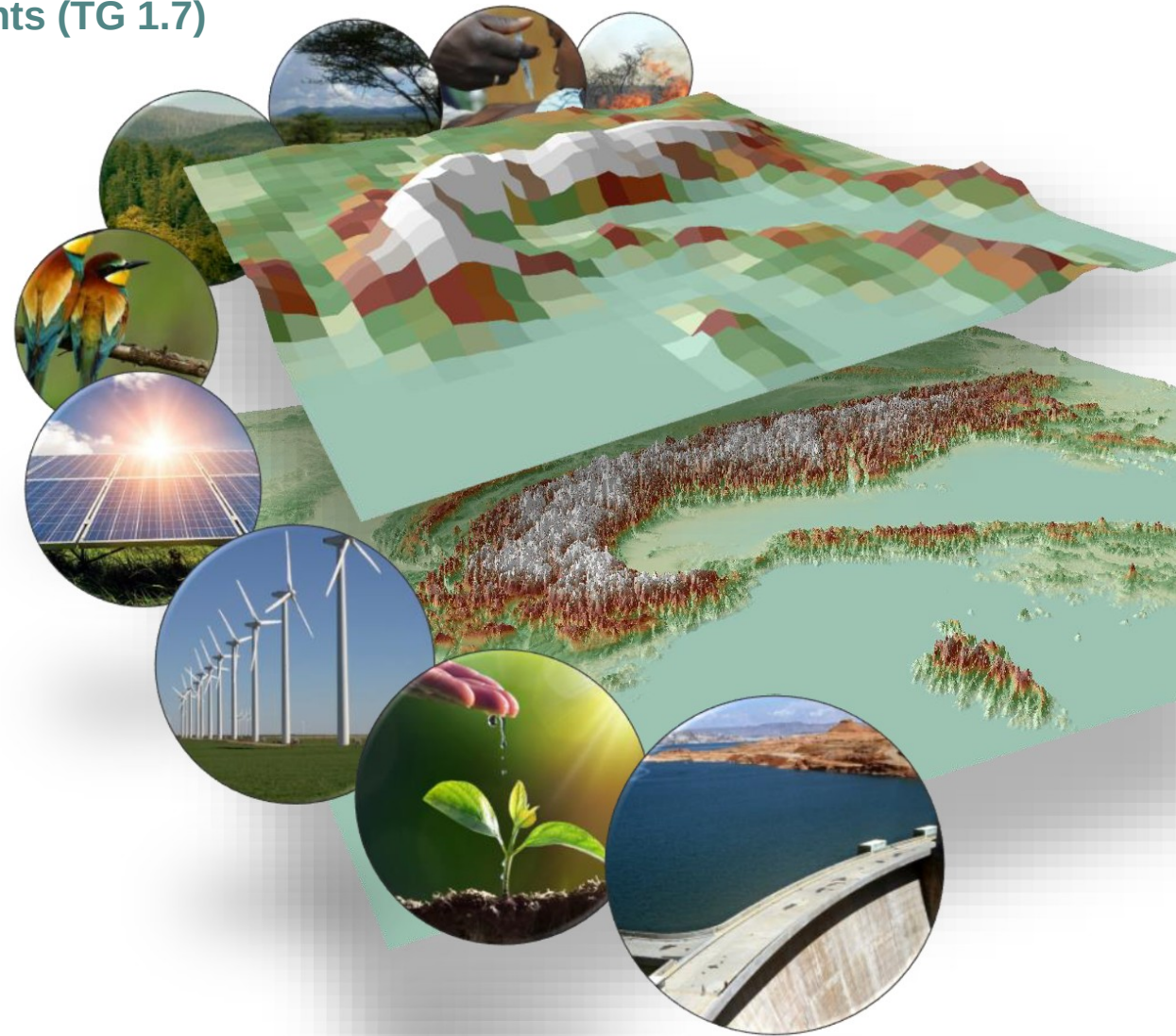
ISIMIP3a non-climate input data

Dataset	Variable specifier	Unit	Covered time period / Resolution	Sectors / Source / Comments	Show all groups
Landuse					Hide group ^
Landuse totals	ISIMIP3a/InputData/socioeconomic/landuse/<soc_scenario>/<soc_scenario>_landuse-totals_annual_<start_year>_<end_year>.nc				
mandatory	cropland_rainfed (all of the rainfed cropland)	1	<ul style="list-style-type: none"> • 1850-1900 • 1901-2018 • 0.5° grid • annual 	<p>agriculture biodiversity biomes diarrhea energy fire forestry health labour lakes_global lakes_local permafrost water_global water_regional</p> <p>Based on the HYDE 3.2 data set (Klein Goldewijk, 2016), but harmonized by Hurtt et al. (LUH2 v2h data set, see Hurtt, Chini, Sahajpal, Frohling, & et al. (2020), see also https://luh.umd.edu). For further information on the land use data refer to https://www.isimip.org/gettingstarted/input-data-bias-correction/details/82/.</p>	
	cropland_irrigated (all of the irrigated cropland)	1			
	cropland_total (share of the total cropland)	1			
	pastures (share of managed pastures or rangeland)	1			

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Participating sectors/modelling groups

Model Name	contact person	Sector
4C	C. Reyer (reyer@pik-potsdam.de), Mats Mahnken (Mahnken@pik-potsdam.de)	Regional Forests
3PGN-BW	R. Yousefpour (ry1003@ife.uni-freiburg.de), Andrey L. D. Augustynczyk (augustynczyk@iiasa.ac.at)	Regional Forests
3PG-Hydro	R. Yousefpour (ry1003@ife.uni-freiburg.de), Marc Djahangard (marc.djahangard@ife.uni-freiburg.de)	Regional Forests
Biome-BGCMuso	K. Merganicova (k.merganicova@forim.sk), Laura Dobor (dobor@fld.czu.cz)	Regional Forests
3D-CMCC-FEM	A. Collalti (alessio.collalti@cnr.it); D. Dalmonech (daniela.dalmonech@isafom.cnr.it)	Regional Forests
CARAIB	L. François (louis.francois@uliege.be)	Biomes / Forests

Labour	Dasgupta (shouro.dasgupta@cmcc.it), Gosling (simon.gosling@nottingham.ac.uk)	Labour
Food Security and Nutrition Model (?)	E. Robinson (e.j.z.robinson@lse.ac.uk), Shouro Dasgupta (shouro.dasgupta@cmcc.it)	Food Security and Nutrition (FS-N)
SWIM	Fred (hattermann@pik-potsdam.de), Bijan (fallah@pik-potsdam.de), Iulii Didovets (didovets@pik-potsdam.de)	Regional Water
SWIM (?)	Shaoshun Huang (shh@nve.no)	Regional Water
MITGCM	Y. Amitai (yael.amitai@ocean.org.il)	Lakes (local)
Simstrat	M. Schmid (martin.schmid@eawag.ch), T. Lorimer (thomas.lorimer@eawag.ch)	Lakes (local)
CWatM	P. Burek (burek@iiasa.ac.at), M. Smilovic (smilovic@iiasa.ac.at)	Regional Water
ORCHIDEE	J. Chang (changjf@zju.edu.cn)	Permafrost/ Biome

ISIMIP3a HighRes experiments

<https://protocol.isimip.org/>

- At least 2 resolutions to participate, **if possible include 1km**
- Tas, tasmin, tasmx, rsds, pr available via ISIMIP portal at all 4 resolutions
- Scripting environment to obtain hurs, rlds, ps, sfcWind
- Check **sector-specific ISIMIP protocols** for additional info
- Submission via official ISIMIP portal (<https://www.isimip.org/protocol/preparing-simulation-files/>)
 - Please send '**output of interest**' and **evaluation data** to me to speed up the process

High-resolution sensitivity 1km histSOC 2st priority ISIMIP3a agriculture forestry water_global water_regional
High-resolution sensitivity 3km histSOC 2st priority ISIMIP3a agriculture forestry water_global water_regional
High-resolution sensitivity 10km histSOC 2st priority ISIMIP3a agriculture forestry water_global water_regional
High-resolution sensitivity 60km histSOC 2st priority ISIMIP3a agriculture forestry water_global water_regional

- https://docs.google.com/spreadsheets/d/1PK7EUHukz0F8Bfnm_Ggg8HmMrENU-KSJgymIa3xuO8k/edit#gid=0