Uploading FISH-MIP data to the ISI-MIP server

Here we provide instructions on how to upload your model output to the DKRZ server in Hamburg, where it will be available for all participants. We have also included instructions on how to access and find the currently available data.

Uploading your output data

Please follow the four steps below. We recommend that you begin prior to output data being ready, as obtaining the DKRZ account (step 1) may take a few days.

1. *Get an account*
   In order to be able to upload files, you will need to get an individual user account at DKRZ. If you have been using an account for downloading input data, this is not sufficient for this purpose. Please go to https://luv.dkrz.de and click 'Register a new website account'. Fill in the form, and when asked whether to add your account to an existing project, please add it to the project **ISI-MIP** project number **820**.

   DKRZ will then set up a user account for you. After you have obtained your username and password, you can log in to your account at https://luv.dkrz.de to change your password and see your account settings.

   After creating an account at DKRZ, forward your interim user name to Matthias Buechner (buechner@pik-potsdam.de) to get the account verified and added to the project. Matthias will then send a mandatory signed confirmation sent to DKRZ user support.

2. *Output file preparation and naming*
   The default format is compressed NetCDF4. There are binary versions of a number of tools capable of handling netcdf on the DKRZ server under /PF/B/B324025/BIN/, such as CDO, ncdump, nccopy and others. Example files and instructions to help you prepare your output files in the correct format are provided on the ISI-MIP web page. Matthias Buechner from the ISI-MIP PIK team can assist in converting .csv data to NetCDF if you are not able to get the tools working.

   Naming the files in the correct way is **extremely important** to ensure that scripts for processing results work across all models.
   - Please use all lower case letters
   - File specifiers (tags) should be separated with a "_" delimiter
   - Use a dash "-" between specifiers (i.e. no additional underscore within specifiers)
   - The specifiers are as follows, and are in the fixed order given here:

     - Model [apecosm | ecoocean | ewe |…]

    - Forcing GCM/reanalysis model [cesm1-bgc | ipsl-cm5a-lr | gfdl-esm2m | gfdl-reanalysis]
    - Climate change scenario [hist | rcp26 | rcp45 | rcp60 | rcp85]
    - With/without diazotrophs [w-diaz | wo-diaz]
    - Fishing scenario [fishing | no fishing]
    - Ocean acidification scenario [oa | no-oa]
    - Variable name [tc | tcb | tsb | b10cm | b30cm |….]
    - Region [global | baltic-sea | cook-strait |…]
    - Temporal resolution [daily | monthly | annual]
    - First year of reporting period
    - Last year of reporting period
    - [.nc4 | .csv]
    - Don't omit your default values of specifiers; always give a value
    - Split GCMs into historical and scenario periods. Transition in 2005->2006
- Examples
    - ewe_gfdl_reanalysis_hist_wo-diaz_fishing_no-oa_b10cm_north-sea_monthly_1991_2004.nc4
    - (file to be uploaded to *marine-fishery/ewe/_tmp/*)
    - (when processed and checked, file will be found in *marine-fishery/ewe/reana/gfdl-reanalysis*)

    - macroecological_ipsl-cm5a-lr_rcp26_wo-diaz_no-fishing_no-oa_tcb_global_annual_2006_2044.nc4
    - (file to be uploaded to *marine-fishery/macroecological/_tmp*)
    - (when processed and checked, file will be found in *marine-fishery/macroecological/scen/ipsl-cm5a-lr)*

3. Locate thef proper directory for file upload

The upload area is located on the same server (vre2.dkrz.de) as the input data. You can log on to the server using ssh <username>@vre2.dkrz.de and providing your password when prompted. Then change to the following directory: cd work/bb0820/data/upload_area_ISIMIP2.1/marine-fishery/

There you will find a subdirectory tree for each participating model which is structured as follows:

- _code
- _doc
- _**tmp (upload results here)**
- reana
    - gfdl-reanalysis
- scen
    - cesm1-bgv
    - ipsl-cm5a-lr
    - gfdl-esm2m

All data files should be stored on the lowest level of this directory structure without creating new sub-folders.

_code folder is for sharing or executing postprocessing scripts directly on the server.

_doc folder can be used to share model, configuration and data documentation

_tmp folder is for uploading results

reana/scen folders should only contain data in netcdf format

If a model-specific sub folder does not exist, please contact Matthias Buchner (buechner@pik-potsdam.de) to set up the directory structure.

4. *Upload your files*

Once you have identified the appropriate directory, you can upload your files, for example using scp <output_file>

<username>@vre2.dkrz.de:/work/bb0820/data/upload_area_ISIMIP2.1/marine-fishery/<target_path>

Where <target_path> is the path to the target directory starting with the name of your impact model, as in the examples above.