Datenbankfelder

Die unterstrichenen Wörter sind Gruppierungen. Die eigentlichen Felder sind die nicht unterstrichenen Wörter. Die fettgedruckten Wörter sind die möglichen Eingaben. Viele Eingaben hat einen entsprechenden Erklärtext, in Anführungsstrichen gezeigt.

General

Basic information

- Model Name *[pflichtfeld]*
  [text]
- Sector *[single choice, erweiterbar,pflichtfeld]*
  biomes/forestry, agriculture, water, energy, agro-economic modelling, permafrost, coastal infrastructure, health
- Region *[multiple choice, pflichtfeld]*
  "For which regions does the model produce results?"
  global, regional: [optional text]
- Contact person: *[kann mehr als eine sein, pflichtfeld]*
  „The scientists responsible for performing the simulations for this sector"
  - Name
    [text]
  - Email address
    [text]
  - Institute
    [text]
- Simulation round *[multiple choice, erweiterbar]*
  "For which ISIMIP simulation round are these model details relevant?"
- Model version
  [text]
- Reference paper
  - Main reference
    "The single paper that should be cited when referring to simulation output from this model"
    [text]
  - Other references *kann mehr als eine sein*
    [text]
- Short model description
  "This short description should assist other researchers in briefly describing the model in a paper."
  [text]

Technical Information

- Resolution:
  - Spatial aggregation *[single choice, erweiterbar]*
    "e.g. regular grid, points, hyrdotopes…"
    [text]
  - Spatial resolution *[single choice, erweiterbar]*

"The spatial resolution at which the ISIMIP simulations were run, if on a regular grid. Data was provided on a 0.5°x0.5° grid"
0.5°x0.5°, other: [text] *ist nicht unbedingt eine Zahl*

- Temporal resolution of input data
  - Climate variables *[single choice, erweiterbar]*
    "ISIMIP data was provided in daily time steps"
    daily, monthly, annual, other: [text]
  - CO2 *[single choice, erweiterbar]*
    "ISIMIP data was provided in annual time steps"
    annual, other: [text]
  - Land use/land cover *single choice, erweiterbar]*
    "ISIMIP data was provided in annual time steps"
    annual, other: [text]
  - soil *[single choice, erweiterbar]*
    "ISIMIP data was constant in time"
    constant, other: [text]

- Input Data
  - Climate data sets used *[multiple choice, erweiterbar]*
    "The climate-input data sets used in this simulation round"
    Princeton, WATCH, WFDEI, ...
  - Climate variables *[multiple choice, erweiterbar]*
    "Include variables that were derived from those provided in the ISIMIP input data set"
    daily mean temperature (tas), daily maximum temperature (tasmax), daily minimum temperature (tasmin), total precipitation (pr), snowfall (prsn), surface air pressure (ps), relative humidity (rhs or hurs), long wave downwelling radiation (rlds), short wave downwelling radiation (rsds), near-surface wind magnitude (wind), eastward near-surface wind (u), northward near-surface wind (v), bottom temperature, top temperature, salinity, O2, pH, currents, primary production, other: [text]
  - Socio-economic input variables *[multiple choice, erweiterbar]*
    "Include resolution if relevant"
    population, GDP, other: [text]
  - Soil dataset
    "HWSD or GSWP3 were provided"
    [text]
  - Additional input data sets
    "List here any data sets used to drive the model that were not provided by ISIMIP"
    [text]

- Exceptions to protocol
  Were any settings prescribed by the protocol overruled in order to run the model?
  [text]

- Spin-up
  - Did you spin-up your model? *[boolean, kein Default, fängt unausgefüllt an]*
    "'No' indicates the simulations were run starting in the first reporting year 1971"
    Yes/no
  - Spin-up design
    "Include the length of the spin up, the CO2 concentration used, and any deviations from the spin-up procedure defined in the protocol."
    [text]

- Natural vegetation

  - Natural vegetation partition
    "How are areas covered by different types of natural vegetation partitioned?"
    [text]
  - Natural vegetation dynamics
    "Is natural vegetation simulated dynamically? If so, please describe."
    [text]
  - Natural vegetation cover dataset
    "If natural vegetation cover is prescribed, which dataset is used?"
    [text]
- Management
  "Which specific management and autonomous adaptation measures were applied? E.g. varying sowing dates in crop modles, dbh-related harvesting in forest models."
  [text]
- Extreme events
  "Which are the key challenges for this model in reproducing impacts of extreme events?"
  [text]
- Anything else?
  "Anything else necessary to reproduce and/or understand the simulation output"
  [text]
- Additional comments
  [text]

Water

- Technological progress
  - Technological progress
    "Does the model account for GDP changes and technological progress? If so, how are these integrated into the runs?"
    [text]
- Soil
  - Soil layers
    "How many soil layers are used? Which qualities do they have?"
    [text]
- Water use
  - Water-use types
    "Which types of water use are included?"
    [text]
  - Water-use sectors
    "For the global-water-model varsoc and pressoc runs, which water sectors were included? E.g. irrigation, domestic, manufacturing, electricity, livestock."
    [text]
- Routing
  - Runoff routing
    How is runoff routed?
    [text]
  - Routing data
    Which routing data are used?
    [text]

- Land-use
  - Land-use change effects
    Which land-use change effects are included?
    [text]
- Dams & Reservoirs
  - Dam and reservoir implementation
    "Describe how are dams and reservoirs are implemented"
    [text]
- Calibration
  - Was the model callibrated?
    Yes/No
  - Which years were used for callibration?
    [text]
  - Which dataset was used for callibration?
    "E.g. WFD, GSWP3"
    [text]
  - How many catchments were callibrated?
    [text]
- Vegetation
  - Is CO2 fertilisation accounted for? *[boolean, kein Default, fängt unausgefüllt an]*
    Yes/No
  - How is vegetation represented?
    [text]
- Methods
  - Potential evapotranspiration
    [text]
  - Snow melt
    [text]

Biomes/Forestry

Model output specifications

- Output format
  "Is output (e.g. PFT cover) written out per grid-cell area or per land and water area within a grid cell, or land only?"
  [text]
- Output per PFT?
  "Is output per PFT per unit area of that PFT, i.e. requiring weighting by the fractional coverage of each PFT to get the gridbox average?"
  [text]
- Considerations
  Things to consider, when calculating basic variables such as GPP, NPP, RA, RH from the model."
  [text]

Key model processes

Please provide yes/no and a short description how the process is included

- Dynamic vegetation
  [text]

- Nitrogren limitation
  [text]
- CO2 effects
  [text]
- Light interception
  [text]
- Light utilization
  "photosynthesis, RUE- approach?"
  [text]
- Phenology
  [text]
- Water stress
  [text]
- Heat stress
  [text]
- Evapo-transpiration approach
  [text]
- Differences in rooting depth
  "Include how it changes?"
  [text]
- Root distribution over depth
  [text]
- Permafrost
  [text]
- Closed energy balance
  [text]
- Coupling/feedback between soil moisture and surface temperature
  [text]
- Latent heat
  [text]
- Sensible heat
  [text]

Causes of mortality in vegetation models

"Describe briefly how the process is described in this model and in which way it is climate dependent."

- Age
  [text]
- Fire
  [text]
- Drought
  [text]
- Insects
  [text]
- Storm
  [text]
- stochastic random disturbance

[text]

- other
  [text]
- remarks
  [text]

NBP components

"Indicate whether the model includes the processes, and how the model accounts for the fluxes, i.e. what is the fate of the biomass? E.g. directly to atmsphere or let it go to other pool"

- Fire
  [text]
- Land-use change
  "deforestation harvest and other land-use changes"
  [text]
- Harvest
  "1: crops, 2: harvest from forest management, 3: harvest from grassland management"
  [text]
- Other processes
  [text]
- Comments
  [text]
- Comments
  [text]

Plant Functional Types (PFTs)

- List of PFTs
  "Provide a list of PFTs using the folllowing format: <pft1_long_name> (<pft1_short_name>); <pft2_long_name> (<pft2_short_name>). Include long name in brackets if no short name is available."
  [text]
- Comments
  [text]

Marine Ecosystems & Fisheries

- Defining features
  [text]
- Spatial scale
  [text]
- Spatial resolution
  [text]
- Temporal scale
  [text]
- Temporal resolution
  [text]
- Taxonomic scope
  [text]
- Vertical resolution

[text]

- Spatial dispersal included
  [text]
- Is FishBase used for mass-length conversion?
  [text]

Agriculture

Key input and Management

"Provide a yes/no answer and a short description of how the process is included"

- Crops
  [text]
- Land coverage
  [text]
- Planting date decision
  [text]
- Planting density
  [text]
- Crop cultivars
  [text]
- Fertilizer application
  [text]
- Irrigation
  [text]
- Crop residue
  [text]
- Initial soil water
  [text]
- Initial soil nitrate and ammonia
  [text]
- Initial soil C and OM
  [text]
- Initial crop residue
  [text]

Key model processes

"Please specify methods for model calibration and validation"

- Lead area development
  [text]
- Light interception
  [text]
- Light utilization
  [text]
- Yield formation
  [text]
- Crop phenology

[text]

- Root distribution over depth
  [text]
- Stresses involved
  [text]
- Type of water stress
  [text]
- Type of heat stress
  [text]
- Water dynamics
  [text]
- Evapo-transpiration
  [text]
- Soil CN modeling
  [text]
- CO2 Effects
  [text]

Methods for model calibration and validation

"Please specify methods for model calibration and validation"

- Parameters, number and description
  [text]
- Calibrated values
  [text]
- Output variable and dataset for calibration validation
  [text]
- Spatial scale of calibration/validation
  [text]
- Temporal scale of calibration/validation
  [text]
- Criteria for evaluation (validation)
  [text]

Energy

Model & method characteristics

- Model type
  [text]
- Temporal extent
  [text]
- Temporal resolution
  [text]
- Data format for input
  [text]

Impact Types

- Energy demand (heating & cooling)
  [text]

- temperature effects on thermal power
  [text]
- Weather effects on renewables
  [text]
- Water scarcity impacts
  [text]
- Other (agriculture, infrastructure, adaptation)
  [text]

Output

- Energy demand (heating & cooling)
  [text]
- Energy supply
  [text]
- Water scarcity
  [text]
- Economics
  [text]
- Other (agriculture, infrastructure, adaptation)
  [text]

Further information

- Variables not directly from GCMs
  [text]
- Response function of energy demand to HDD/CDD
  [text]
- Definition and calculation of variable potential and load factor
  [text]
- Biomass types
  [text]
- Maximum potential assumption
  [text]
- Bioenergy supply costs
  [text]
- Socio-economic input
  [text]