Model data and preprocessing

UKESM1
Model data in
NetCDF format

BGC-valPython-based
model evaluation
toolkit

Time series shelves BGC-val processed output data

Legend

File

Box with thick border

Process

Arrow with no border

Earth system music processor

Convert to MIDI pitch Uses data range provided

Apply smoothing window
Removes some of the temporal variability

Load shelve data Access UKESM1 data as time series Load settings
Includes data selection
criteria and artistic
choices

Earth system music processor settings

Python dictionary containing all required settings, artistic choices and paths to data.

Enforce scale or chord
Uses artistic choice

Set MIDI velocities Adjust note loudness

Remove duplicate notes

Extend final note

Process MIDI and model data into images

Output notes as MIDI

Post-processing



Ffmpeg video processor Combines images and audio to produce video Video frame images png format

MP3 audio
Performance by
piano synthesiser

Musical Instrument Digital Interface (MIDI) file

Timidity++
Piano
player
Piano
synthesiser

Musescore Loads MIDI as sheet

music.



Sheet music pdf format