Flood depth downscaling in CaMa-Flood

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In this document, the procedures to downscale floodplain water depth in CaMa-Flood are explained.

Sample codes are available in etc/downscale\_flddph/

# Contents of the downscaling sample package

#### s01-downscale\_flddph.sh

Sample script for downscaling global 15min simulation to 1min resolution using high-res topo data (map/glb\_15min/1min)

#### s11-downscale\_duration.sh

Sample script to downscale flood durationa of global 15min simulation.

First calculate the depth-day relationshio at each 15min grid, and then downscale the duration at 1min resolution.

# Downscaling Method

Flood depth at each pixel is calculated based on flood depth at the outlet pixel and relative height of each pixel.

As the map data, the low-resolution river network map used for simulation (e.g. glb\_06min), and its corresponding high-resolution data for downscaling (e.g. glb\_06min/1min/) is needed, in addition to the simulated river water depth or flood depth data to be downscaled.

ダイアグラム

自動的に生成された説明

# Advanced downscaling method considering tributary inundation

In default downscale scheme, only flooding from the mainstem of each unit-catchment is considered. Flooding from tributaries could be under-estimated.

Advanced downscaling scheme is developed in v4.13

