

Quick Guide of ArcNLET-Py

Maximum number of continuous calculation



Wei Mao

wm23a@fsu.edu

Michael Core

mcore@fsu.edu

Ming Ye

mye@fsu.edu

2/11/2025

Maximum number of continuous calculation

- Our ArcNLET model uses certain functions of ArcGIS Pro, specifically the Python package ArcPy included with ArcGIS Pro, for various calculations. However, we observed that repeatedly calling certain ArcPy APIs many times resulted in incorrect values.
- To avoid errors, we set the maximum number of continuous calculation in Groundwater Flow module and Transport module.

Groundwater Flow Module

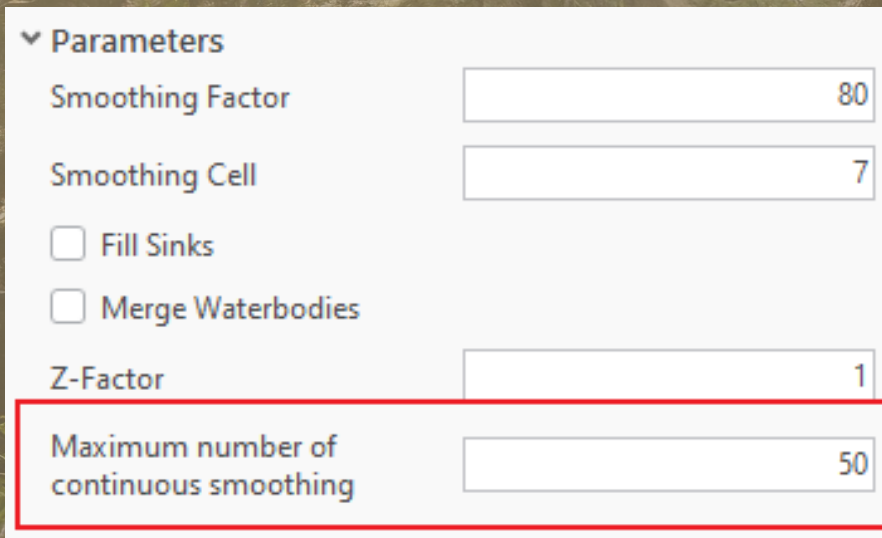
▼ Parameters	
Smoothing Factor	20
Smoothing Cell	7
<input type="checkbox"/> Fill Sinks	
<input type="checkbox"/> Merge Waterbodies	
Z-Factor	1
Maximum number of continuous smoothing	50

Transport Module

Spine ▼	
Threshold Concentration [mg/l]	0.000001
Postprocessing	Medium ▼
Domenico Bdy.	Specified Input Mass Rate ▼
Maximum plumes of continuous calculation for one time	400

Maximum number of continuous calculation

Groundwater Flow Module



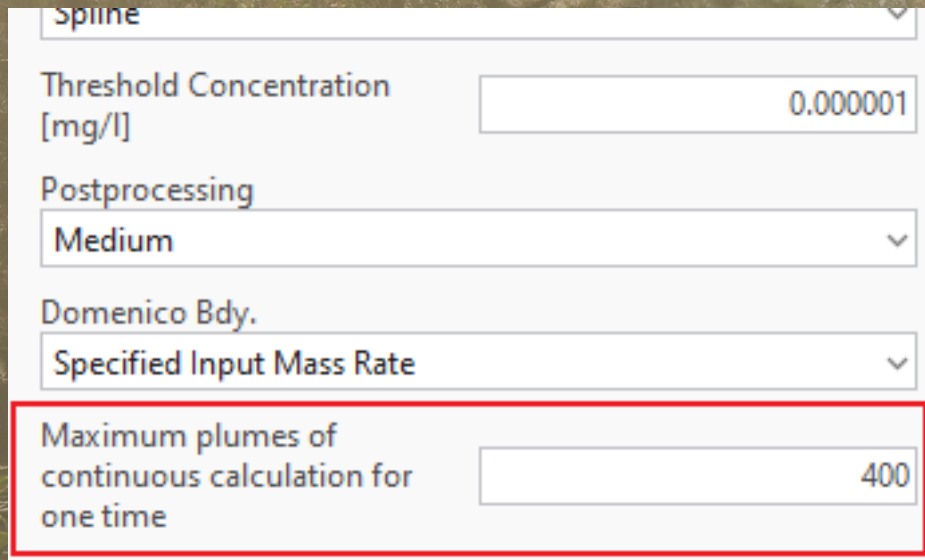
Parameters

Smoothing Factor	80
Smoothing Cell	7
<input type="checkbox"/> Fill Sinks	
<input type="checkbox"/> Merge Waterbodies	
Z-Factor	1
Maximum number of continuous smoothing	50

- If the Groundwater Flow module has a smoothing factor of 80, but the maximum number of continuous smoothing is 50. In this case, ArcNLET-Py will smooth DEM 50 times, save the intermediate results in the output folder, and then continue smoothing for the remaining 30 times.
- The value of 50 is based on experience, and users are not advised to change it. However, if your computer encounters an error while running Groundwater Flow module, you may try lowering this value to see if it resolves the issue.

Maximum number of continuous calculation

Transport Module



Spine

Threshold Concentration [mg/l] 0.000001

Postprocessing Medium

Domenico Bdy. Specified Input Mass Rate

Maximum plumes of continuous calculation for one time 400

- If the Transport module need to calculate 500 pollution plumes in groundwater, but the maximum plumes of continuous calculation is 400. ArcNLET-Py will first calculate 400 plumes, save the results in the output folder, and then calculate the remaining 100 plumes. Finally, the model will merge them together.
- The value of 400 is based on experience, and users are not advised to change it. However, if your computer encounters an error while running Transport module, you may try lowering this value to see if it resolves the issue.