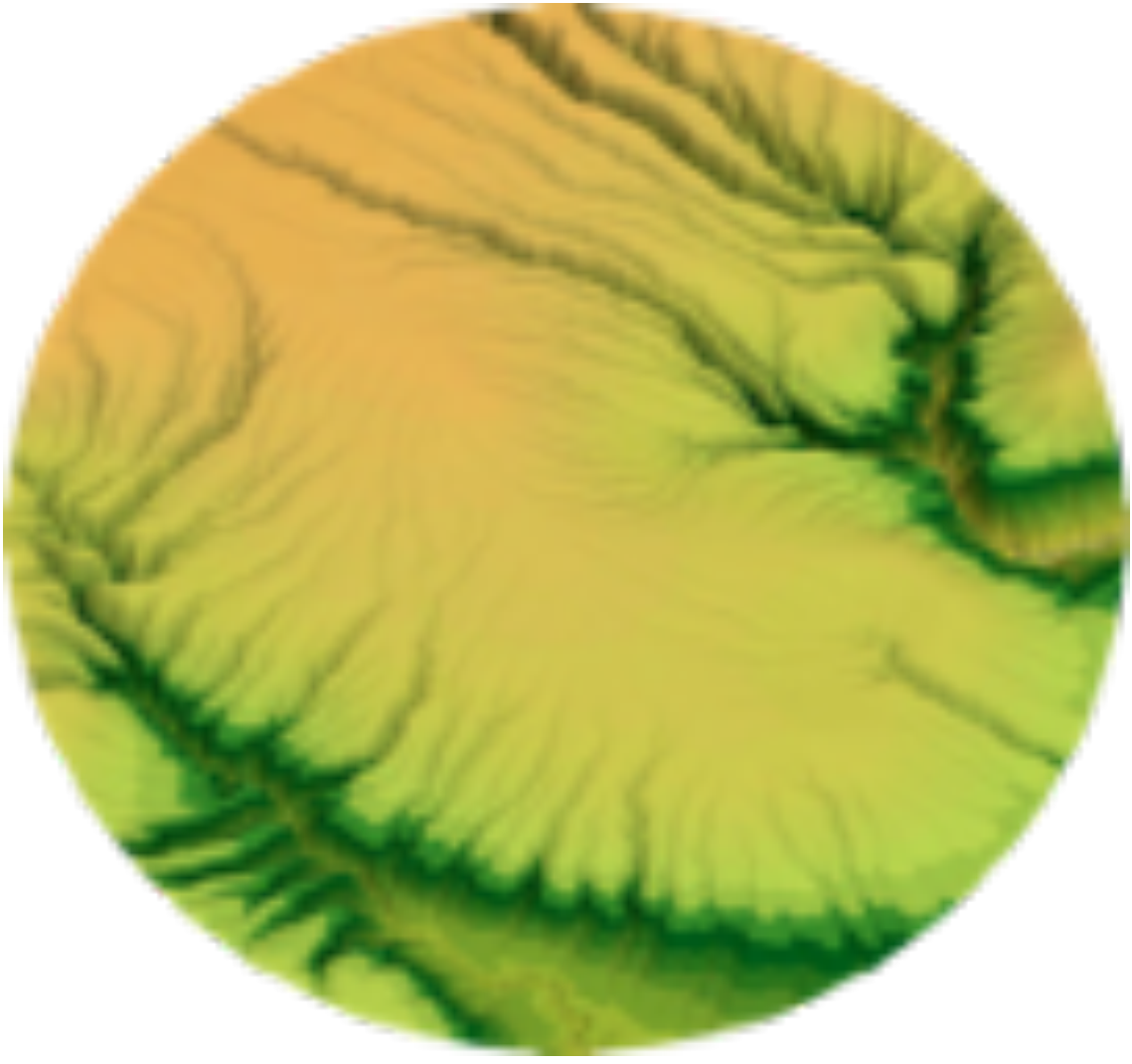
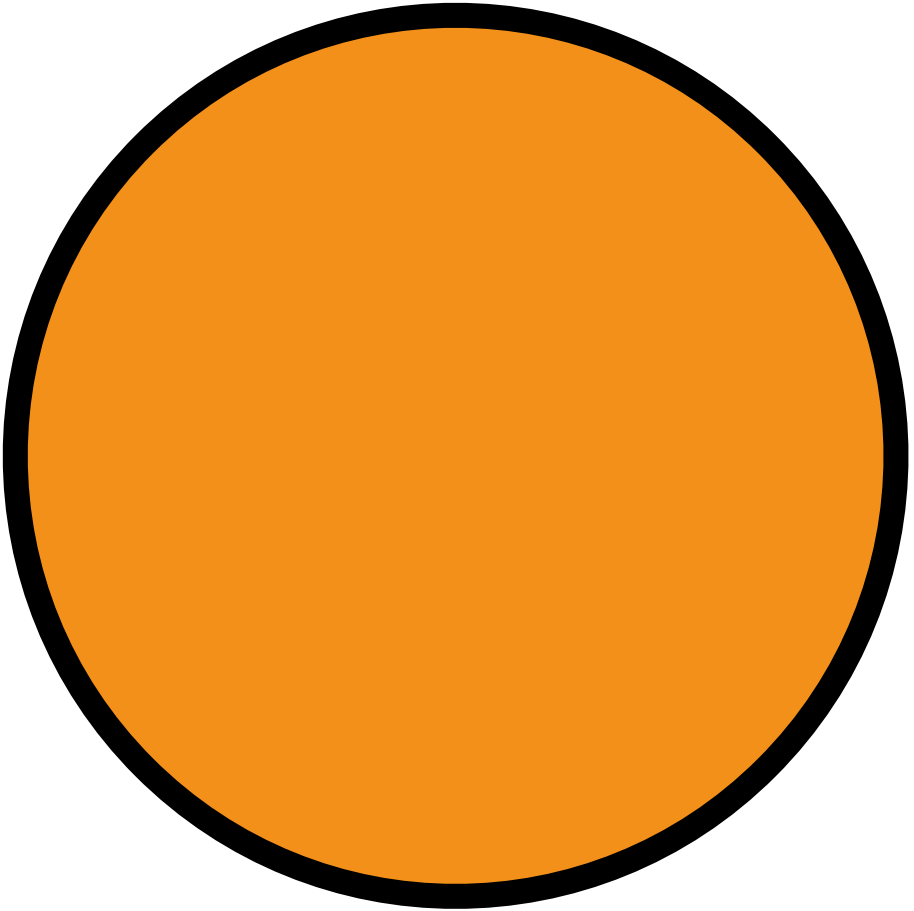
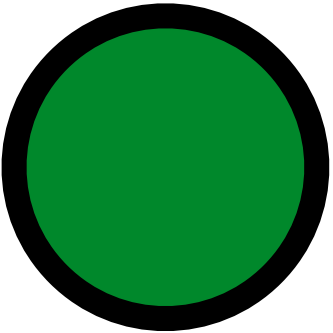
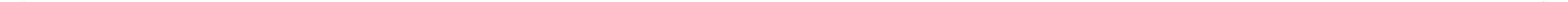
Testing erosion laws - generic models









350 km

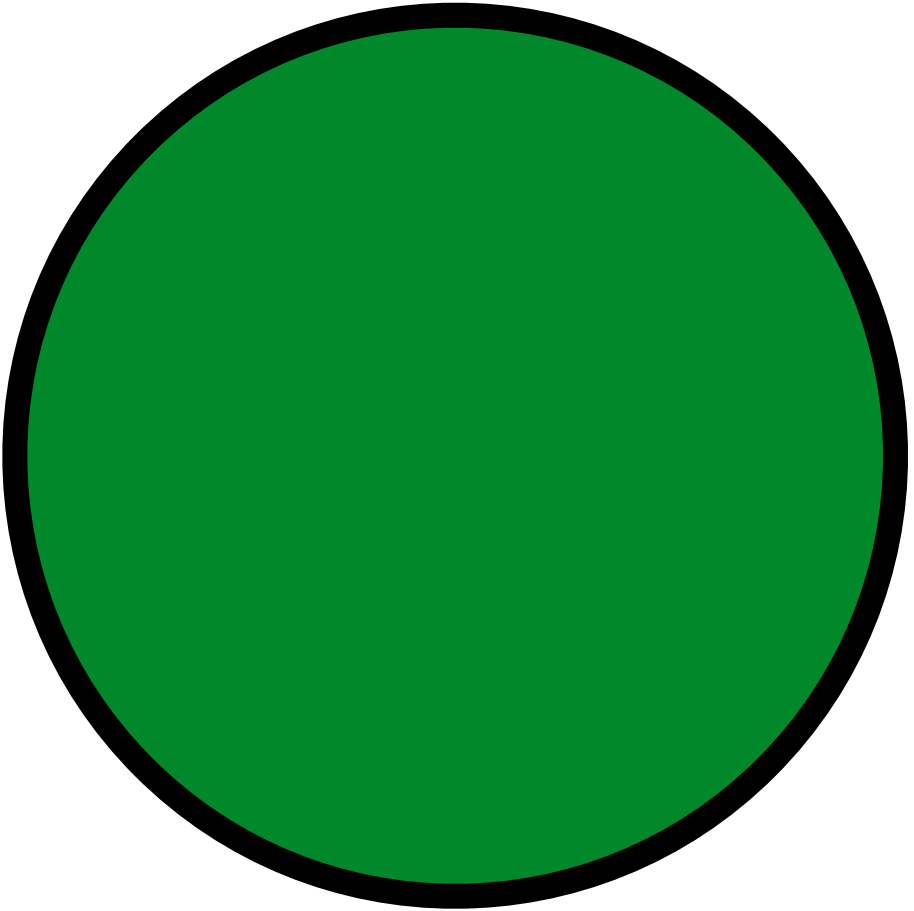
120 km

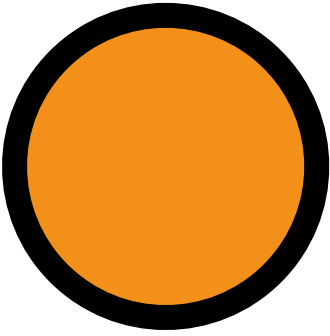
115 km

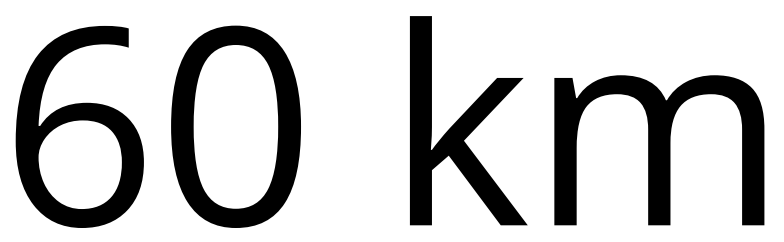
160 km

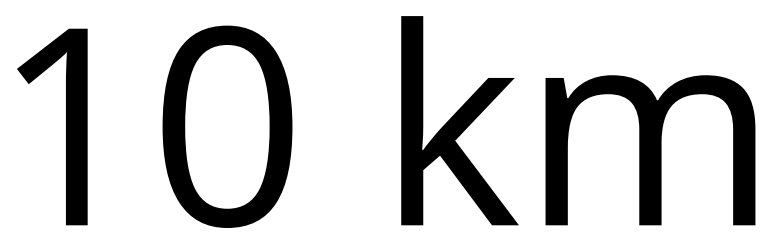
205 km

250 km

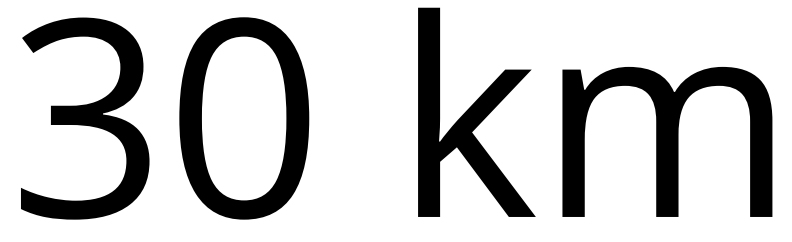


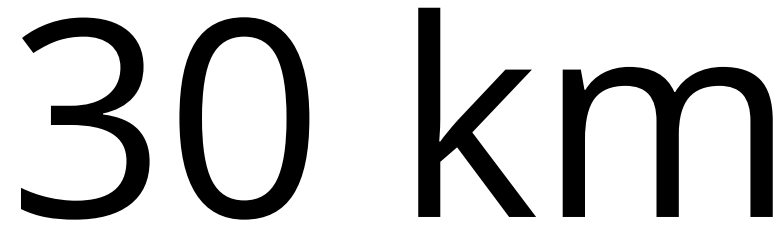



60 km


10 km

10 km


30 km


30 km

fixed boundaries

Uplift = 0.2 mm/yr

Precipitation = 1 m/a

$i_1 : Z_{max} = 2\ km$

$i_4 : Z_{max} = 65\ m$

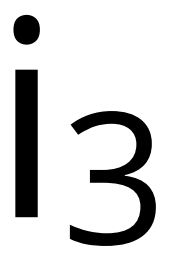
$i_3 : Z_{max} = 650$ m

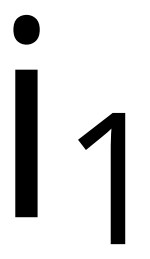
$i_2 : Z_{max} = 200$ m

$$S_1 = 0.13$$

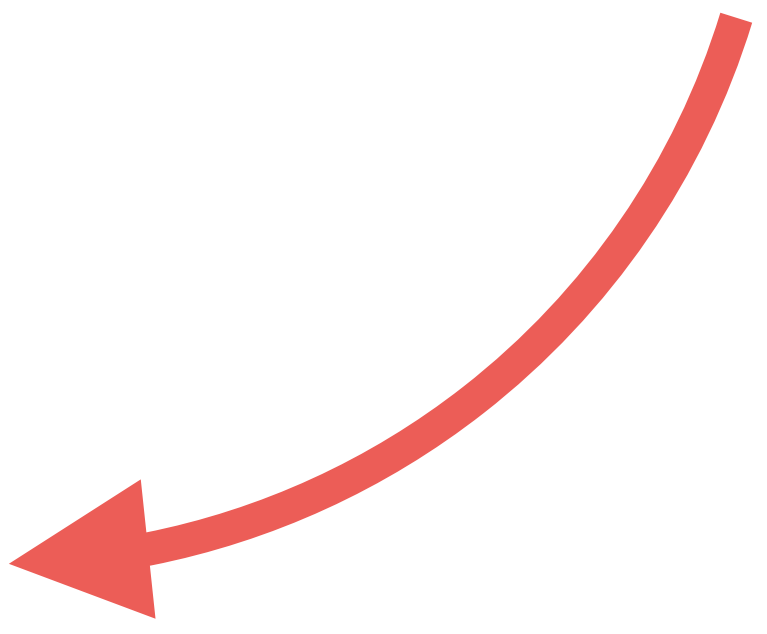
$$s_2 = 0.013$$


i2


i3

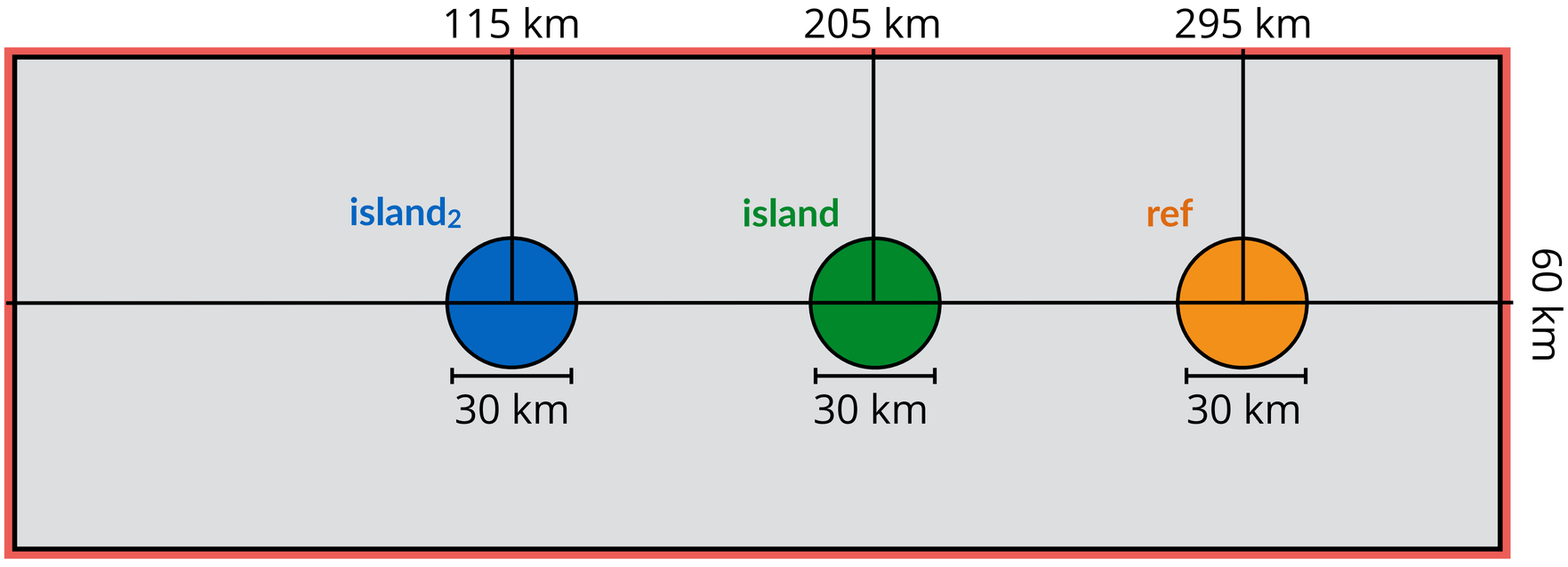



i4



Initial setting

Central regions (islands) comparisons



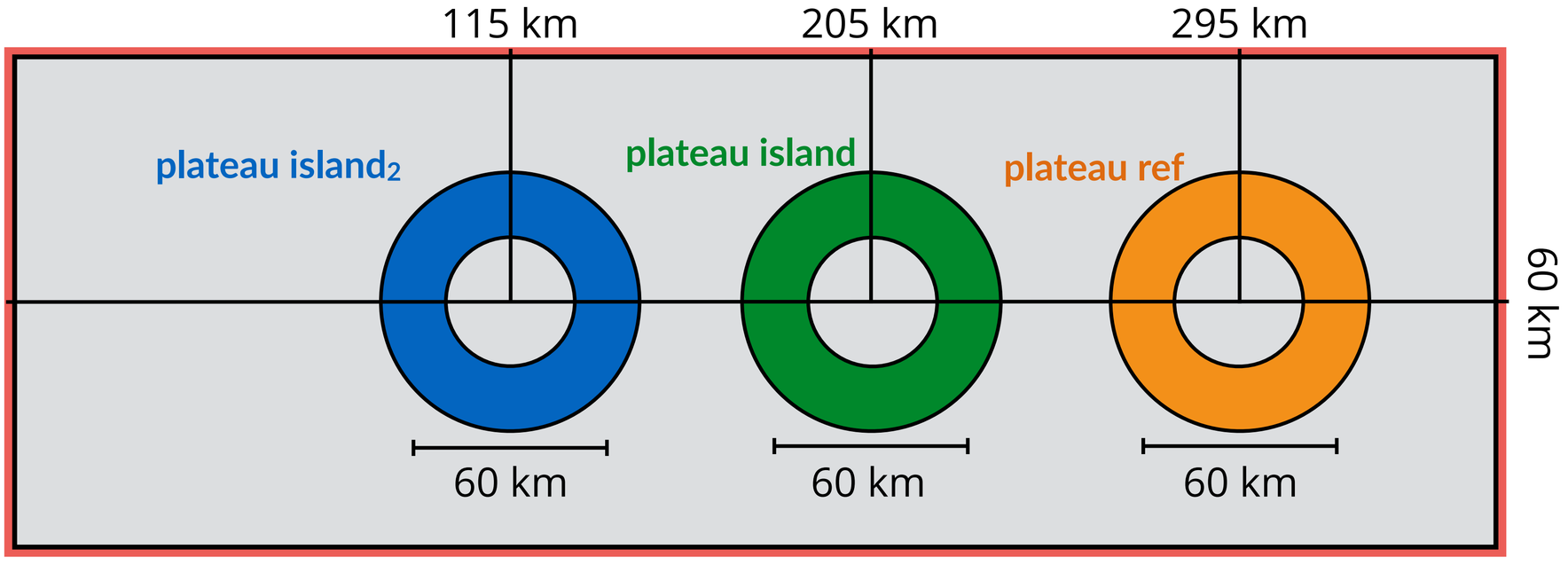
Metrics compared:

1- Elevation change

2- Cumulative erosion

3- Erosion rate

Plateaus regions comparisons

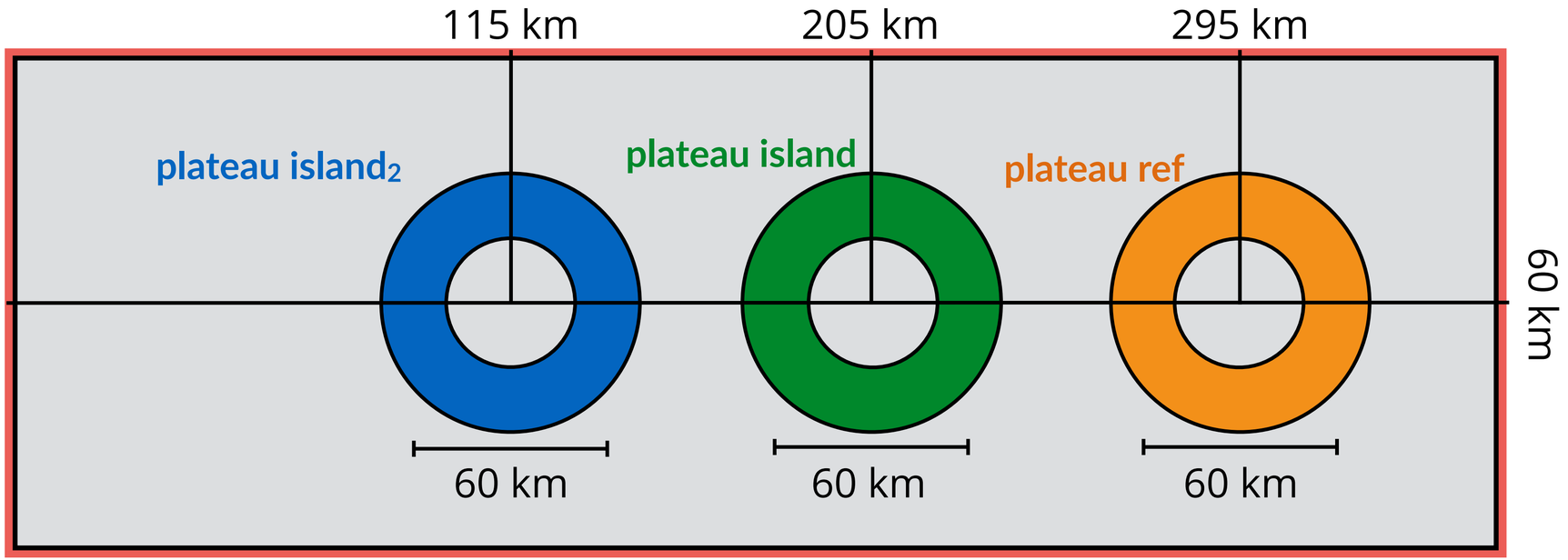


Metrics compared:

1- Elevation change
2- Cumulative erosion
3- Erosion rate

Testing erosion laws - generic models

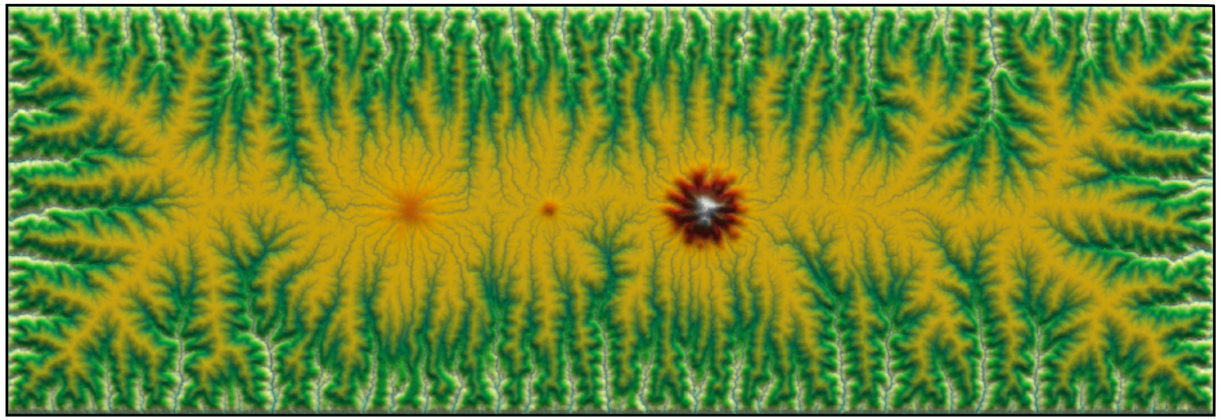
Plateaus regions comparisons



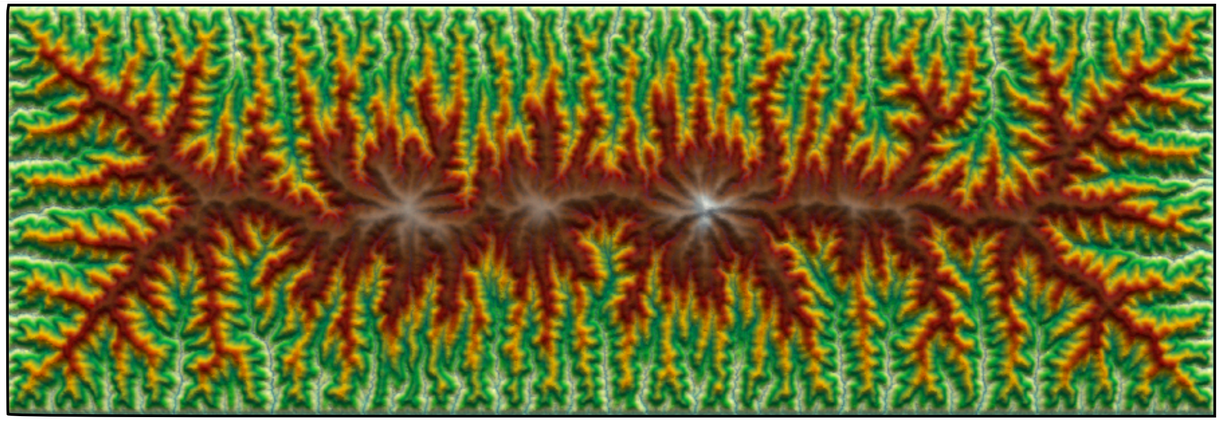
Metrics compared:

1- Elevation change
2- Cumulative erosion
3- Erosion rate

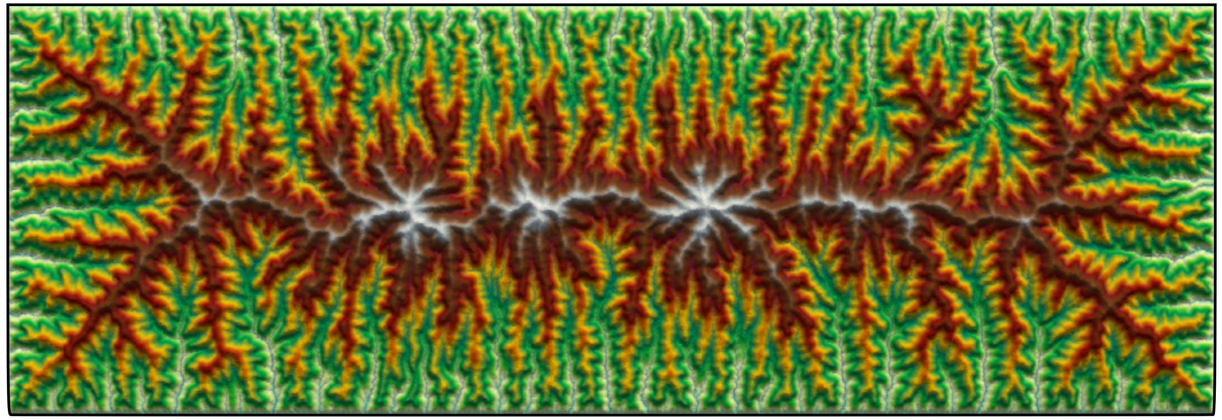
Testing erosion laws - detachment-limited case



5 Ma



10 Ma



15 Ma