FUZZY BASED LANDFORM CLASSIFICATION

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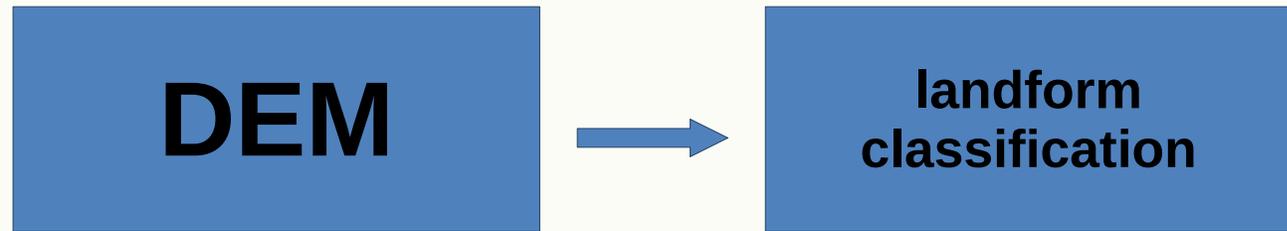Chinese Academy of Sciences
AIR

The landform elements and the landform classification

- Plane

- Slope

- Ridge

- Valley

- Peak

- Pit

- Saddle

(may be other classification)
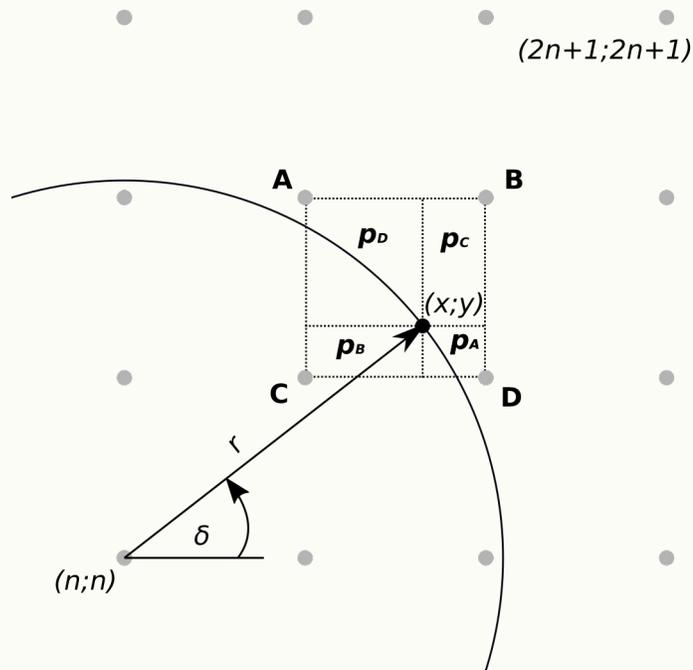
DEM → **landform classification**

The fuzzy logic and fuzzy sets

- Classical logic: {0;1}
- Fuzzy logic: [0;1]
- These values may be the value of a membership fuction of a classical/fuzzy set

Principles
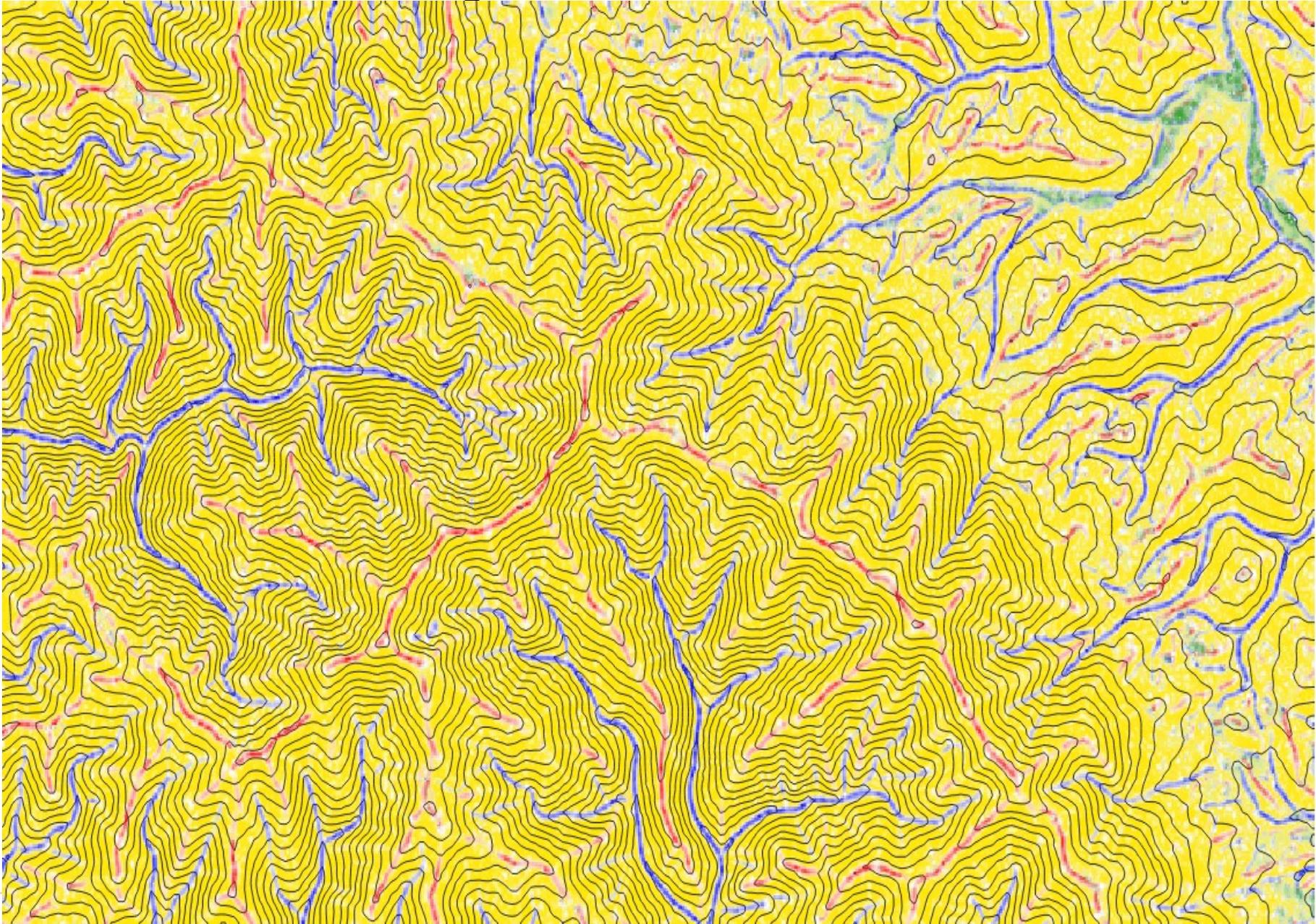

Calculate fuzzy values from the *r* distance Fourier coefficients (a0, a1, b1, a2, b2) and an *e* parameter.

Fuzzy classification
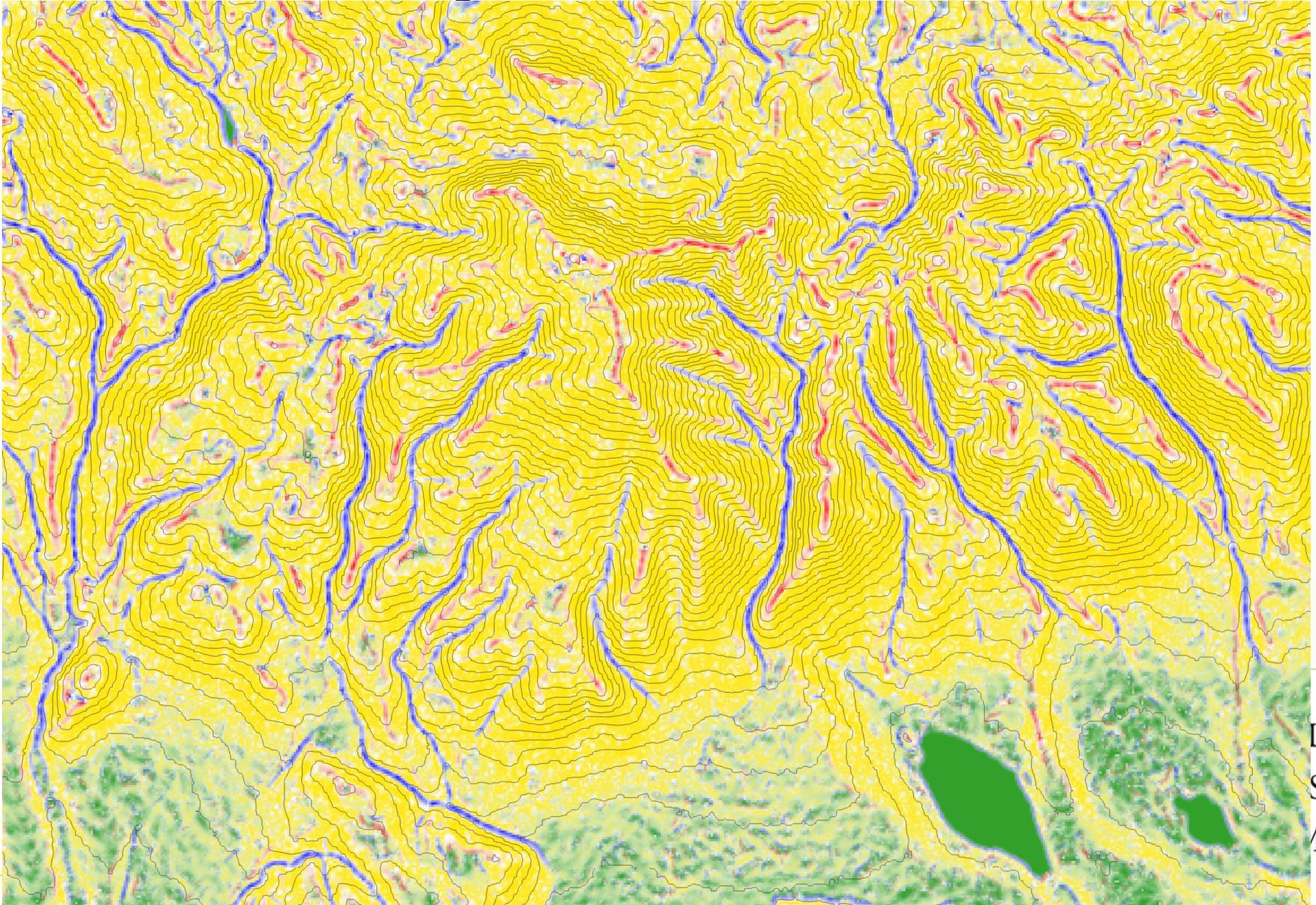
Fuzzy classification
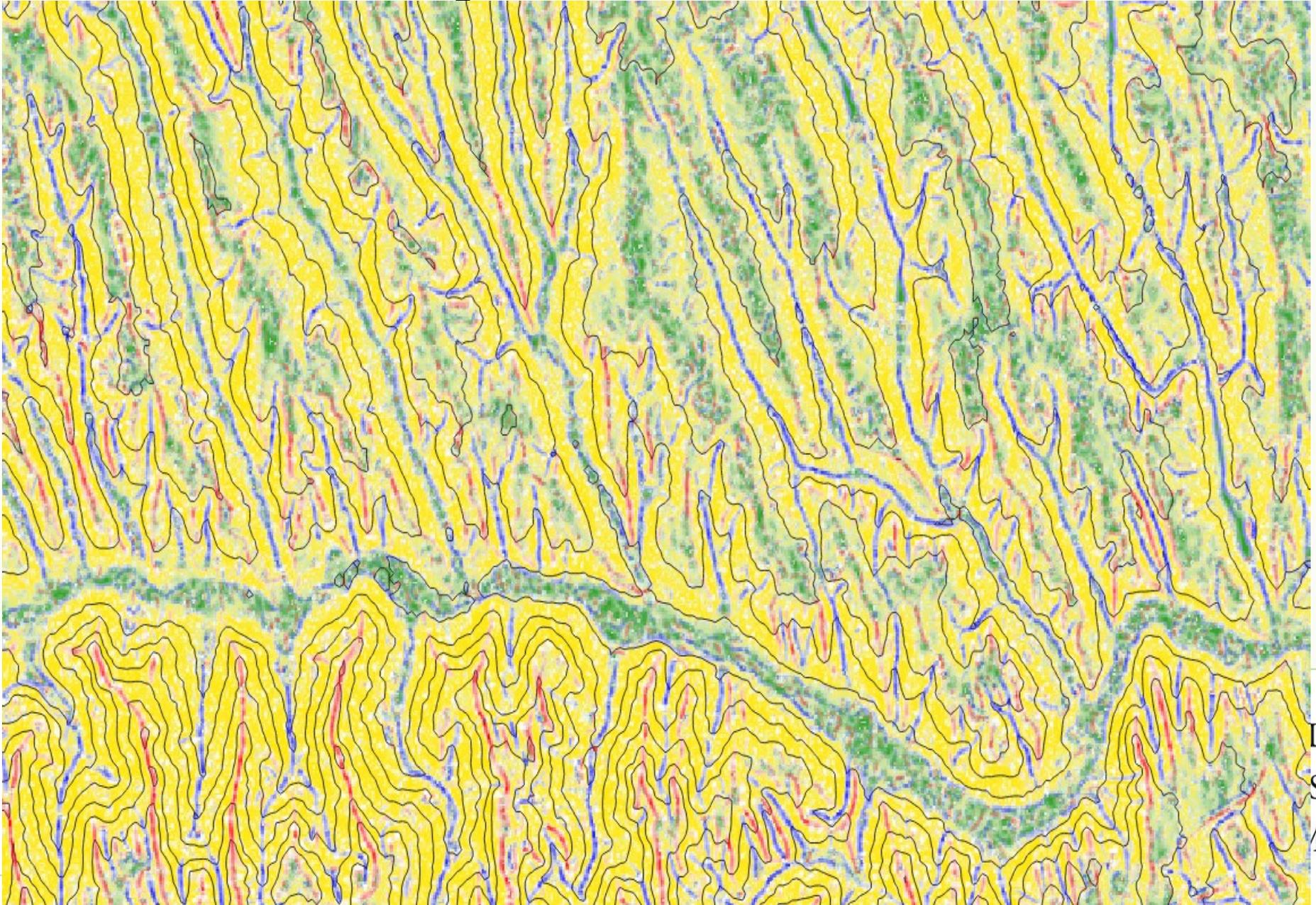

LAPBÓL
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Fuzzy classification

Application areas

- Fuzzy analysises
  - any analyzis where the landform is important

- Defuzzification
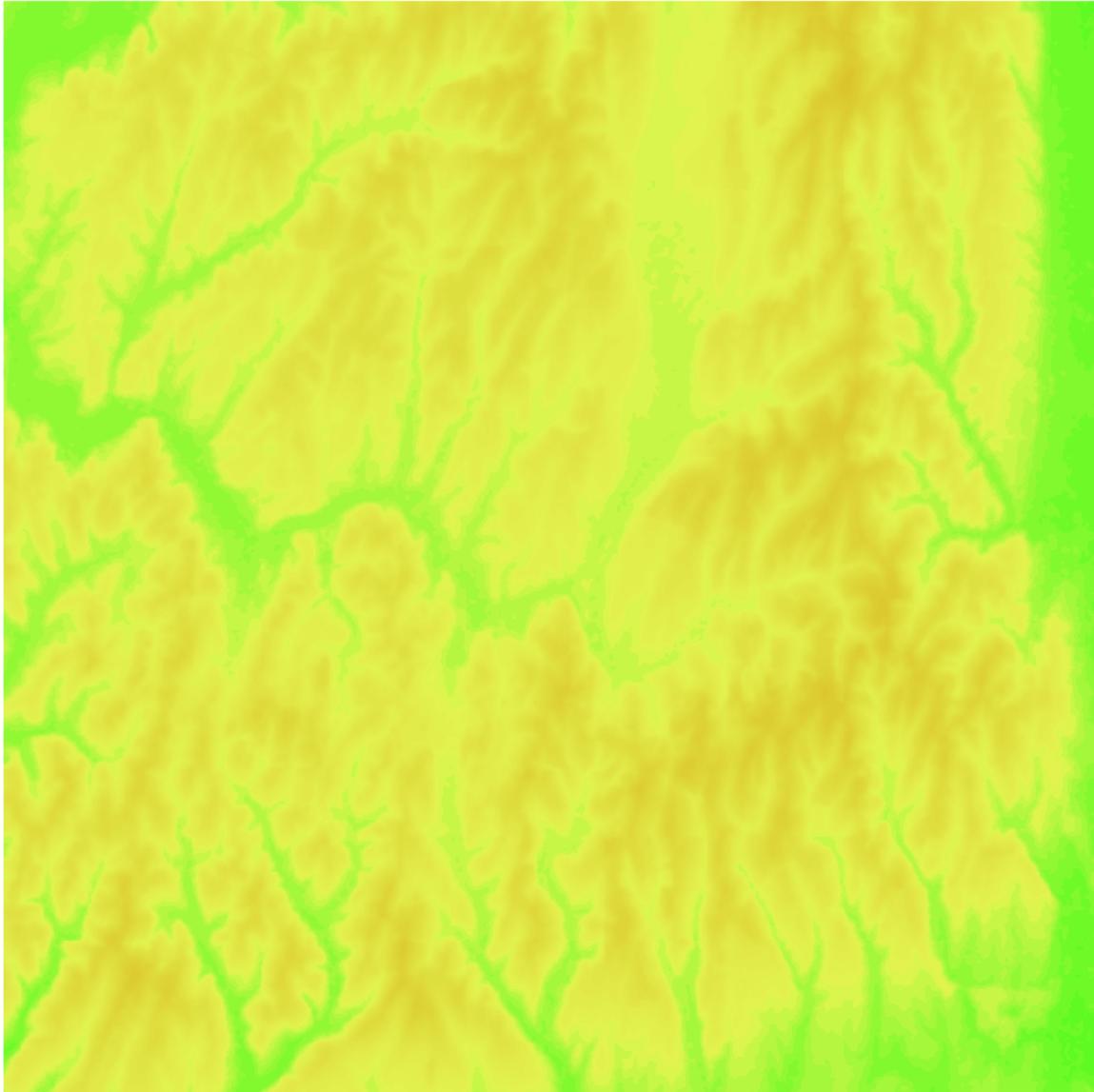 - create a normal classification, use in classical logical expressions

Defuzzyfication

ELEV

DFZ

Defuzzyfication
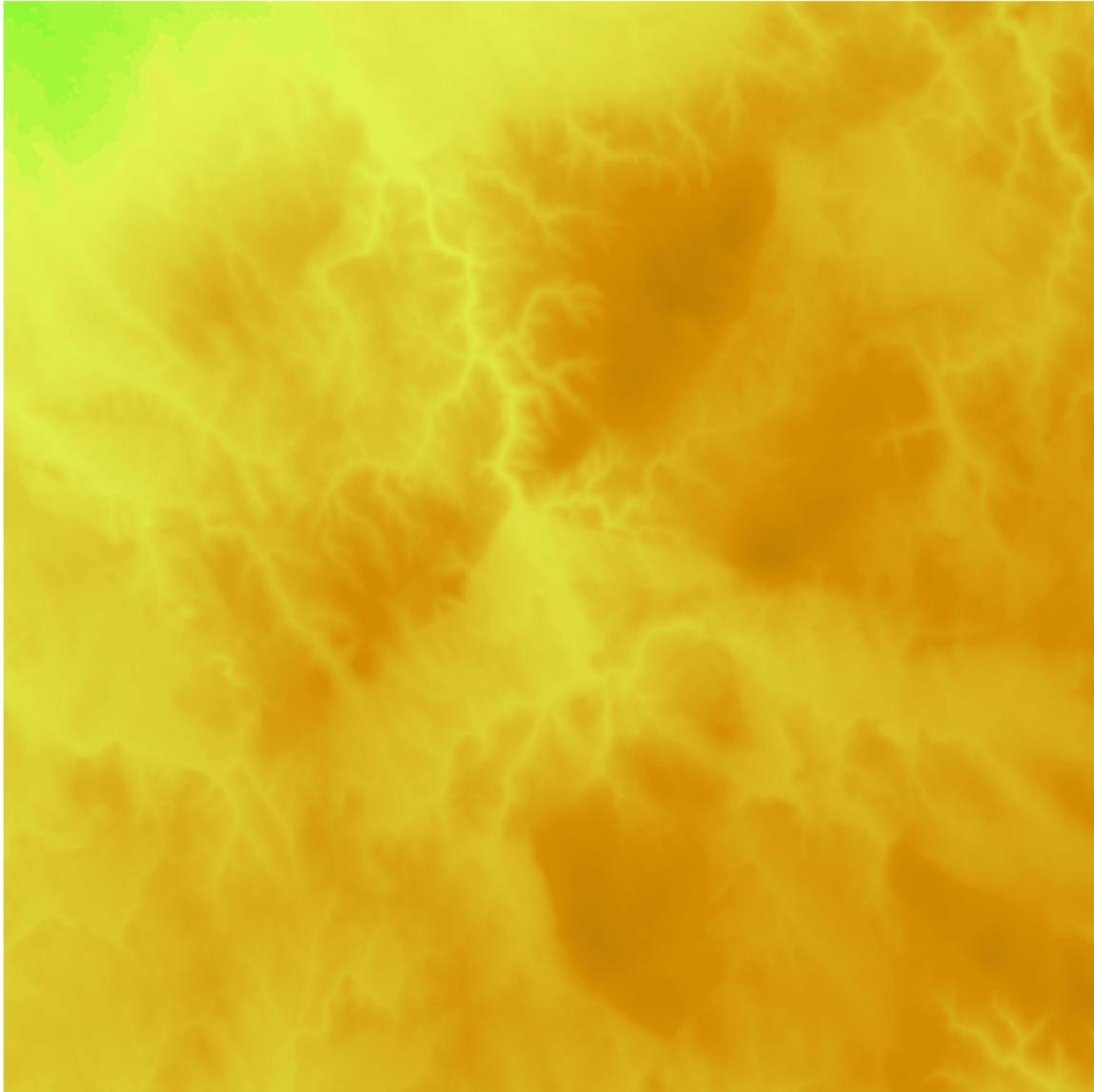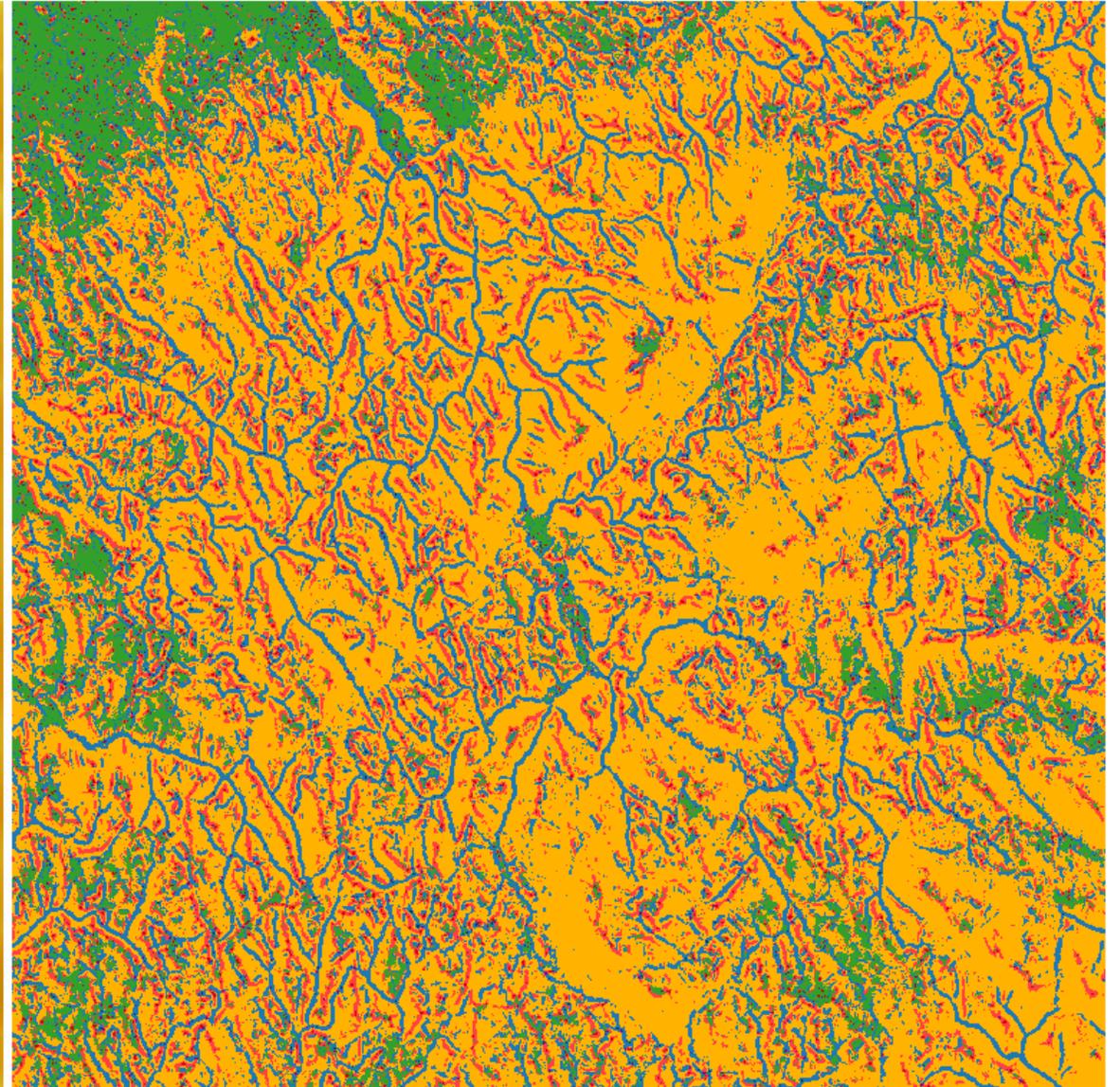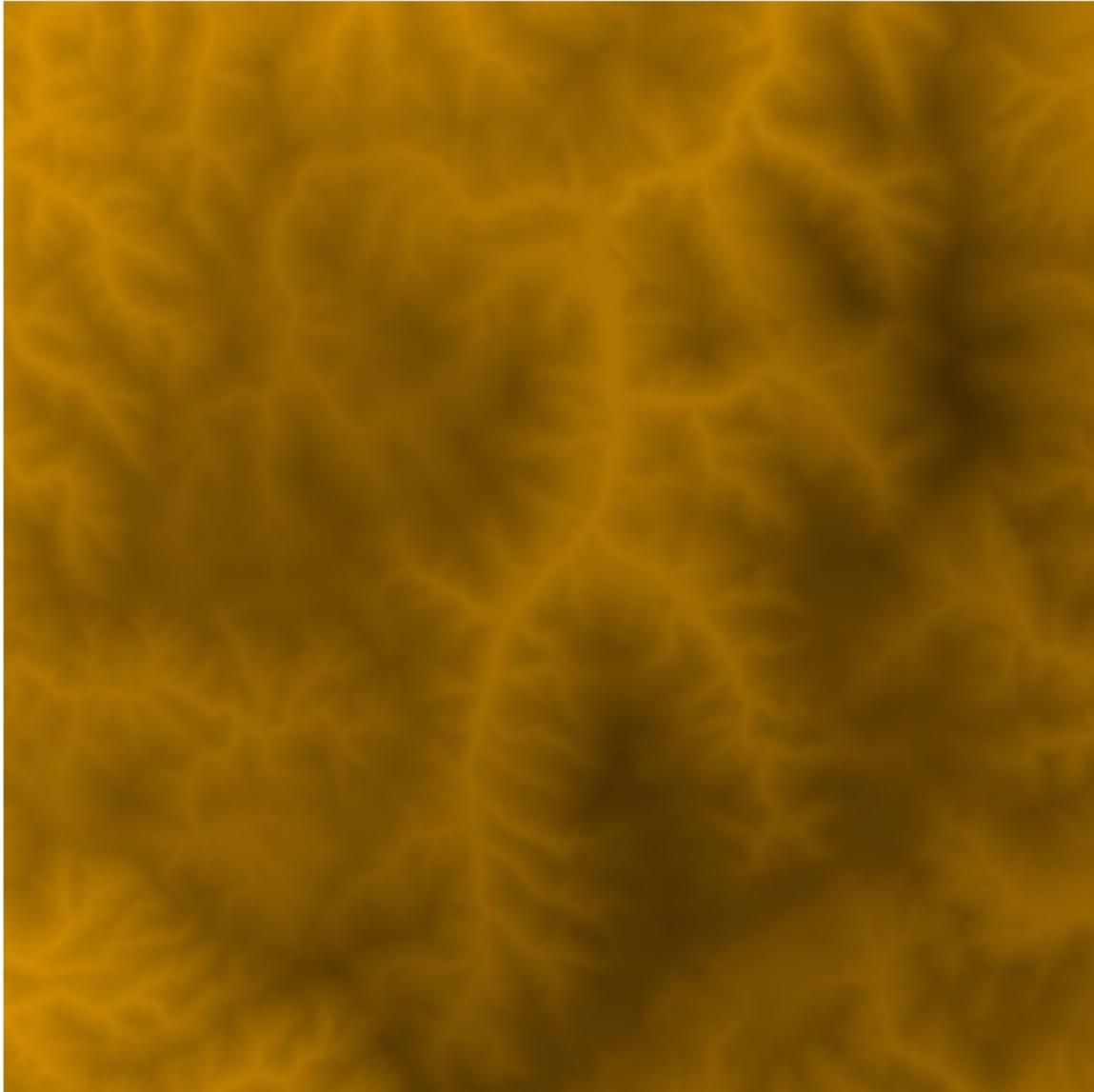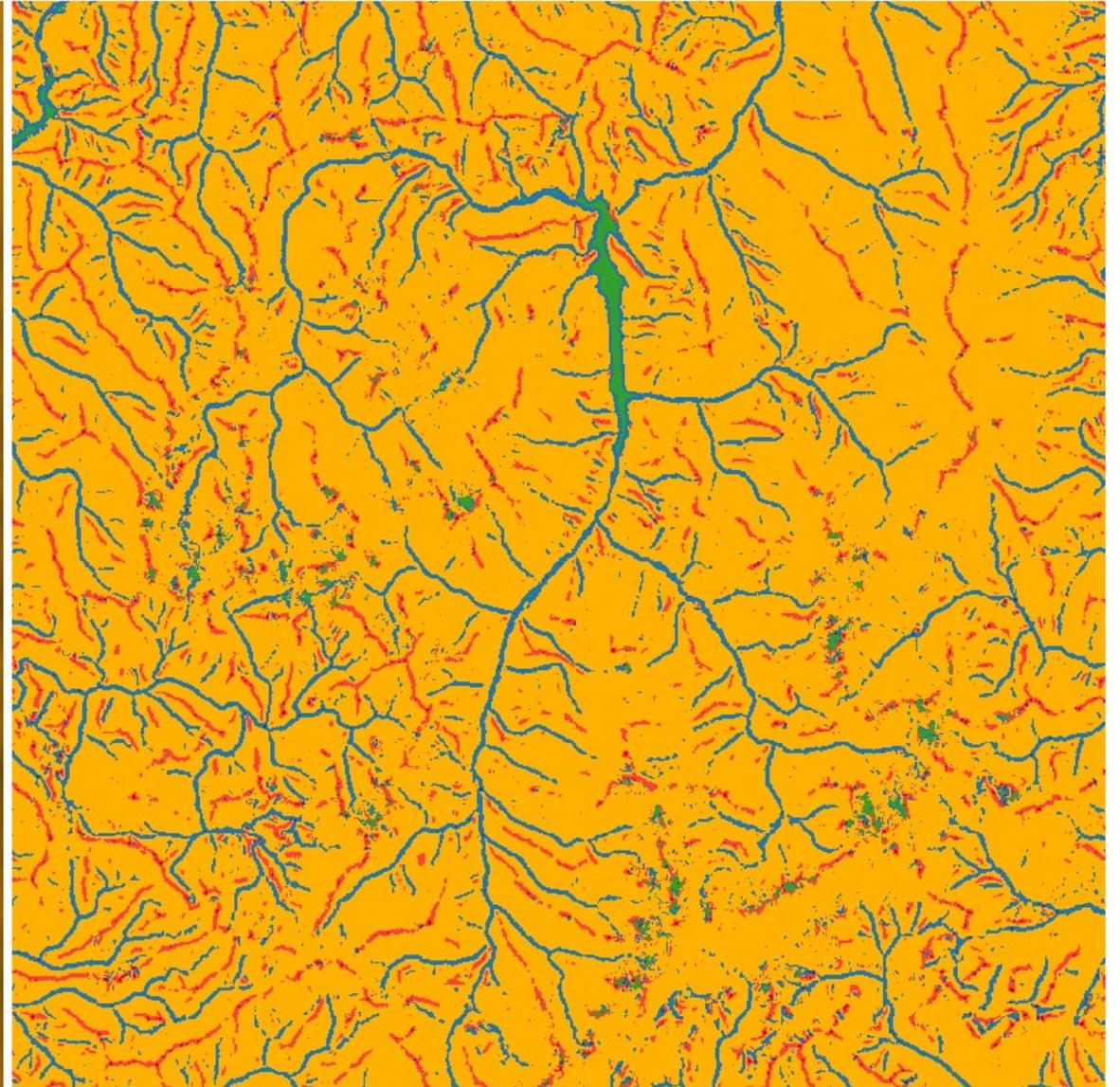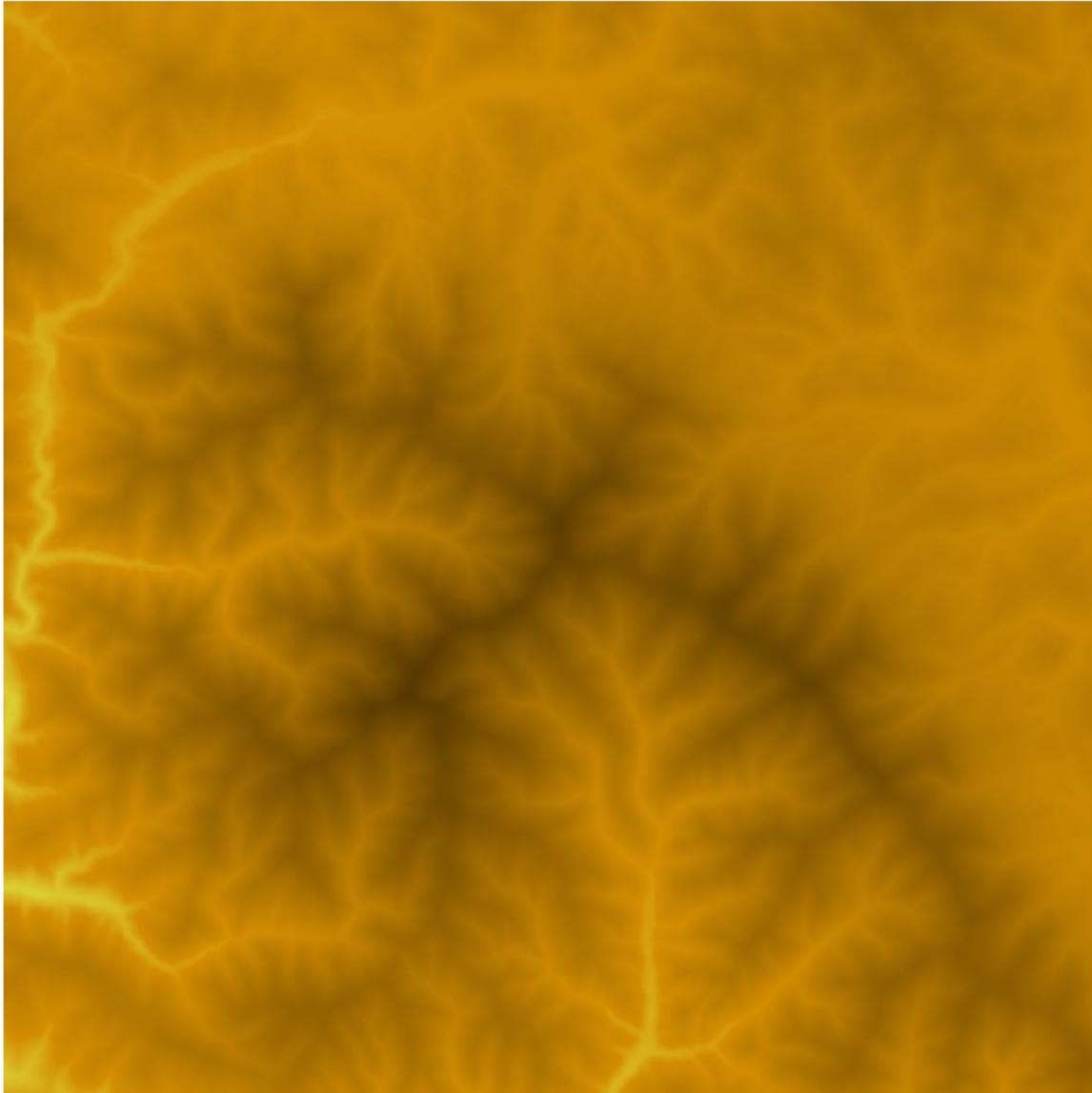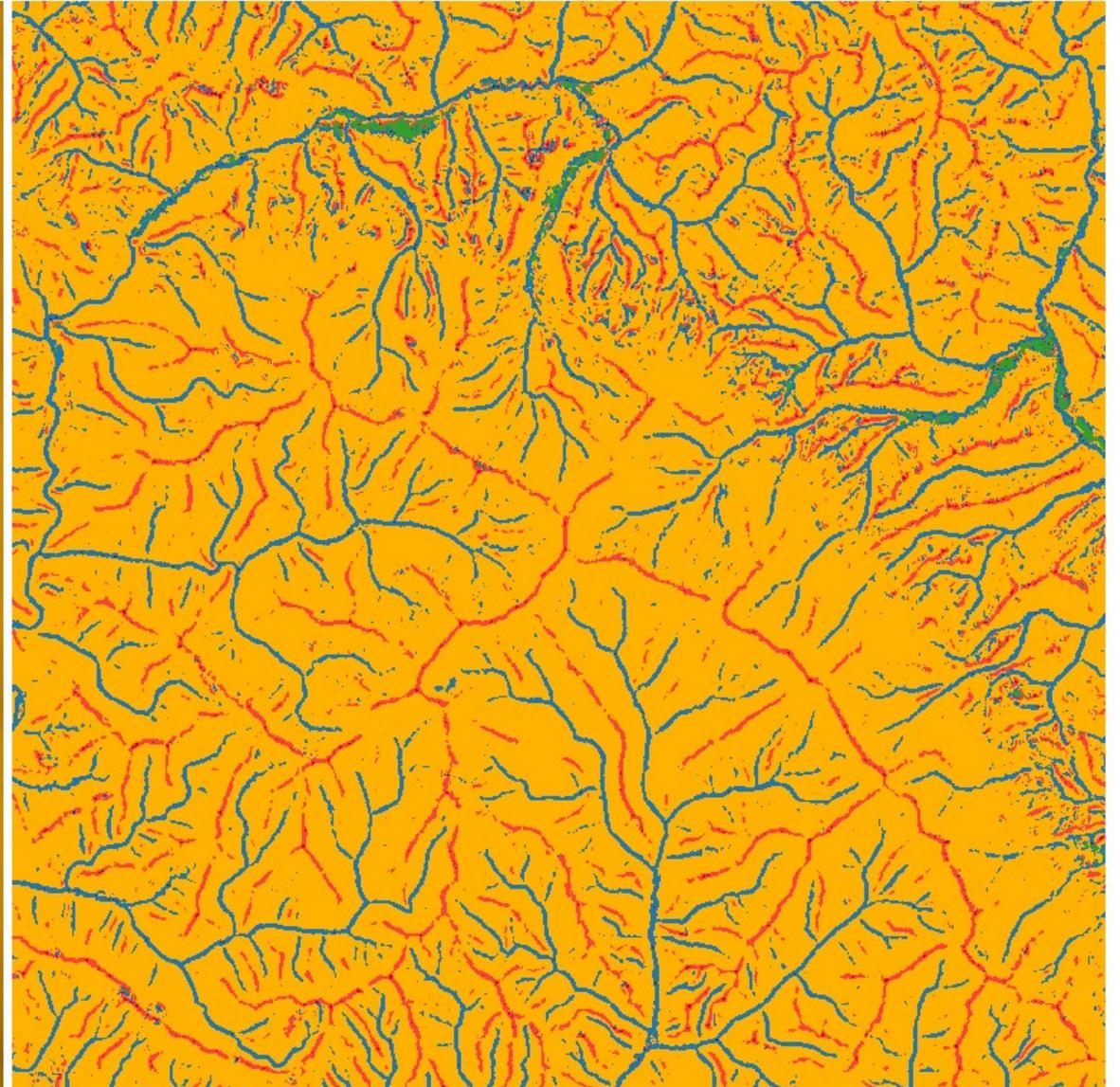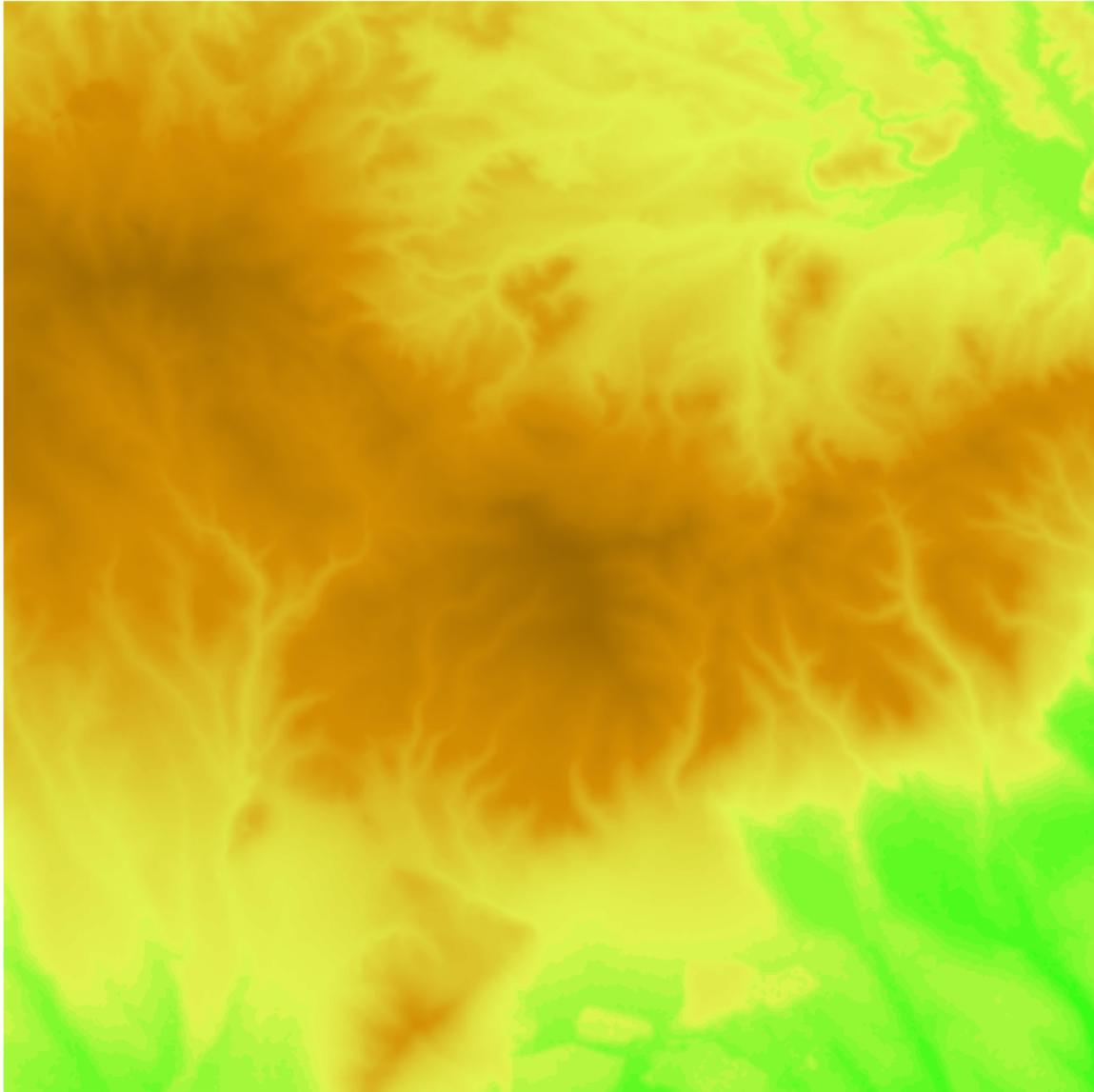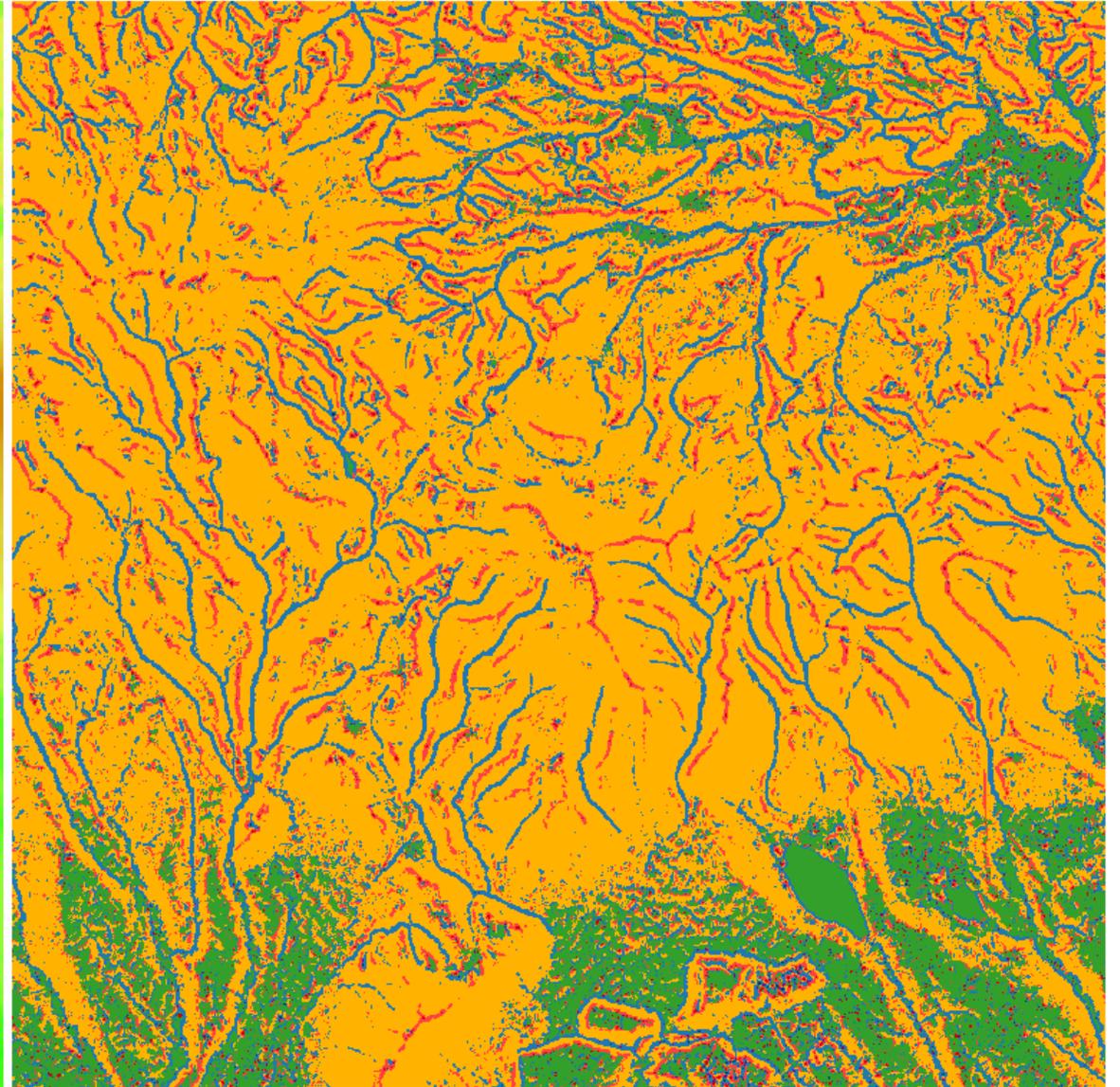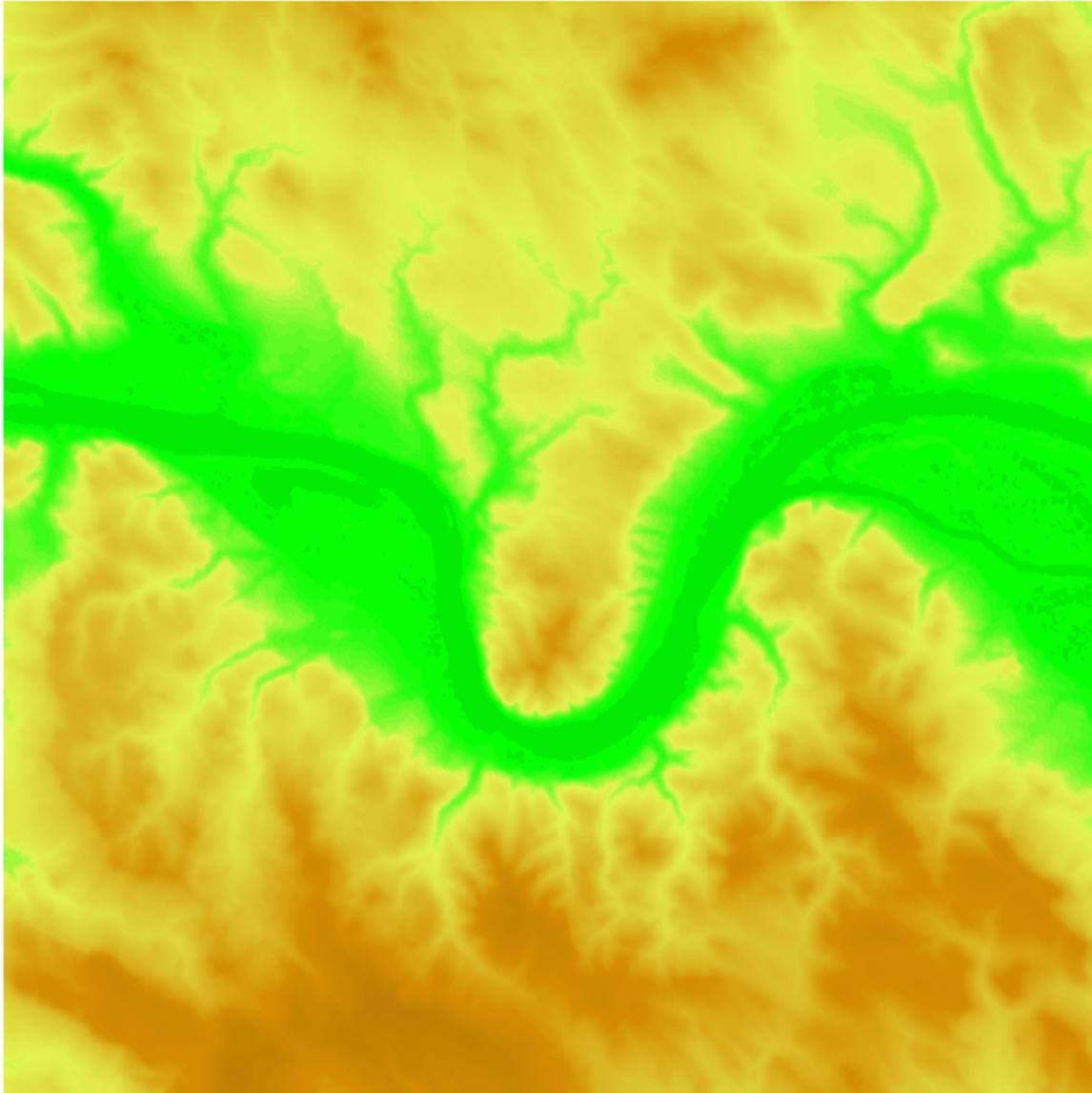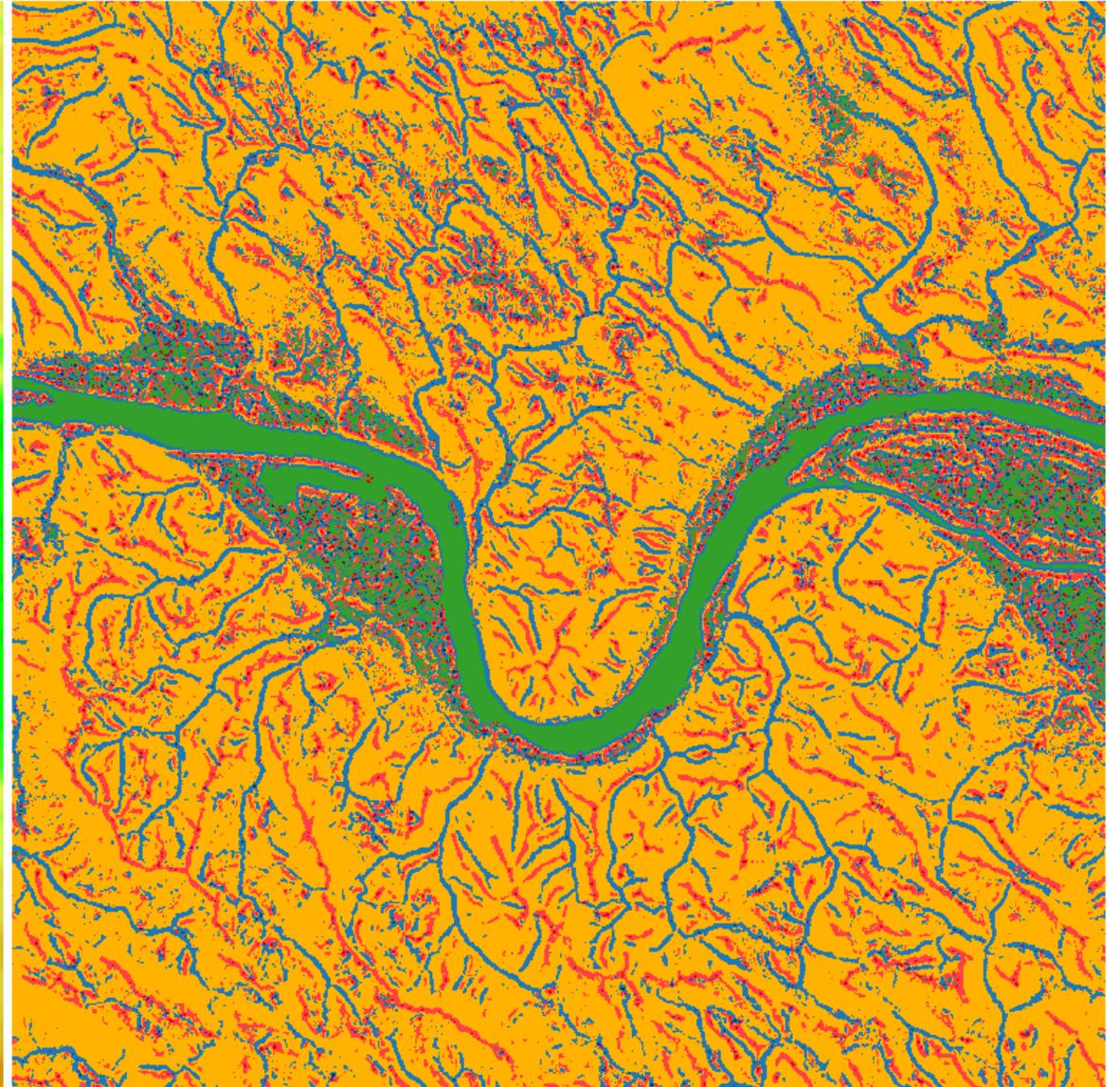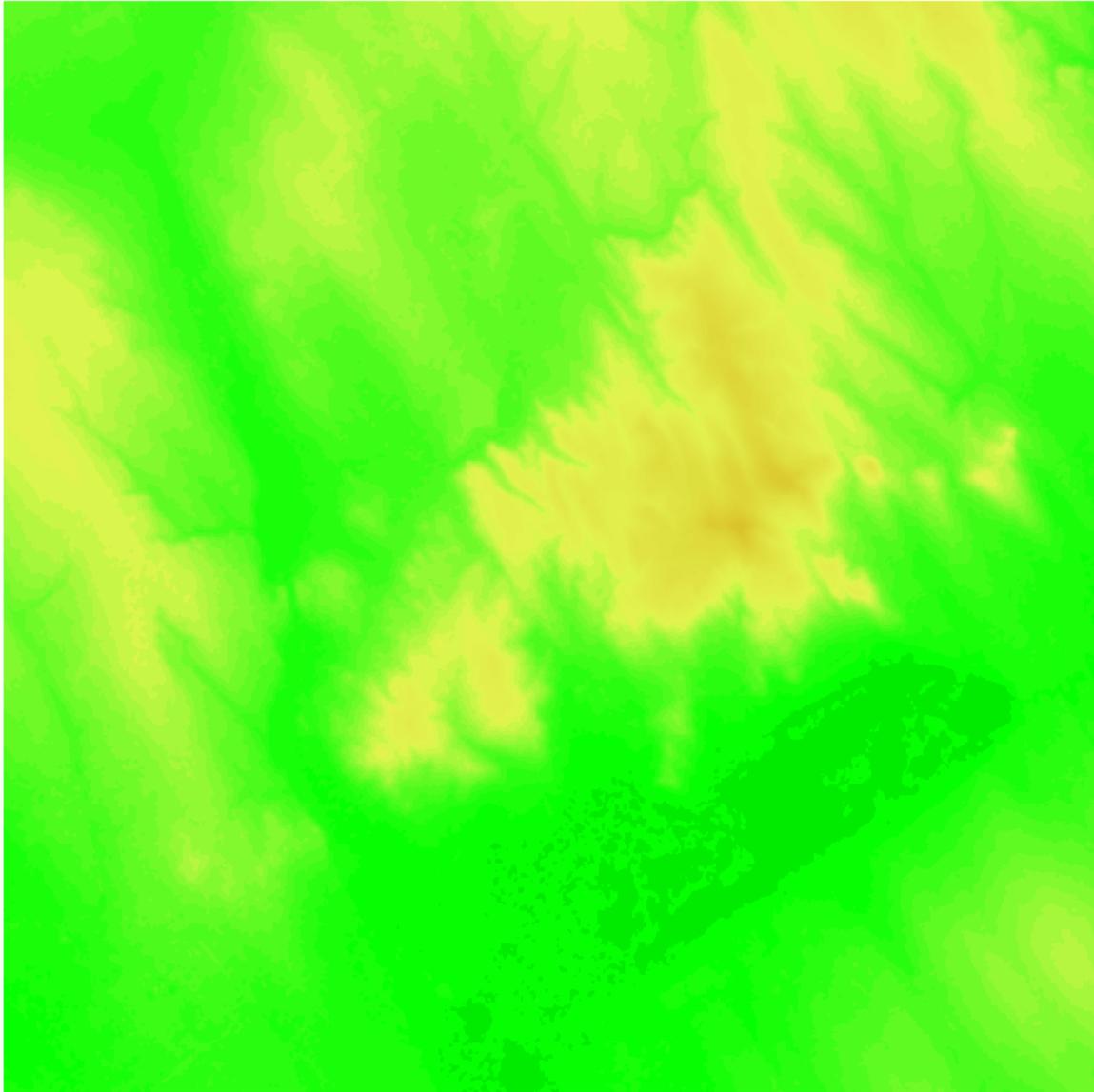

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Defuzzyfication

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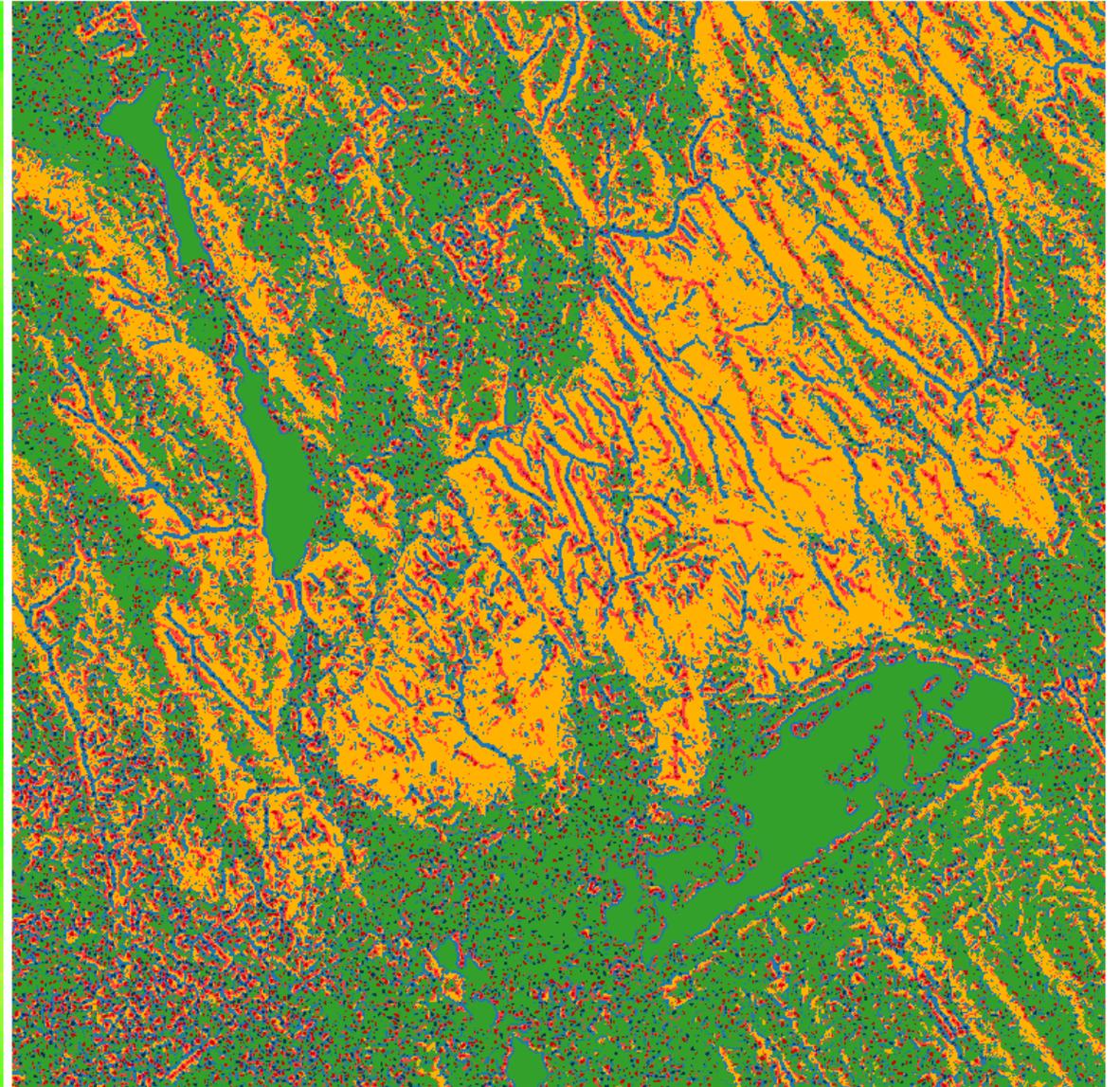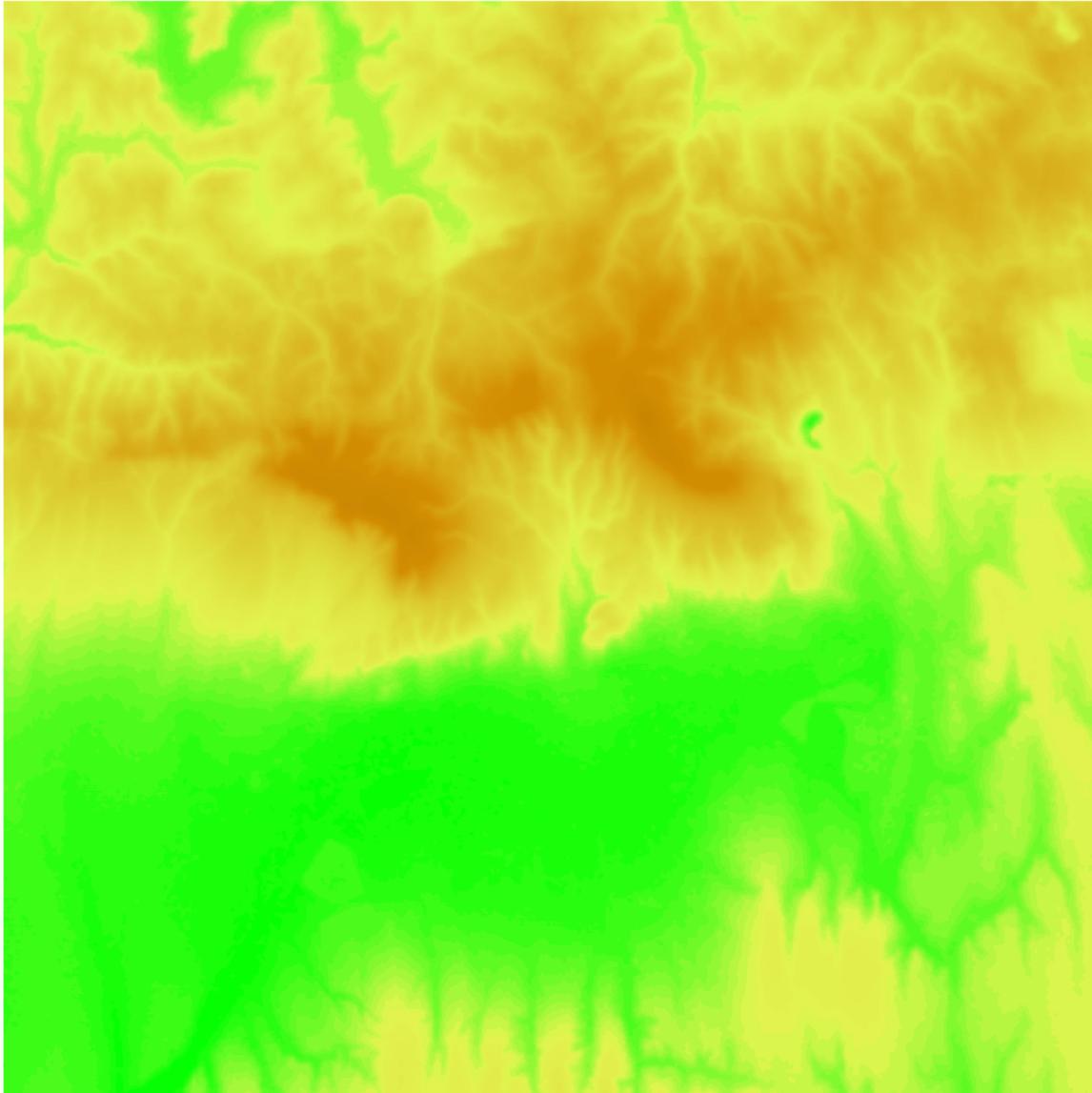
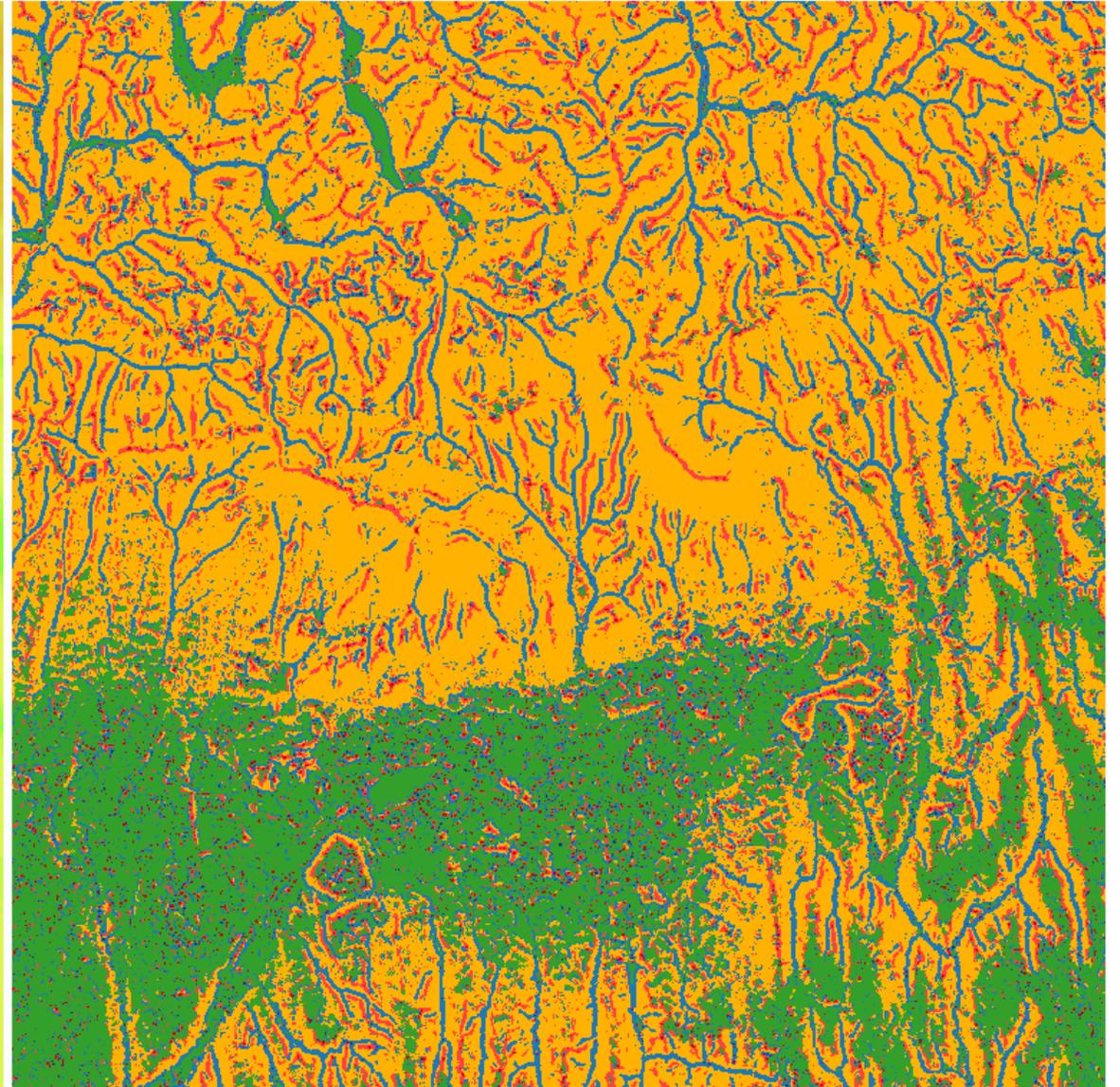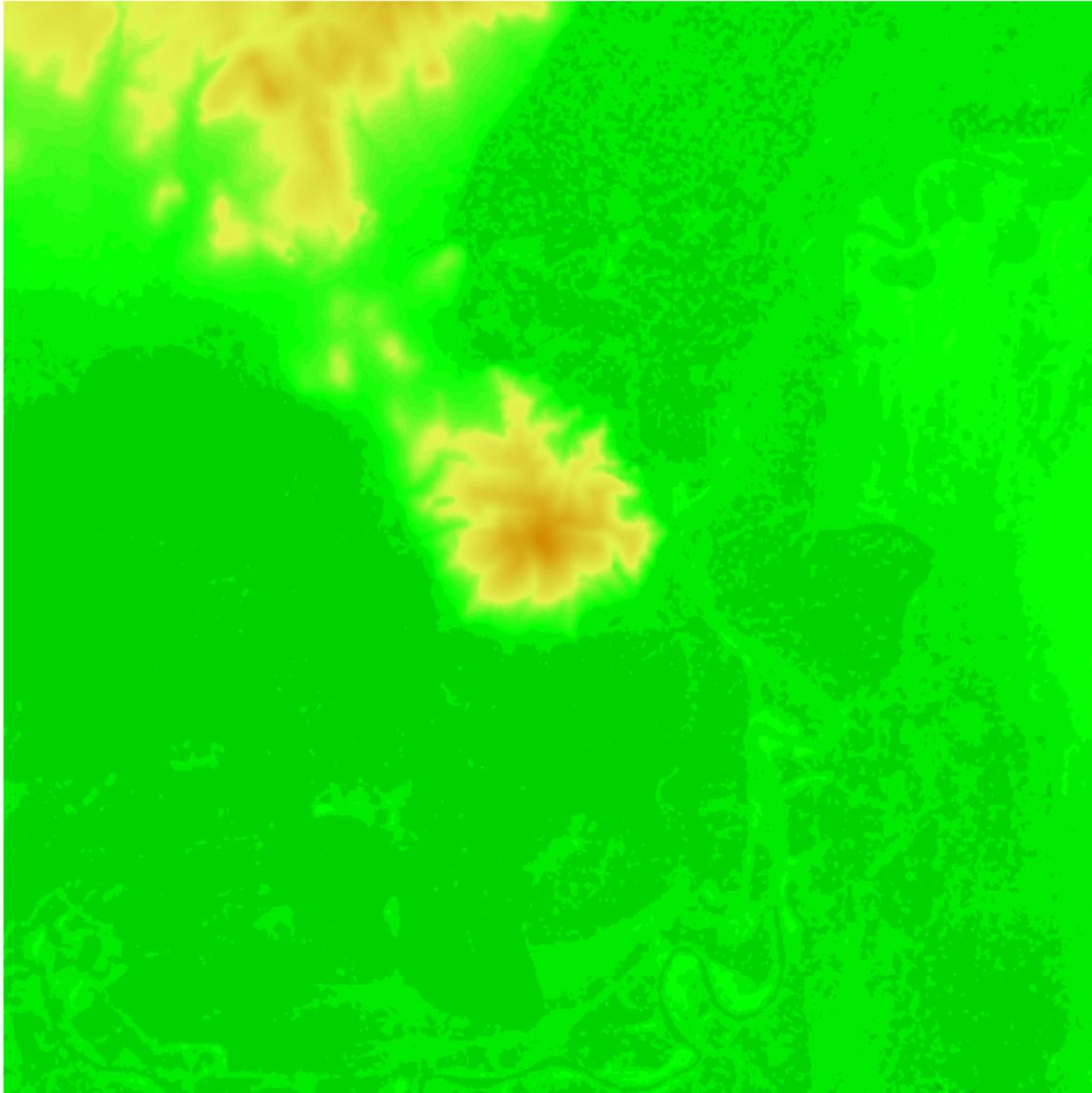

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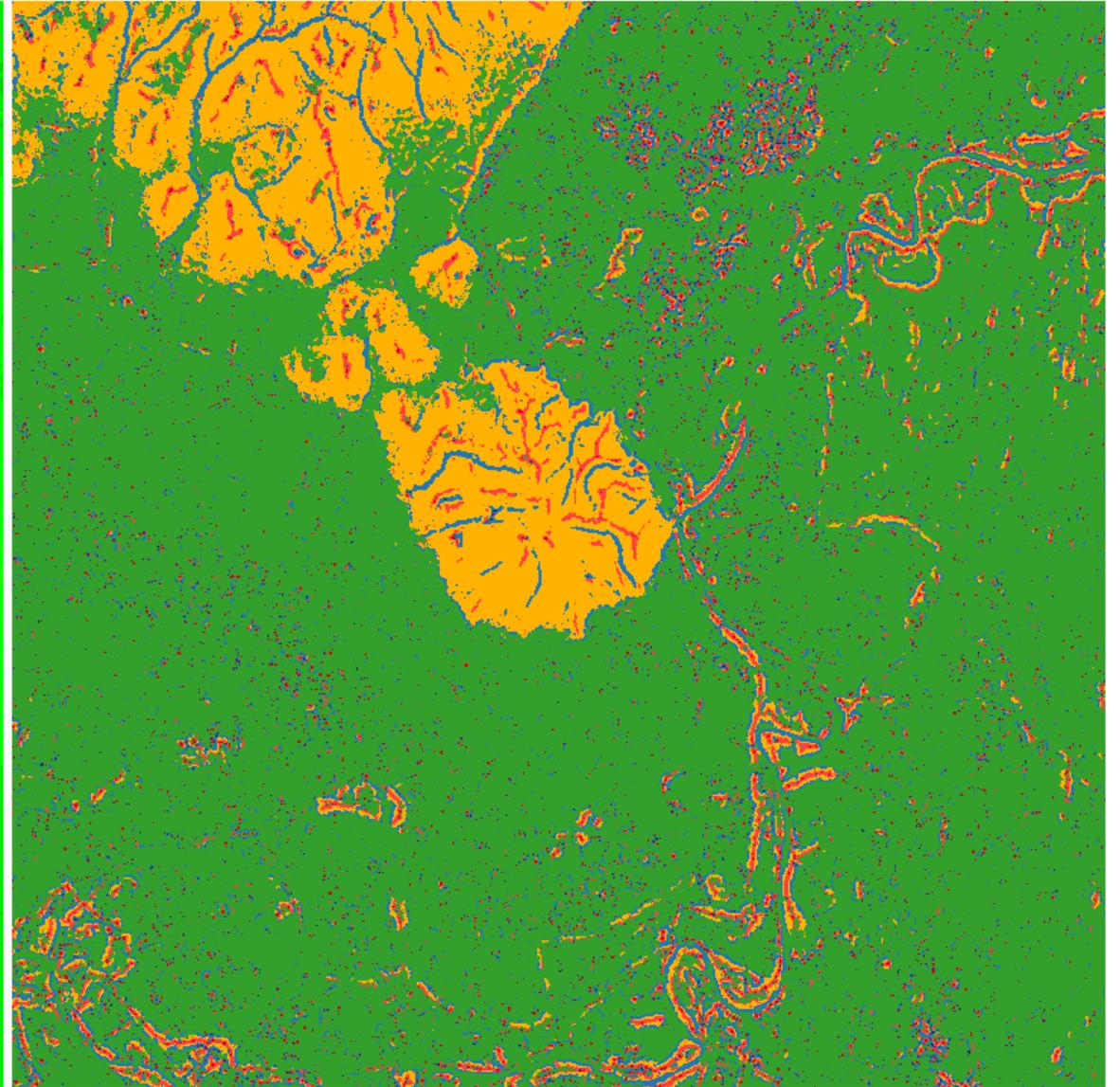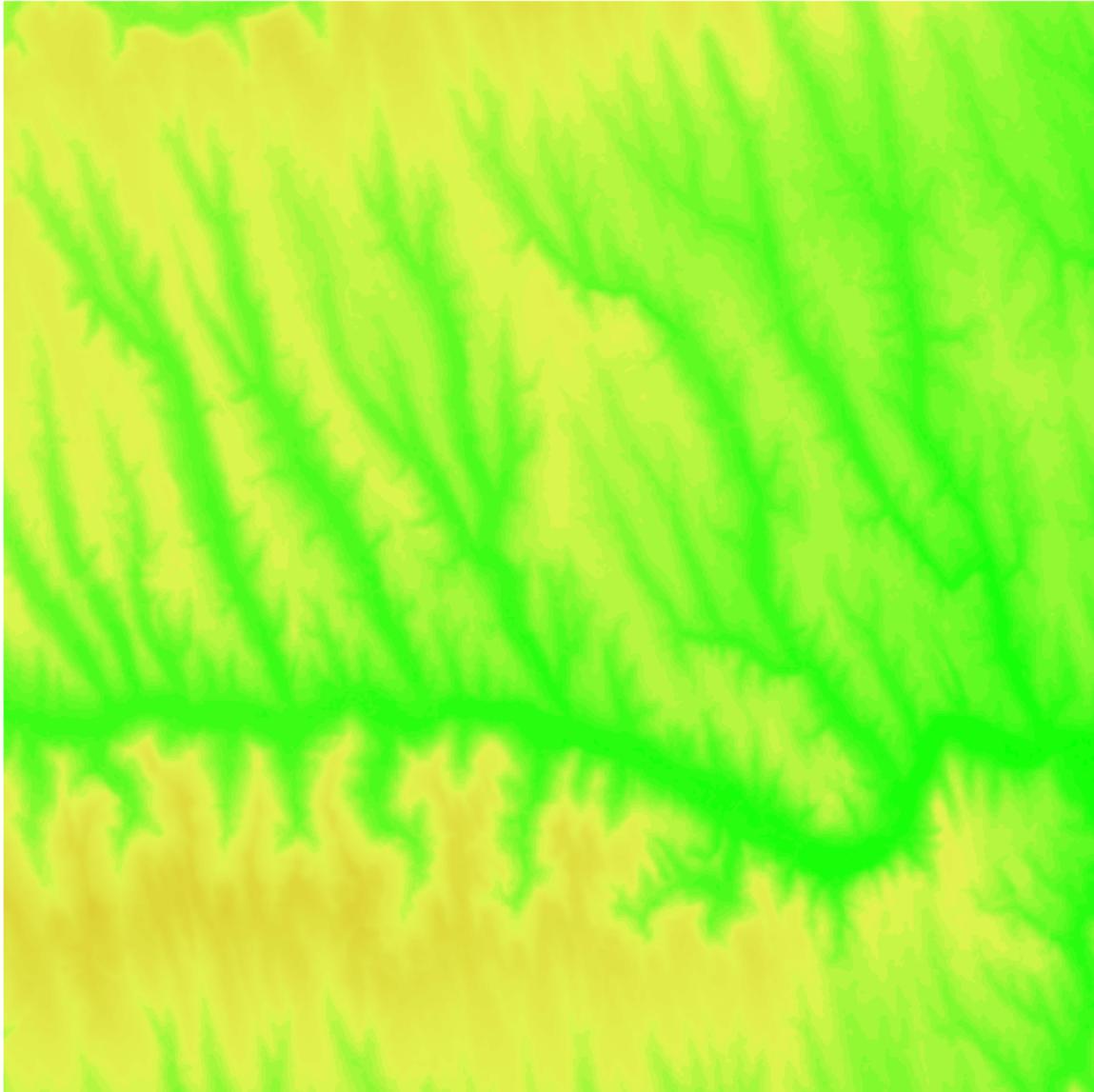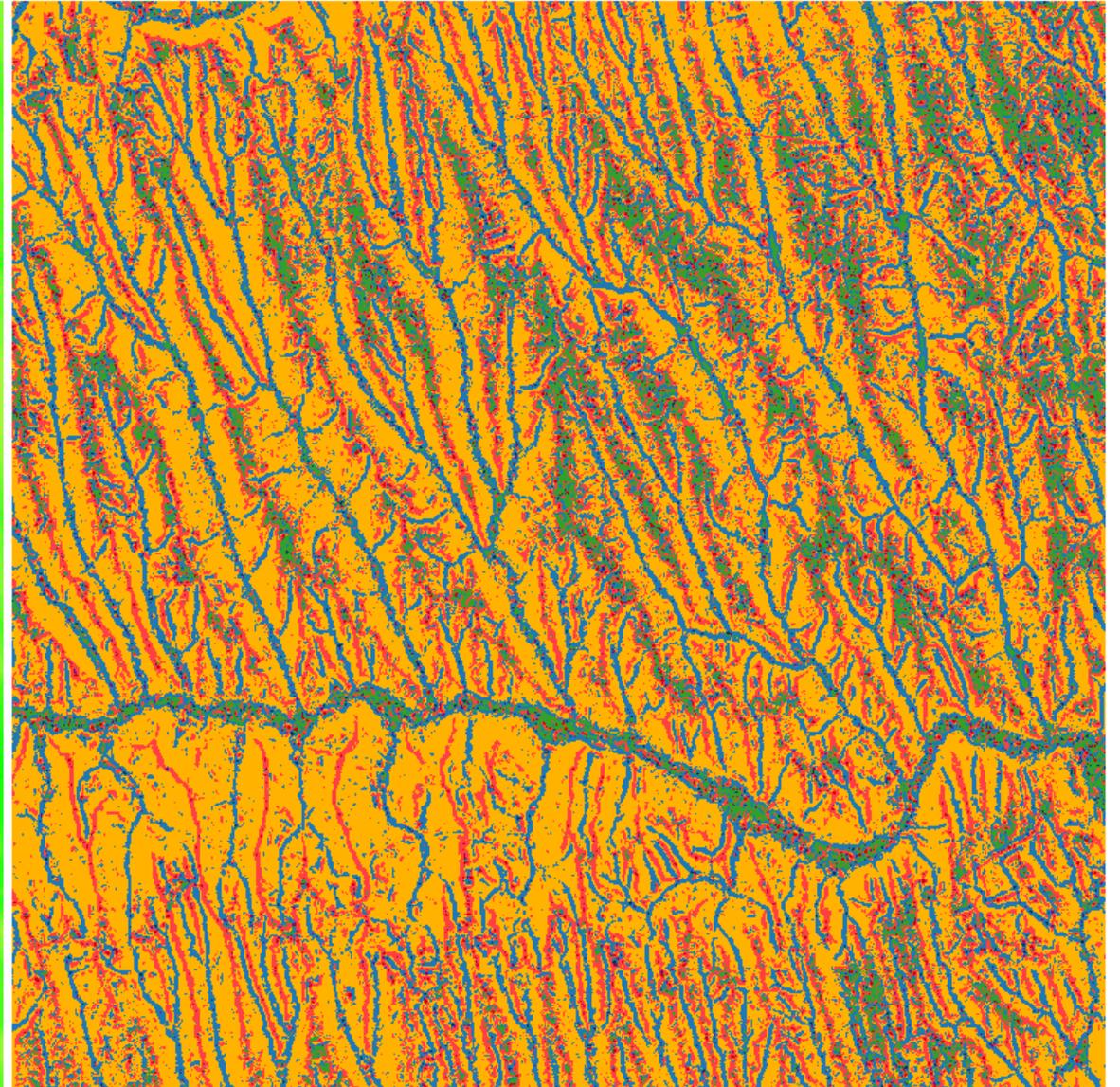
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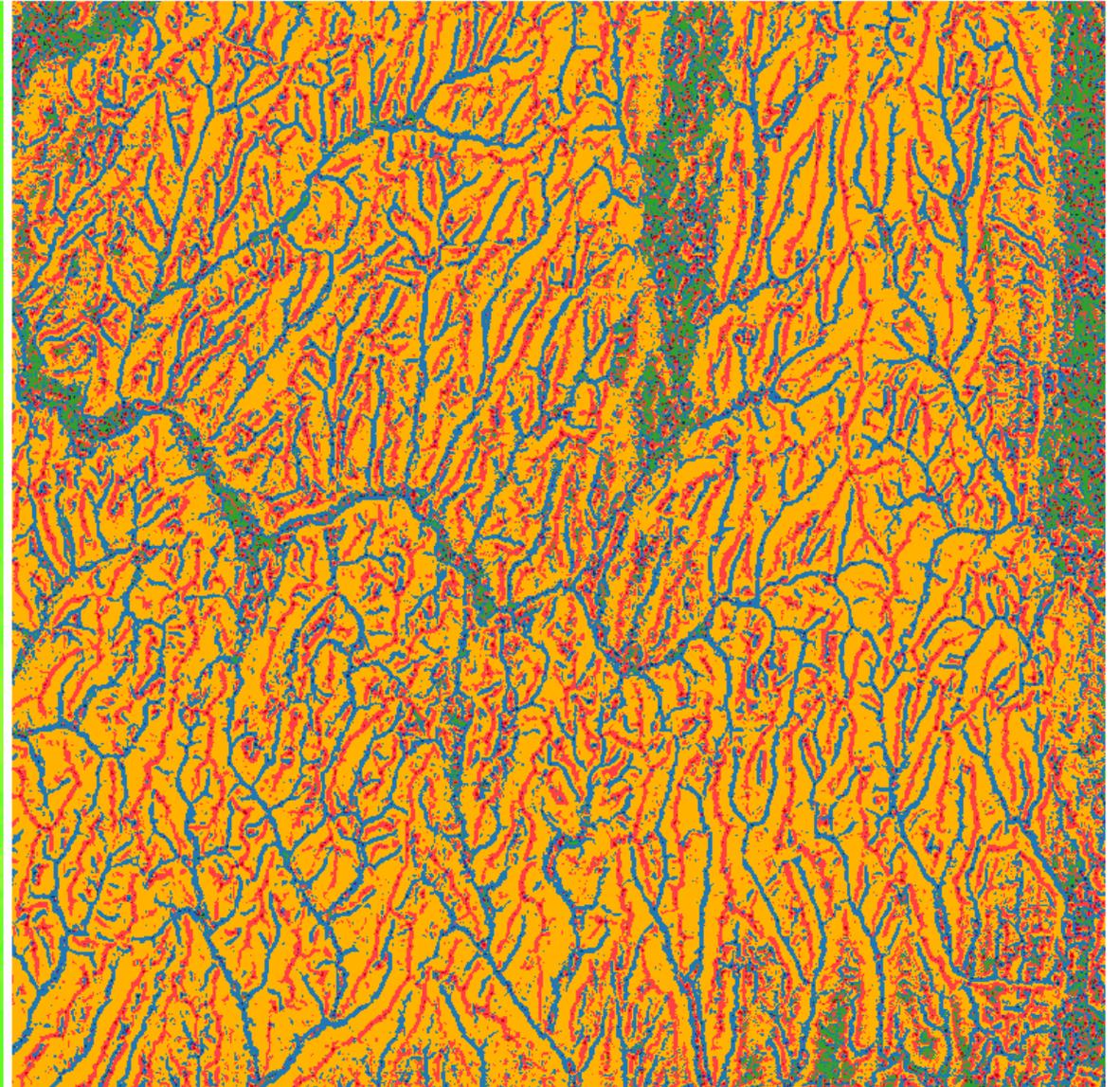
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