

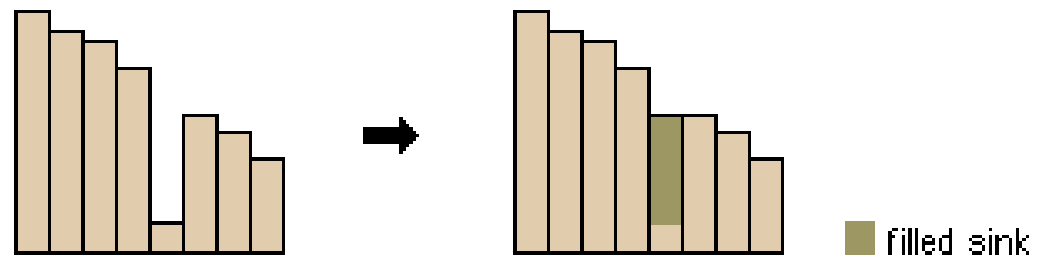
3a – HYDROLOGIE

I. Analysis Tools

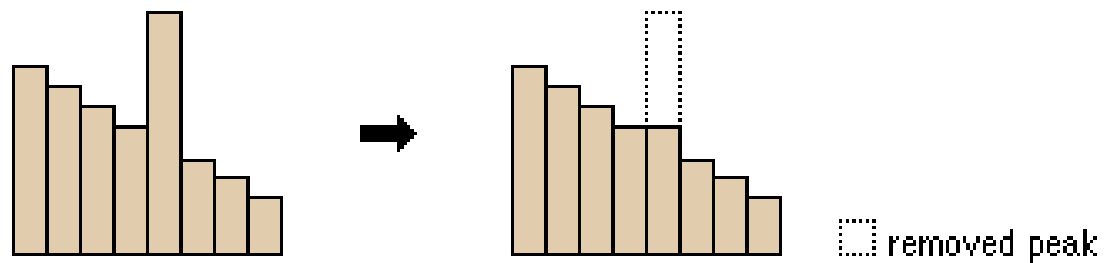
Tool	Description
Basin	Creates a raster delineating all drainage basins.
Fill	Fills sinks in a surface raster to remove small imperfections in the data.
Flow Accumulation	Creates a raster of accumulated flow into each cell. A weight factor can optionally be applied.
Flow Direction	Creates a raster of flow direction from each cell to its steepest downslope neighbor.
Flow Length	Calculates the upstream or downstream distance, or weighted distance, along the flow path for each cell.
Sink	Creates a raster identifying all sinks or areas of internal drainage.
Snap Pour Point	Snaps pour points to the cell of highest flow accumulation within a specified distance.
Stream Link	Assigns unique values to sections of a raster linear network between intersections.
Stream Order	Assigns a numeric order to segments of a raster representing branches of a linear network.
Stream to Feature	Converts a raster representing a linear network to features representing the linear network.
Watershed	Determines the contributing area above a set of cells in a raster.

Tools in the Hydrology toolset

LA Fill



Profile view of a sink before and after running Fill



Profile view of a peak before and after running Fill

I.B Flow direction

78	72	69	71	58	49
74	67	56	49	46	50
69	53	44	37	38	48
64	58	55	22	31	24
68	61	47	21	16	19
74	53	34	12	11	12

Elevation surface



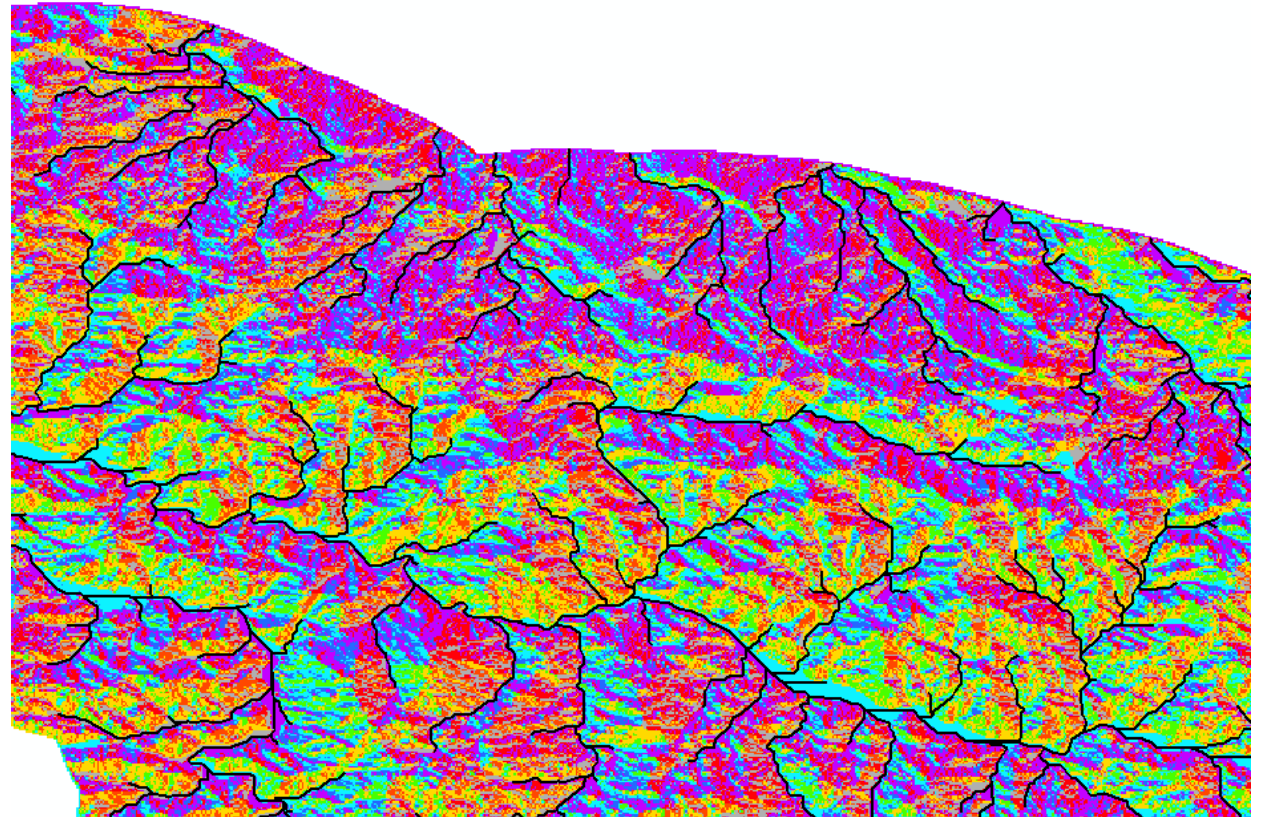
2	2	2	4	4	8
2	2	2	4	4	8
1	1	2	4	8	4
128	128	1	2	4	8
2	2	1	4	4	4
1	1	1	1	4	16

Flow direction

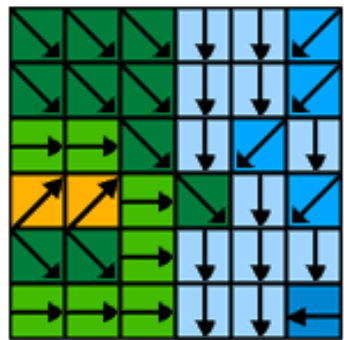
32	64	128
16	↓	1
8	4	2

Direction coding

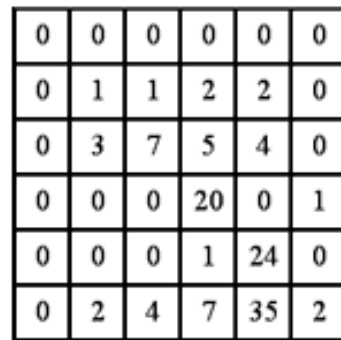
The coding of the direction of flow



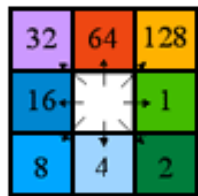
I.C Flow Accumulation



Flow direction



Flow accumulation

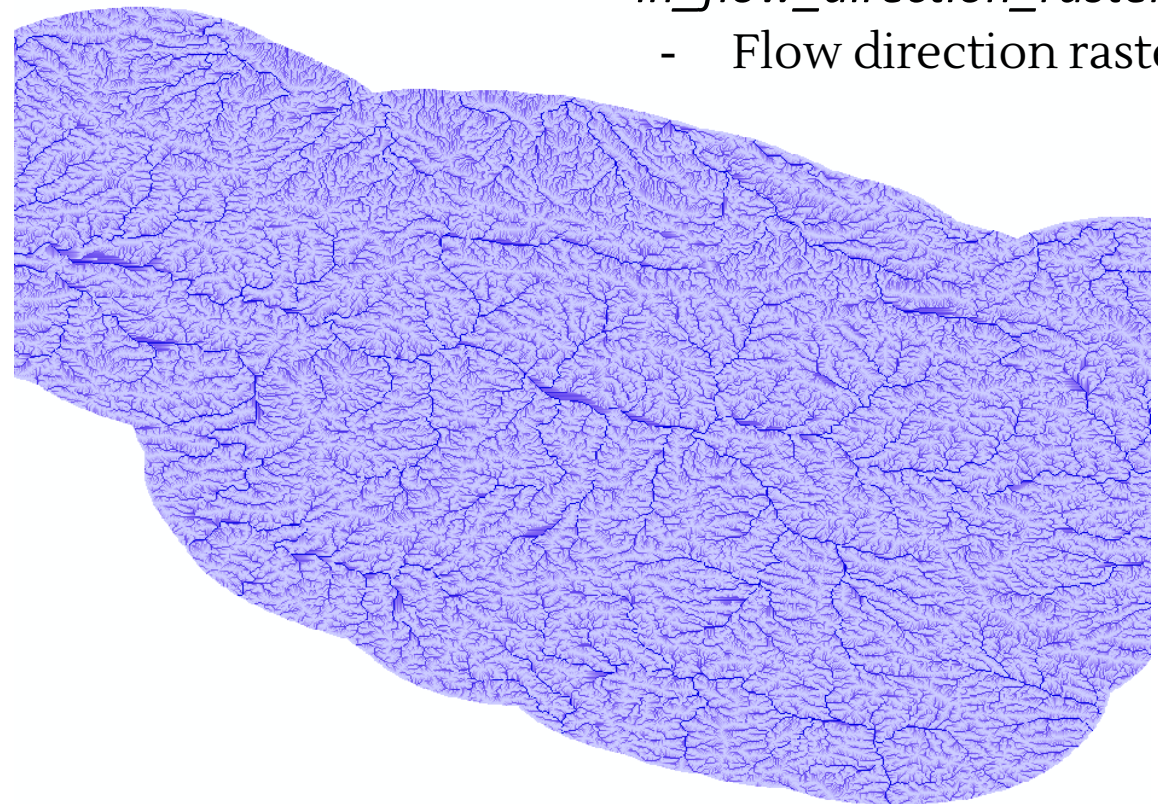


Direction coding

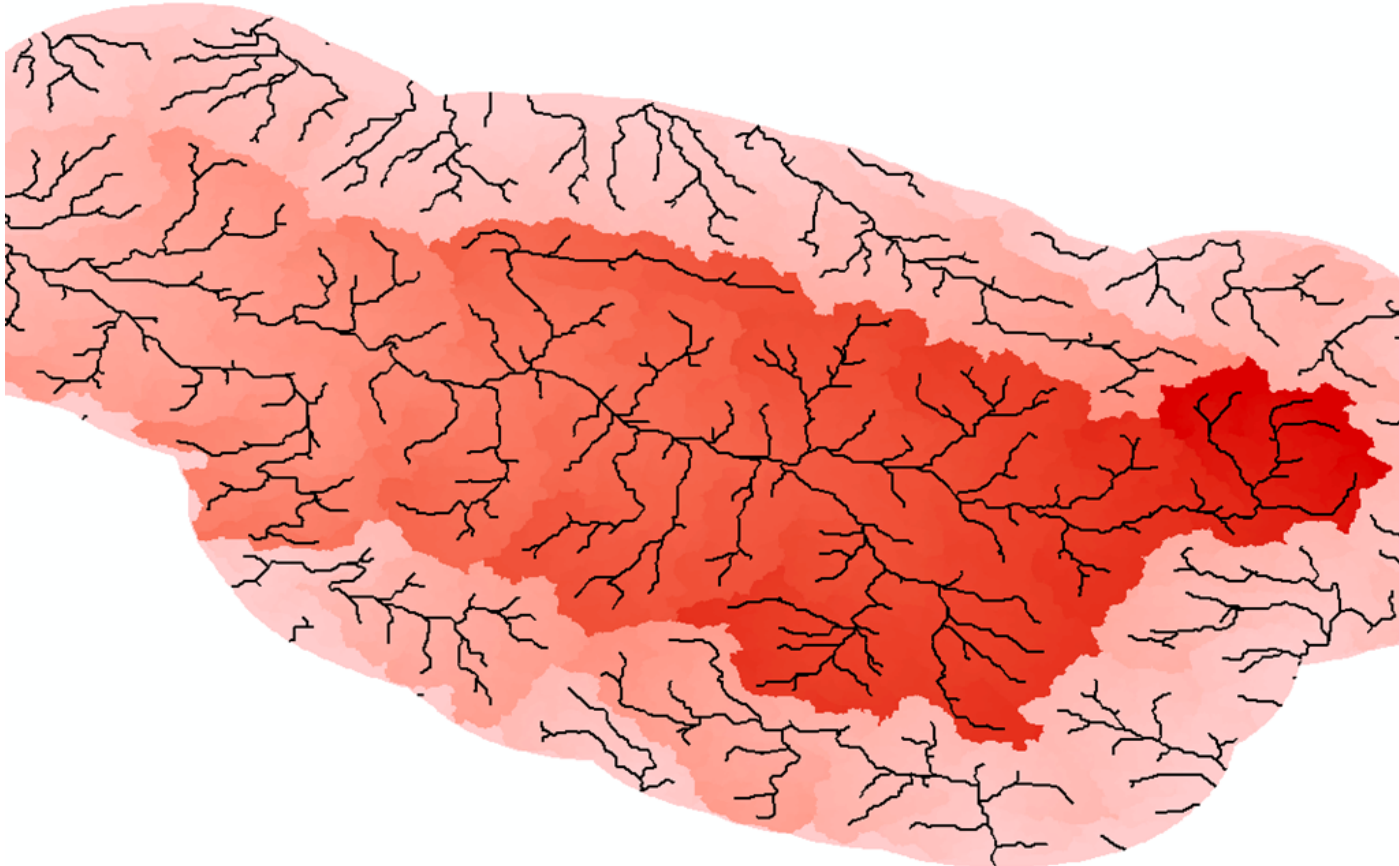
Determining the accumulation of flow

Vstup

- *in_flow_direction_raster*
- Flow direction raster



I.D Flow length



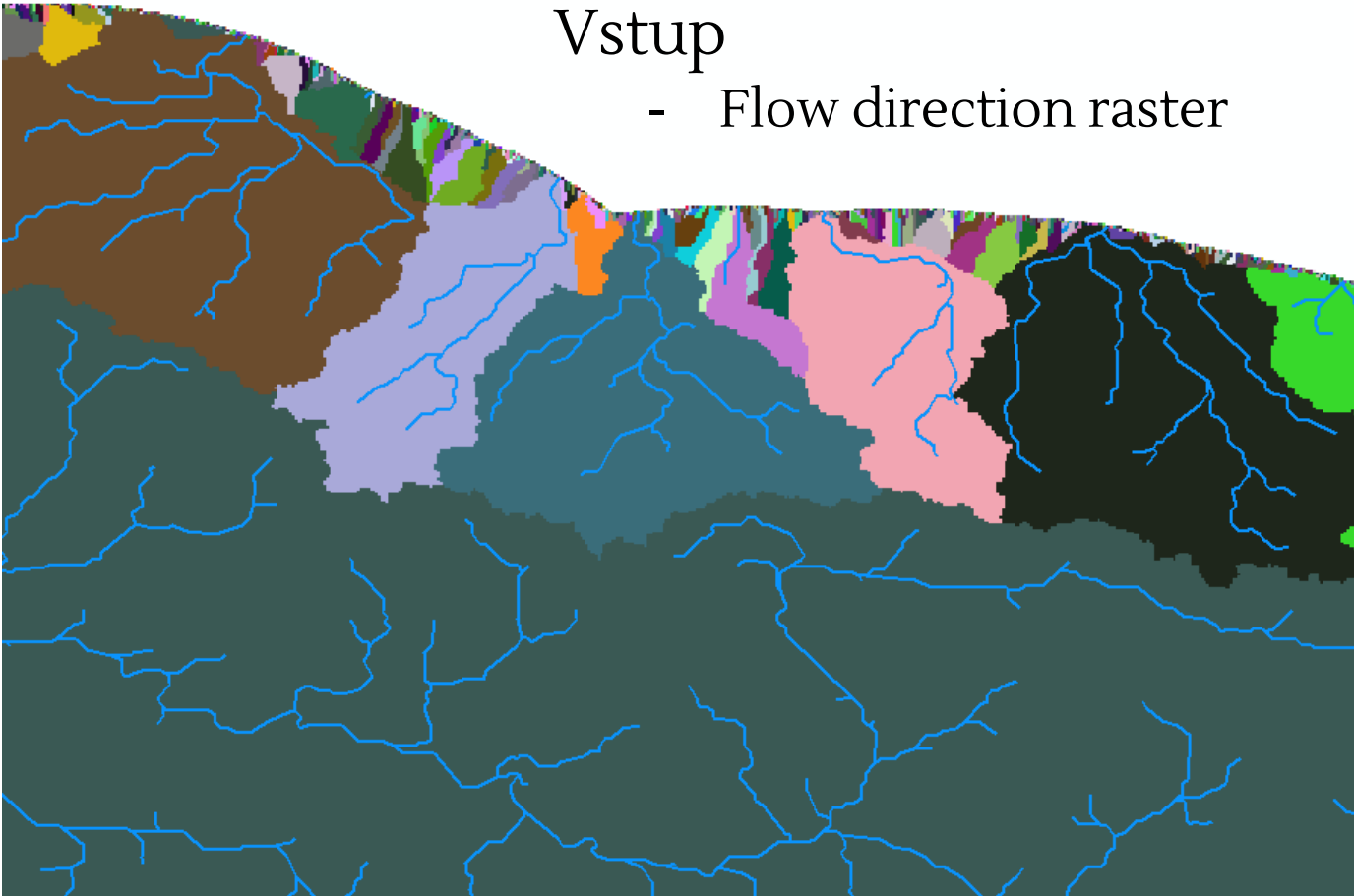
V_{stup}

- `in_flow_direction_raster`
 - Flow direction raster
- `direction_measurement`
 - Upstream/downstream
- `in_weight_raster`

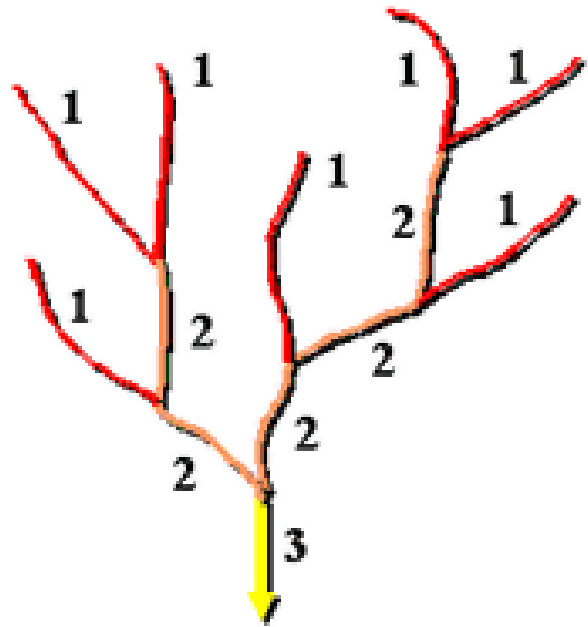
I.E Basin

Vstup

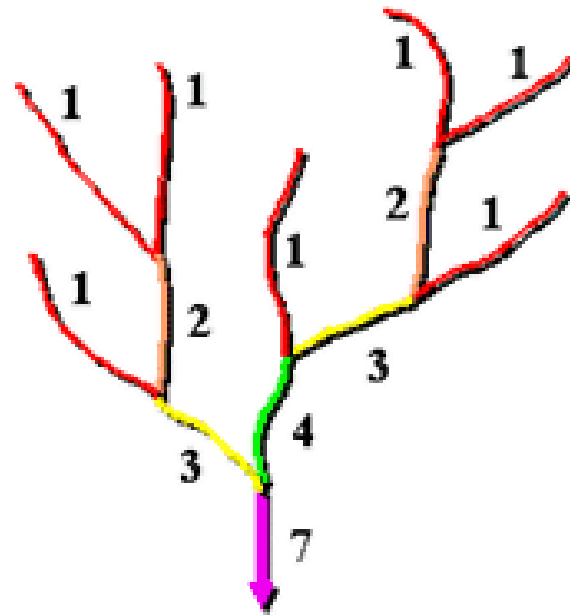
- Flow direction raster



I.F Stream Order



Strahler stream ordering method



Shreve stream ordering method

I.G Stream to Feature

Alternativa k *Raster to Polyline*

