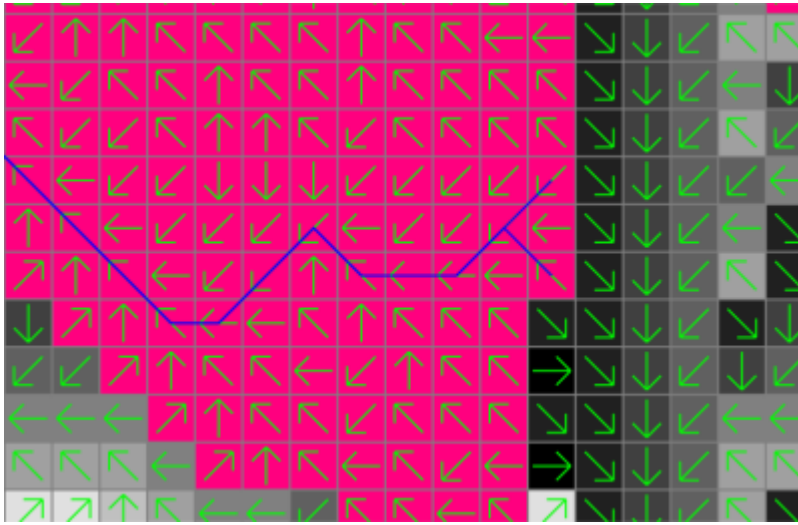


Efficient longest flow path algorithm

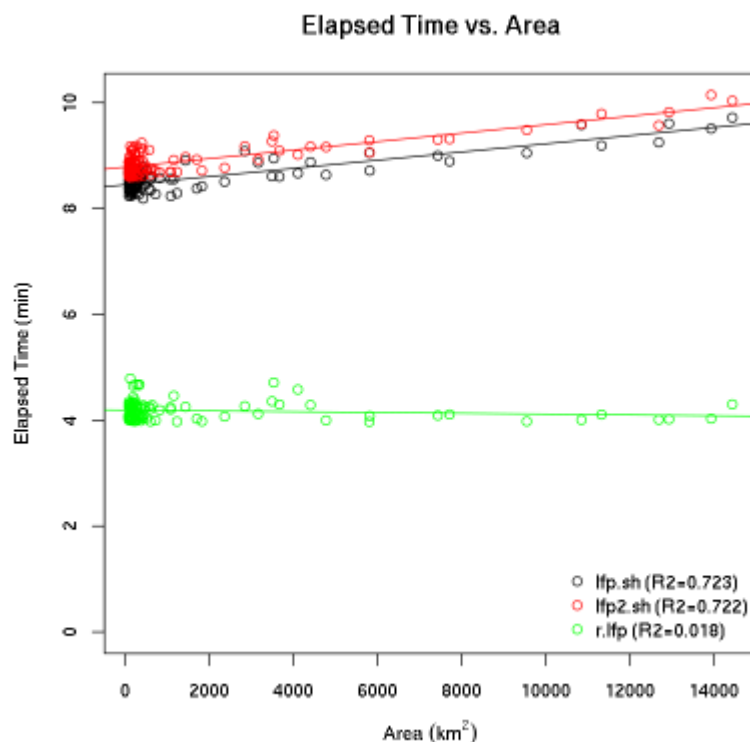


$\backslash \text{\def\LFP{\overrightarrow{\text{LFP}}}} \text{\def\FP{\overrightarrow{\text{FP}}}} \text{\def\FL{\text{FL}}}$
 $\text{\def\DFL{\text{DFL}}} \text{\def\UFL{\text{UFL}}} \text{\def\LFL{\text{LFL}}}$ $\backslash$

A flow path $\text{\FP}_i$ is a watercourse between a pair of two points i within a watershed and the longest flow path $\text{\LFP}$ is defined as

$\backslash \text{\LFP} \text{in} \left\{ \text{\FP}_i; \text{\middle\vert}; \text{\left\|FP}_i \text{\right\|} \text{\right\} \text{\right\} \text{\geq} \left\{ \text{\left\|FP}_j \text{\right\|} \text{\right\} \text{\right\} \text{\forall} j \text{\neq} i \text{\right\} \backslash$

The longest flow path plays an important role in hydrologic modeling, but its computation requires multi-step raster calculations for each watershed. This research project aims to improve the current process and efficiency of computing the longest flow path for a lot of watersheds.



Method	lfp.sh	lfp2.sh	r.lfp	Coming soon
Elapsed time	3h 48m	9h 8m	6h 46m	56s

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Last update: **2020-01-07 05:09 pm**

