**Submission notes**

There are numerous issues with the algorithm that need to be addressed. Need to make it very clear that this is making a contribution to science. Definitely needs more rigorous testing before I can submit it. Ideally, should do a test all the way from basin delineation through running the routing model. Can use Livneh et al. (2013) VIC outputs to run the routing model. You're definitely going to want to show that you can run the UW routing model with the corrected flow directions. Better yet, show that it does a good job reproducing measured discharge.

Can test the code for the following cases:

Made-up test basin - shows what elements can be plotted, and how FDT can be used to adjust the flow direction for individual grid cells. Could go all the way with this example (running VIC), but then we would need to set up a realistic "fake" VIC setup.

Upper Tuolumne Basin - shows 30 arc-second flow direction map for the UT basin and how the river network can be used to automatically adjust the flow directions to match the river network. This test case is interesting because we've actually run VIC for this domain, but at 1/16 degree resolution, the flow direction map is essentially the same as the 30 arc-second map. There appears to be no need to adjust the flow direction map.

Upper Indus Basin - shows how 30 arc-second and 1/16 degree basin delineations can look different. It turns out that the coarse resolution delineation is actually more accurate that the fine resolution delineation, in this case. See Khan et al. (2014) for a discussion of the true shape of the UIB. There is no need to adjust the flow direction map to better match the fine resolution map because the coarse resolution map is already quite good. For the sake of demonstrating FDT, it could be used to add successive (spurious) portions of the UIB by adjusting the flow direction at each of the critical points discussed by Khan et al. (2014). We have run VIC for this domain, so the results could potentially be used in a paper.

**Notes on the journal: Environmental Modelling and Software**

Goal: to improve our ability to understand environmental systems and communicate these improvements to a wide scientific and professional audience.

EIC: D.P. Ames, Brigham Young University

Guidelines: clearly state the objective of your software, report on the steps of the software development (approach selected, testing, evaluation). Briefly review and cite historical progress made for the problem, show how your work adds value. Focus on more recent articles in literature review. Must have software and data availability.

Types of articles:

* Short Communication: 3000 words or fewer. Supplementary material (software demos, additional tests) can be posted in electronic form.
* Review Articles: contact the editors if interested in writing a review.
* Introductory Overviews: provides concise topic overview to a wide audience. These are by invitation only.
* Research Articles: improve the state of the art.
* Position Papers: summarizes the state of the art
* Commentaries: short articles commenting on previously published work
* Book Reviews: short articles introducing books

Provide names of up to five potential reviewers. Here are some ideas:

1. Dai Yamazaki
2. David Tarboton
3. Oki
4. Lehner
5. Olivera
6. Wu
7. Nijssen

Preparation of article: LaTeX and MS Word are both acceptable. Submit via Elsevier Evise. Figures can just be in the PDF for first submission, but they will have to be uploaded as separate, high-quality files in the final submission. Figures must be embedded in the text at the appropriate location, with captions below the figures or tables. LaTeX template elsarticle.cls is encouraged. BibTeX for bibliography (though I will probably just use Biblatex, if I use LaTeX and not MS Word).

Suggested sections:

*Introduction*

*Methods*

*Results*

*Discussion*

*Conclusions*

*Appendices*

*Abbreviations*

*Acknowledgements - include author contributions here*

Formatting: Standard font, 1.5 spaces, page numbers, no line numbers.

There does not appear to be a length limit.