



R's role in geomorphometry and high resolution data handling

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An exponentially increasing amount of high resolution, quantitative data describing the shape and structure of the Earth surface demands for increasingly efficient and scalable software to handle it. Additionally, environmental research is rapidly moving towards openness and reproducibility as pillars of robust science. In data science, there is one software, R, which has gained paramount importance because it contributes to these demands and additionally offers the exceptional amount of more than 10,000 user-contributed packages, across-discipline acceptance as standard analysis tool, interfaces to all other major languages, and a gentle learning curve and buzzing user-driven support and tutorial realm.

This perspective PICO motivates the movement towards reproducible science and shows how R contributes its major avenues. It briefly reviews existing fields of application in terms of high resolution data-driven geomorphometry and modelling and opens up a discussion about emerging fields of future research and how R may play a role as essential tool to support direct analysis or linking and integrating other software and programming languages.