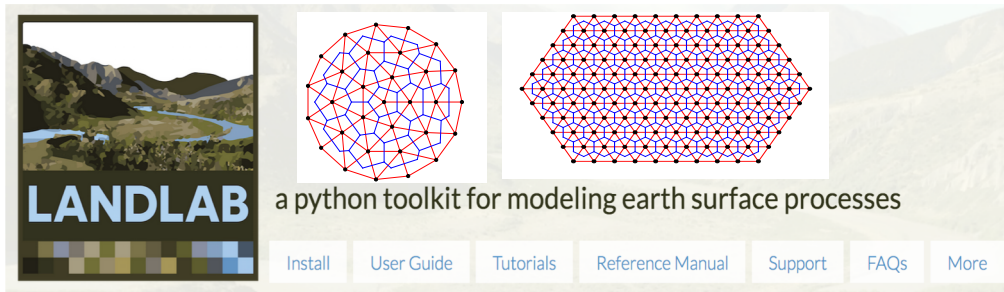




Collaborative Research: SI2-SSI: Landlab: A Flexible, Open-Source Modeling Framework for Earth-Surface Dynamics

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Institutions: University of Colorado, Tulane University, University of Washington

OAC #: 1450409,
1450412, 1450338

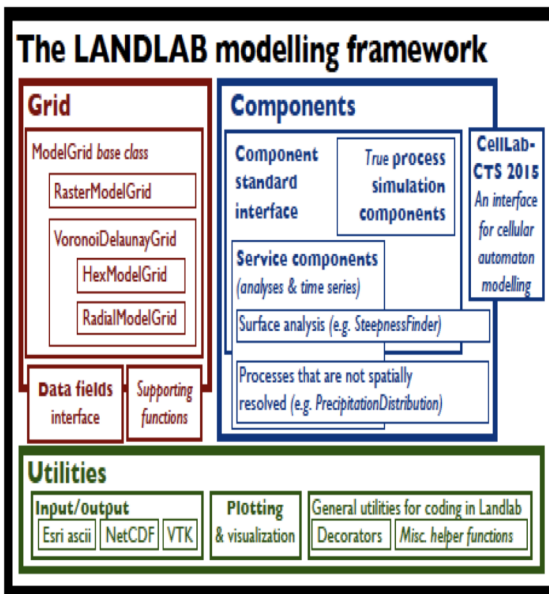


<http://landlab.github.io/#/>

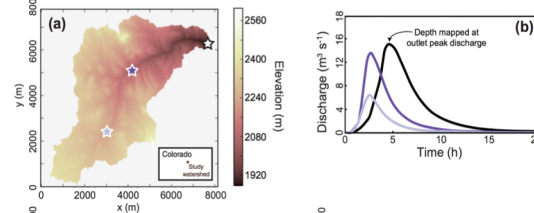
What is Landlab?

An open-source, Python-based modeling toolkit that helps geoscientists efficiently develop 2D grid-based numerical models by providing:

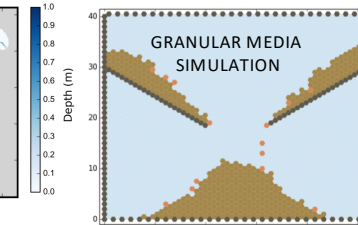
- **Gridding** functionality for creating different terrain representations and connectivity;
- A set of pre-built model **components**, each of which models a particular landscape process;
- A framework for developing **drivers** that combine components into multi-process models.
- **Visualization** tools



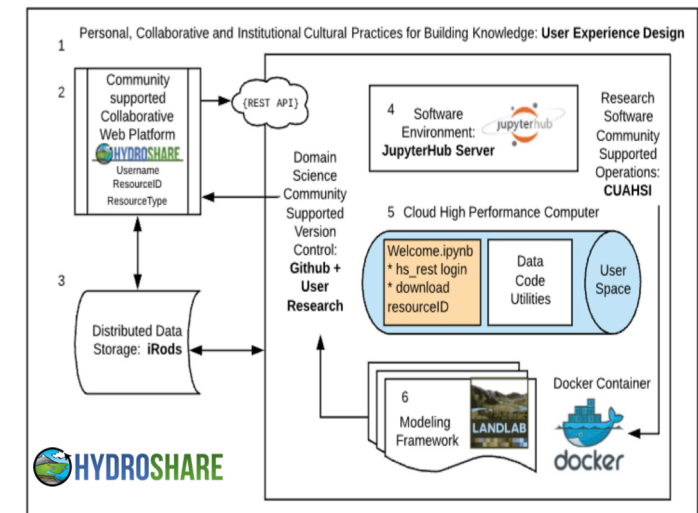
Flood routing (Adams et al., 2017)



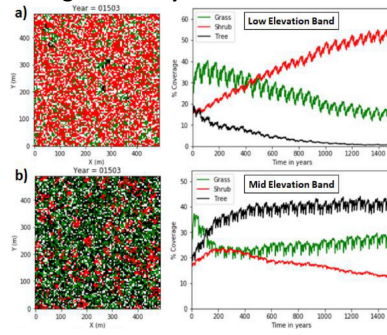
Cellular automata (Tucker et al., 2016)



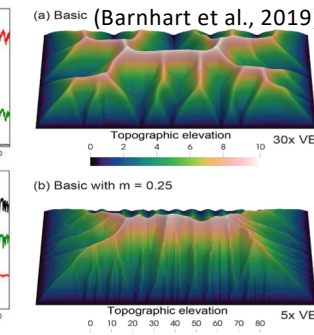
Cloud computing on Hydroshare (Bandaragoda et al., 2019)



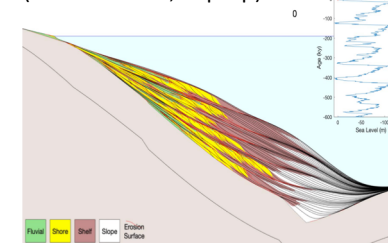
Vegetation dynamics



Landscape evolution



Basin stratigraphy (Steckler et al., in prep)



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