1146-65-445 **H B Matlock***, hbm2z@mtmail.mtsu.edu. *Mimetic Finite Difference Methods in Hydrology.* Preliminary report.

We investigate mimetic finite difference methods as applied to hydrological modeling. These methods involve directly translating a physical model into a discrete algebraic formulation, rather than discretizing a differential formulation. This gives them a flexibility that is useful when coupling different model components, as, for example, integrated surface-subsurface hydrological models (ISSHM). Mimetic methods can be applied at different scales, and utilize non-uniform grids and irregular triangular meshes. This makes them suitable for the integration of watershed-scale simulations with global hydrological models. (Received January 28, 2019)