



A review of the Budyko water balance framework: moving from a rich history to a bright future

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The Budyko framework is a widely used representation of the land water balance that describes the mean-annual partitioning of precipitation into streamflow and evaporation, as a function of the ratio of the atmospheric water supply (precipitation) to water demand (potential evaporation). The striking simplicity of this demand-supply relationship has served as a catalyst for understanding and prediction of water balance behavior. Here we provide an overview of progress made with the Budyko framework, from its beginnings to the extensive present day use. The framework's simplicity, timelessness and versatility make it a powerful scientific and engineering tool that provides a valuable contrast and addition to the plethora of highly parameterized models used to describe water balance behavior. However, we identify 10 key questions that need to be addressed to ensure a bright future for the framework where it can maintain spot on the forefront of hydrologic science and applications