Introduction of canopy component into Isopycnal-layered model for hydrological calculation

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Isopycnal-layered model (Kida and Yamashiki, 2014) was proven to be an innovative river-ocean interactive model capable for handling both land-ocean and ocean-land interaction without creating specific physical component. According to their modeling, calculated discharge at each subbasin showed good agreement with gauged data without making any specific adjustment. At the same time, the original model was, since established for oceanographic usages, no component was prepared to trace hydrological processes.
In this study, we introduced how to develop basic hydrological component in the model and performed several testing calculation comparing the original model output and revised model scheme. The infiltration ratio and storage ratio in each canopy is set and included in hydrological processes in forest zone.
By introducing this basic hydrological component, this Isopycnal-layered model can be applicable for all different basins with minimum requirement (DEM and Land-use), which may facilitate significantly for the continental-oceanic integrated calculation.

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