

Forests can affect floods & droughts by:

- Reducing the volume of water at source by **increasing evaporation** (\downarrow flood, \uparrow drought);
- Slowing down runoff from the land to rivers by **increasing soil infiltration** (\downarrow flood, \downarrow drought);
- Enhancing water storage on the floodplain and delaying the flood peak by **increasing hydraulic roughness** (\downarrow flood, \downarrow drought);
- **Reducing sediment delivery** and siltation, increasing downstream conveyance (\downarrow flood, \downarrow drought).



Factors influencing effectiveness:

- Catchment size - scale and location of forest in relation to those impacted by flood or drought;
- Catchment hydrology/response – nature of event, topography, soils, geology, existing land use and management;
- Forest design, e.g. in terms of type, age, shape and structure;
- Forest management, including scale and timing of practices such as cultivation, road/track construction, felling and riparian interventions;
- A matter of the right tree in the right place and sustainably managed!