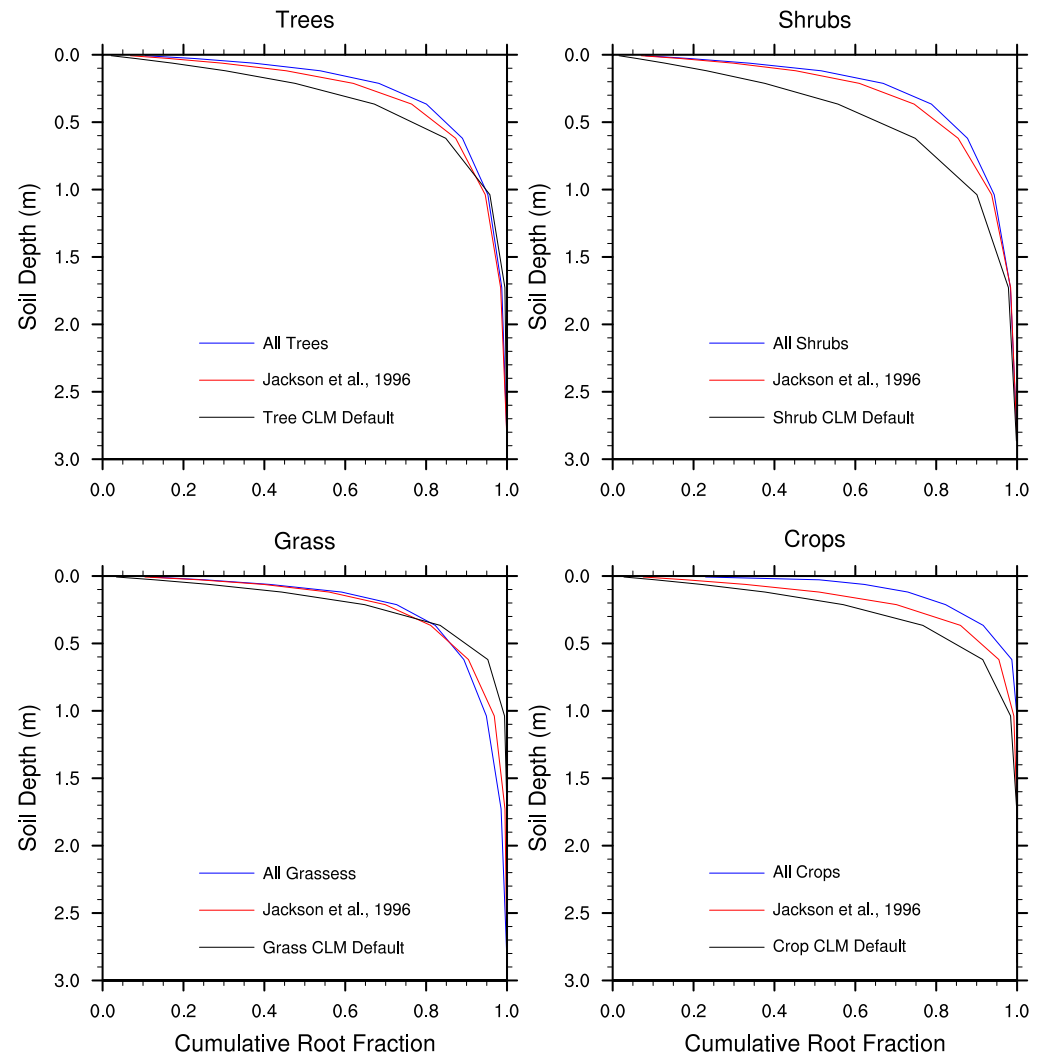
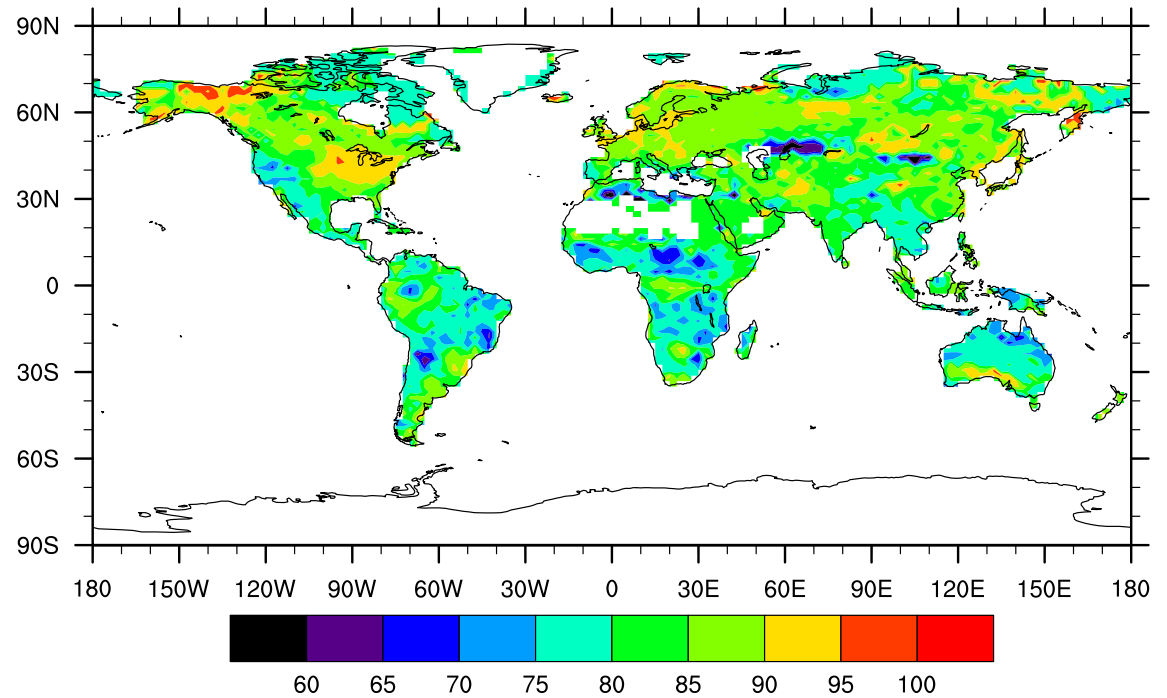


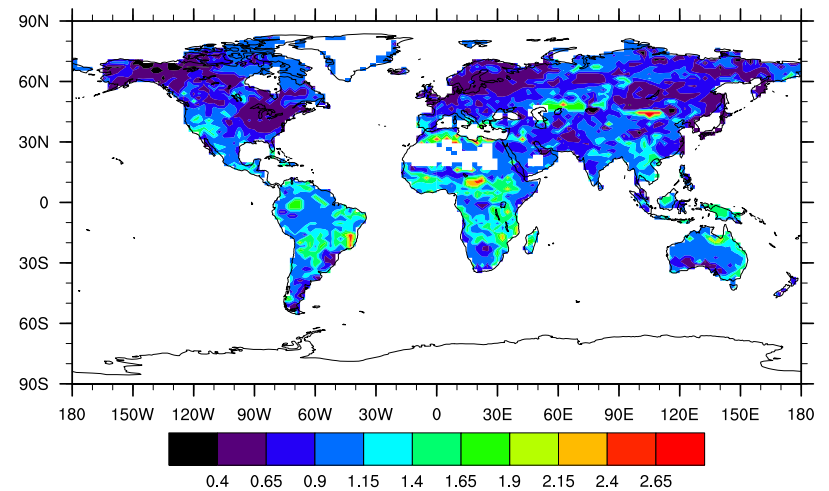
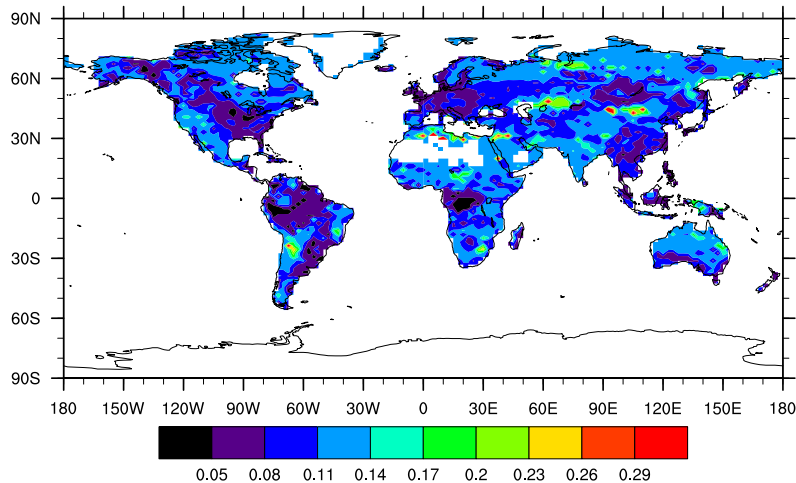
Average cumulative root fraction aggregated across PFTs compared with observations, and the default CLM root configuration. Overall, model performs better compared to the Jackson et al., 1996 rooting profiles than the default profile.



Jackson, R. B., Canadell, J., Ehleringer, J. R., Mooney, H. A., Sala, O. E., and Schulze, E. D.: A global analysis of root distributions for terrestrial biomes, *Oecologia*, 108, 389-411, 1996.

Dynamic root model captures 50% of roots above 30 cm in agreement with observations (Jackson et al., 1996).





Left: Soil depth (m) above which 50% of root biomass exists, with a mean of 0.10 m. Observations indicate average depth of 50% of root mass is 0.18 m (Schenk and Jackson, 2002). Shallowest profiles are in croplands, some meadows and prairies, deeper profiles are found in deserts.

Right: Same as left except for 95% root biomass, with a mean depth of 1.00 m. Observations indicate average depth of 95% root biomass is at 1.2 m (Schenk and Jackson, 2002). Regions with higher precipitation result in shallower depth where 95% root biomass is found. In general the depth decreases with increasing latitude. Dry tropical savannas have a majority of root biomass found in deeper soil depths.

Schenk, H. J., and Jackson, R. B.: The global biogeography of roots, *Ecological Monographs*, 73(3), 311-328, 2002.