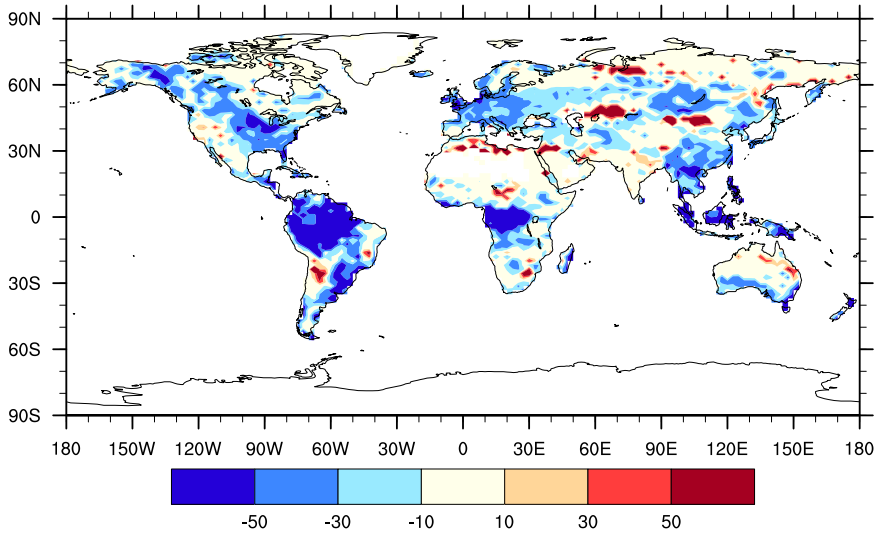
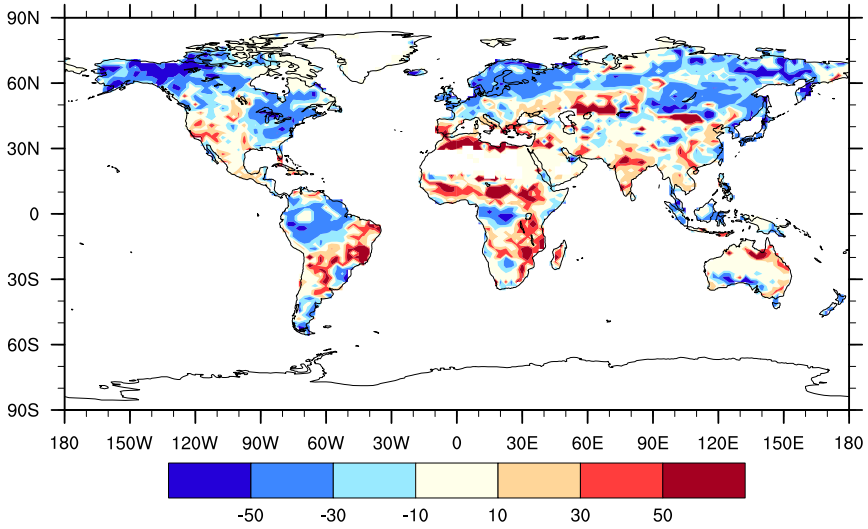
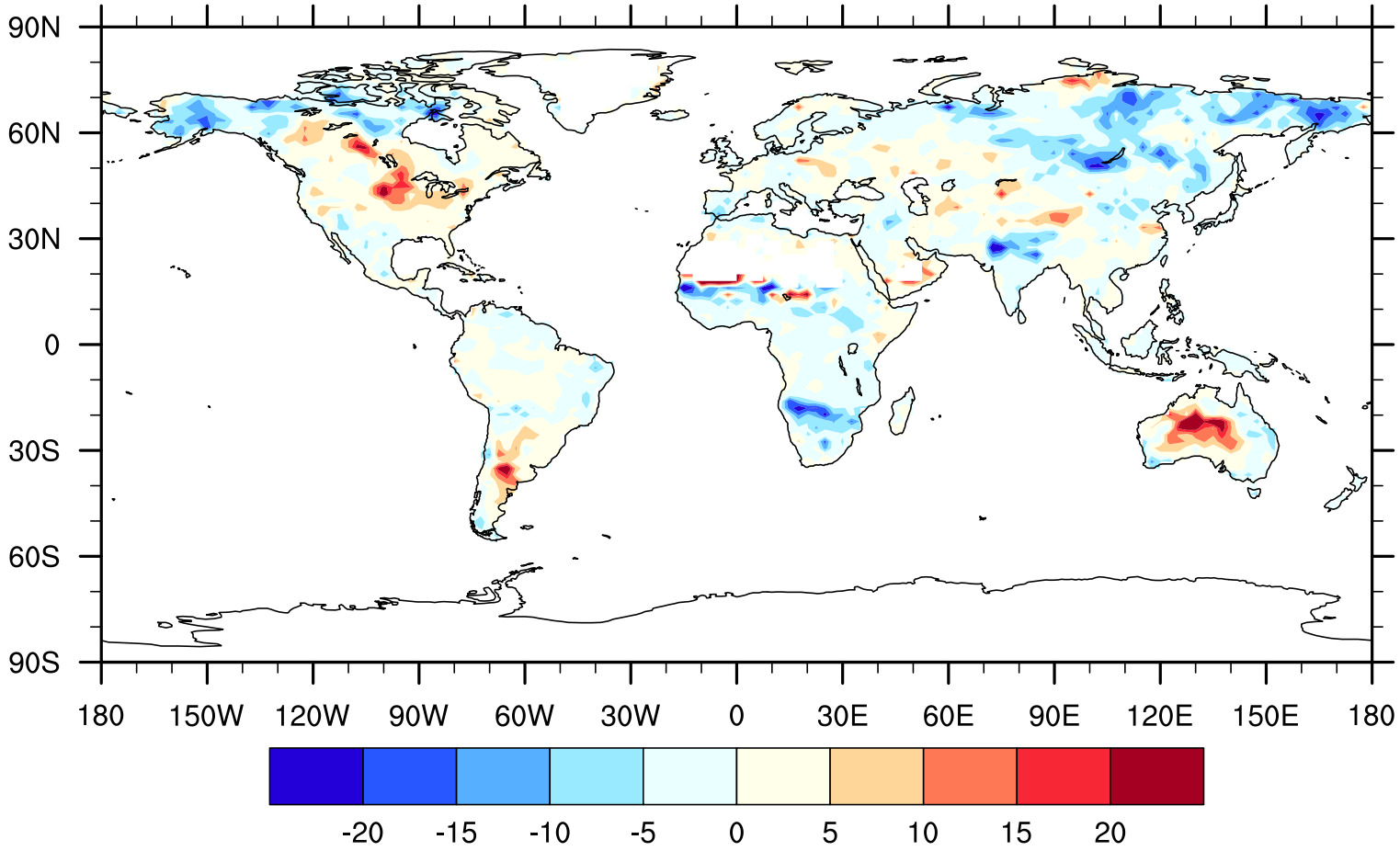


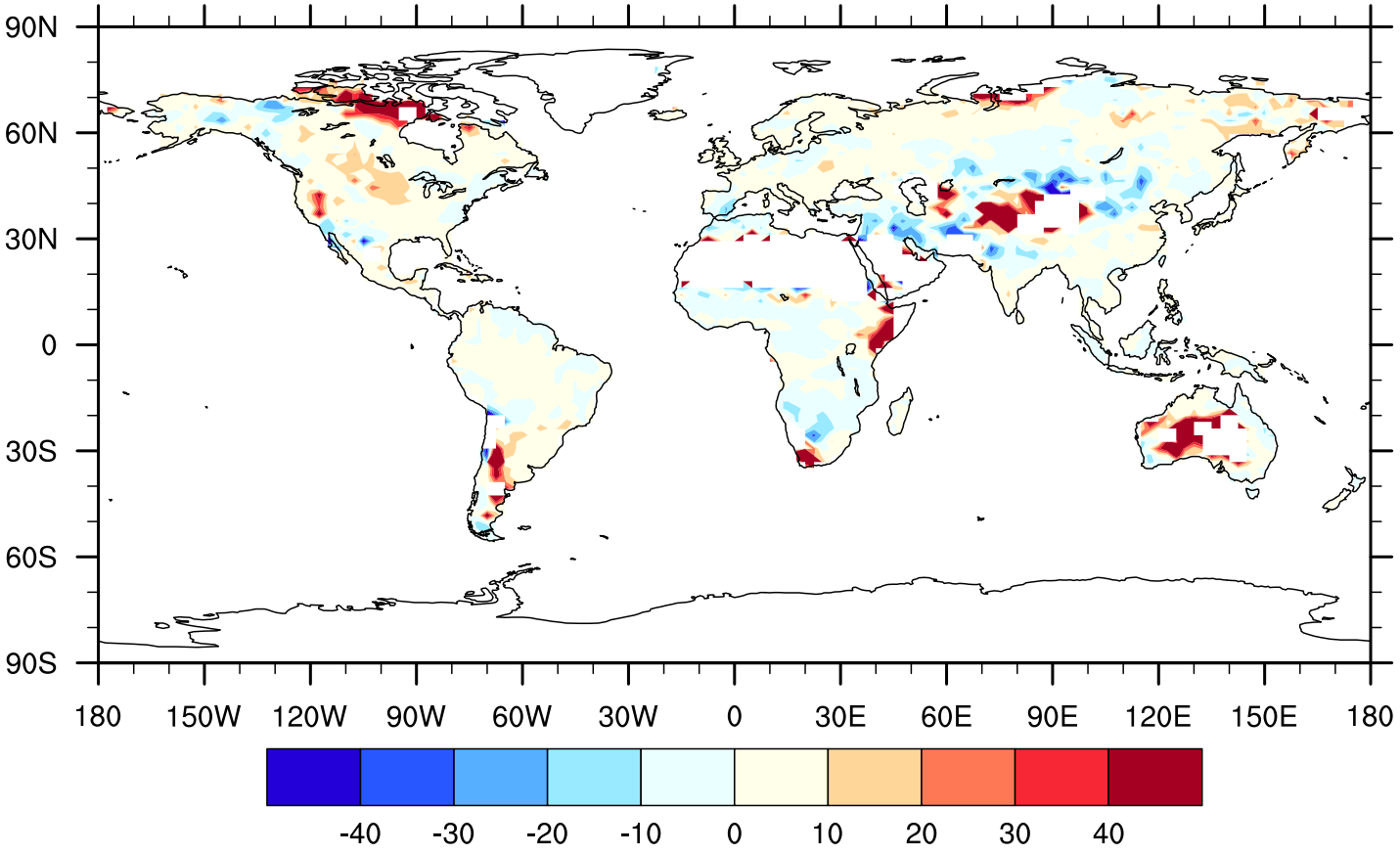


Left: Percent change in depth of 50% root biomass between the default CLM root representation and the dynamic root model. Biggest change occurs in the tropics where the dynamic root model decreases depth where 50% biomass is found, but in arid regions increases the depth.

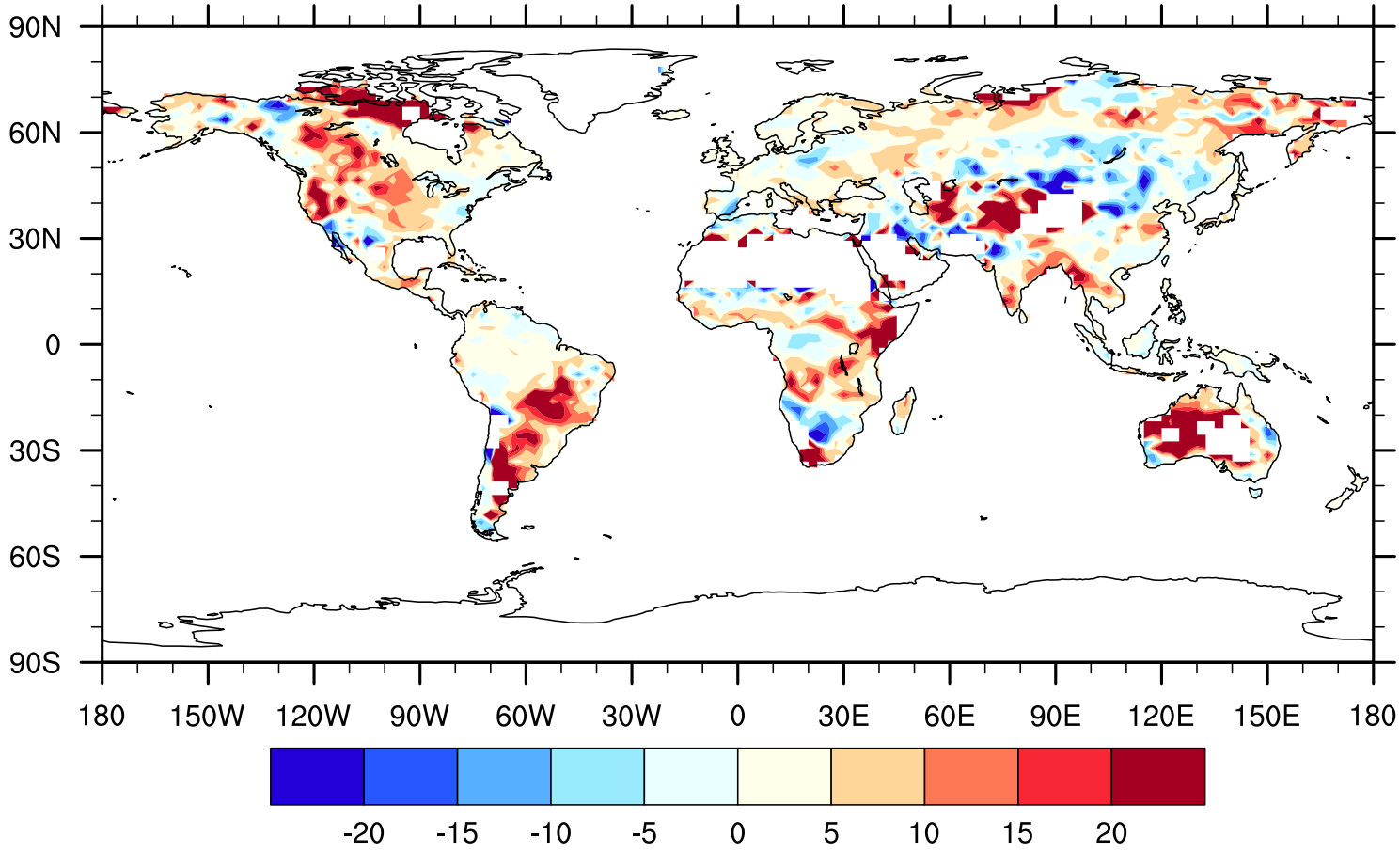
Right: Same as left except for 95% root biomass. The largest increases in depth of 95% root biomass are in the dry tropics and in the Mediterranean regions. In arctic, most root biomass is found at shallower depths with dynamic roots.



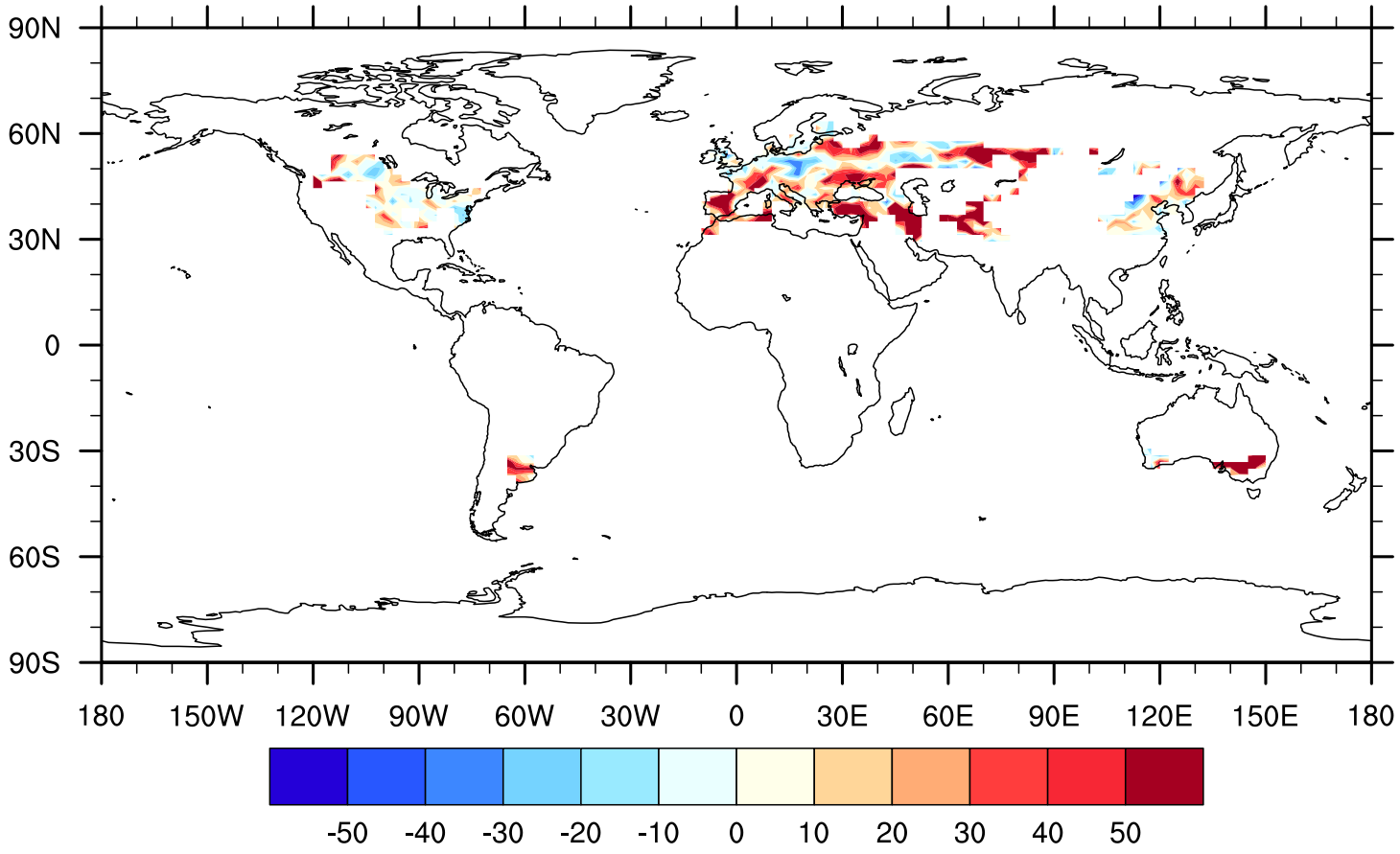
Percent change in soil water content (proxy for water uptake) between the default CLM root representation and the dynamic root model. The global average soil water decreases -1.1%.



Percent change in nitrogen uptake between the default CLM root representation and the dynamic root model. The global nitrogen uptake increases 1.4%



Percent change in GPP between the default CLM root representation and the dynamic root model. GPP increases globally by 2.2%.



Percent change in crop yield between the default CLM root representation and the dynamic root model. The global yield increases 9.3%.