Reading Questions

McDowell and Fisher 1976. Autumnal processing of dissolved organic matter in a small woodland stream ecosystem.

1. **Dissolved organic matter (DOM) is important to stream ecosystems. The authors calculate that 42% of the total DOM is derived from the leaching of leaf litter. What are other possible sources for the remaining 58% of the DOM?**
2. **What are possible mechanisms by which DOM is removed from the stream water? That is: what are some pathways that would lower the concentration of DOM in a stream?**
3. **Examine Figure 5. Which of the three leaf litter types (beech, birch, and maple) has the fastest rate of decomposition? Based on these data develop a hypothesis for the quantity and quality (i.e. bioavailability) of DOM leached among the three species.**
4. **Why do the authors think that DOM that enters the stream through the forest floor is different than DOM entering the stream directly from the leaching of leaf litter? How might this affect the fate of DOM and thus rates of stream respiration?**
5. **Based on the data presented here, does the species composition of a riparian forest, with respect to presence and abundance, affect the way carbon (e.g. DOM) is cycled within a stream ecosystem? How might these data have been different had the study stream been adjacent to a monoculture of beech trees?**