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Comments: Deforestation has an impact on the water cycle. Forget carbon and timber! Think about water for a hot minute. Water and fire are two sides of the same coin. If you want to quench fires, you need water, hydrated land ... and rain.

The proposed "Pikes Peak Vegetation Management and Restoration Project," a logging project by the U.S. Forest Service in Colorado, would allow logging on over 194,000 acres (303 square miles) of public lands. The project is located in the Pike-San Isabel National Forest, about 45 miles southwest of Denver, a place close to my heart and a hiking destination for my sons.

When forests, notably mature ones, are clear-cut and logged, the biotic pump mechanism responsible for delivering soil moisture and surface runoff to the Colorado River is eradicated. I am attaching a brilliant post that analyses the cause of the 110 mph wind-driven urban fire that broke out the day before New Year's Eve in 2021 in Boulder County, Colorado. #MarshallFire burned over 1,000 residential homes, making it the most destructive wildfire in the area. Colorado urban fires were not an act of God, but land use change:

<https://peopleandwater.international/project/marshall-fires/>

What is the price for deforestation? What is the cost of land use change that follows the urban sprawl everywhere? The consequence will be the soil's impaired ability to hold rainwater, consequently raising surface land temperatures and worsening climate change.

On the other hand, there are living, breathing ecosystems that transpire water. Trees pull water through their roots, utilize it to circulate nutrients, and facilitate the transpiration of large amounts of water into the atmosphere (i.e., evaporate through their leaves). Combined with the prevailing westerly winds that carry Pacific moisture to the Rocky Mountains, forests help form moister, more water-laden winds that water the farmland. In the language of the economists, these are the ecosystem services that we all need to build our livelihoods on.

Deforestation triggers a vicious feedback loop. The loss of trees, biodiversity, and soil sponge results in rising surface temperatures, driven by land cover alteration as latent heat is converted to sensible heat. Higher temperatures parch the remaining vegetation, which leads to wildfires (such as the #MarshallFire mentioned above), which in turn lead to even higher temperatures.

Mature forests create their own weather systems; transpiration and evaporation form clouds and enhance atmospheric moisture transport, which irrigates the forest and farmland not just nearby, by miles away. And if the farmland gets enough rain, then we get food security - people get to eat the fruits of the earth.

Back in 2022, I invited Anastassia Makarieva and Professor Jan Pokorny to give a talk in the "Life Saves the Planet" series, co-produced by GBH (WGBH Boston) and Voices of the Program Biodiversity for a Livable Climate. The resulting discussion, "No forest, no rain," highlighted how forests generate rainfall through transpiration, forming "flying rivers" of moisture, and explained that deforestation disrupts the water cycle, leading to hotter, drier climates, thereby linking trees directly to regional weather patterns and water security.