

The Future of Clouds

Back in 2023, the news sounded too good to be true. Electricity day or night without expensive equipment or power lines. Just draw that electricity right out of the air. Specifically humid air. Extract the charge of the water molecules that constitute humidity. No more issues of energy dependency for any nation. Those nearer the equator would be energy-rich with all that tropical humidity. What could possibly go wrong?

Let's think positively first. If we could harness electricity from water molecules, then clouds wouldn't have as much fuel to make lightning happen and all those wildfires sparked by lightning would be super rare. Hallelujah. If you've lived on the west coast of the US during the rainy season, you have experienced storms that roll in off the Pacific and rain without hardly ever a bolt of lightning. It is a striking contradiction to living in the South and hardly experiencing a rain event that wasn't a thunderstorm. So, if harvesting charges from water molecules can give us rain without all that drama, we will be the better for it. All thanks to the folks at the University of Massachusetts Amherst who used nanopore technology to skim the charge from water molecules and transfer it to all of our electrical devices.

Did anyone ask the clouds what they thought about all of this? Or maybe speak with the water molecules who find themselves bare, naked, and chargeless. Will those molecules feel like socializing with others? Will they still participate in group activities, like cloud formation? Or will they be like wallflowers at the dance? Just inert. Present but unattractive and uncoupled. With low humidity do you expect to see more clouds or fewer? This is not a trick question. Dry air gives us clear blue skies. If we are taking only the charge and not the water molecule itself, won't the humidity still be there? Yes, but can we expect the behavior of humidity to remain unchanged? Molecules without a charge would be molecules neutered. If water molecules showed no affinity for each other, we would not get cloud formation and in my book, that means no rain. No rain means no crops. If you have been in a humid climate and the air is still, but heavy with moisture, you wish it would rain to cool things down. You are dripping with sweat. I lived in New Orleans and have experienced this. Would we be creating this situation and smiling because of abundant cheap electricity? No clouds on the horizon to give relief, just heavy air. Moist, but not forming clouds.

Will there be clouds in our future, or will they be like dinosaurs? Relegated to the history books? Is the news of 2023 to be greeted with joy or concern? And what would this do to the climate? Water molecules that don't know how to form clouds anymore? This would change. Does it sound like for the better? Like harnessing the power of the atom, there are pros and cons. Another science-induced conundrum.

Submitted by Bob Rietschel, May 31, 2023

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