

NAWAPA, biogenic migration and water

Excerpt of *Sky Shields*, from *Basement Roundtable on NAWAPA*, August 5th, 2010. Listen at larouhepac.com/node/15408.

The first thing that people want to get a real living sense of, is what Vernadsky called the biogenic migration of atoms. . . It's a really important concept for people to get about the role the biosphere plays and the role of the living organism—life, and then cognition. If you take a look—you cannot treat a living organism as an object, as a thing. It's more appropriate to describe a living organism as a flow, where you've got constant flow. In first approximation you have a constant flow in and a constant flow out—but it's not like a car. It's not as though you're bringing gasoline in and exhaust out. That would only be true if you were bringing gasoline in and it became the car, and the parts of the car became the exhaust. Because that's what the organism does, what's being consumed is that you are what you eat, that it's becoming your organism, what's passed out is what was the organism.

The organism is a singularity in a constant flow, there's no object, there's no thing you can refer to as an organism. What has substance is this sort of process personified. But now if you zoom out and you look at what all these living processes are doing, of course pulling in material, pumping out material, transforming it as it takes part in the organism, changing its state from non-living to living, and what comes out the other side are what we call these biotic fossils, this biosphere organic fossil material.

Now if you look at that flow, that's being pumped through the organism, you realise that that pump is acting to pump a whole flow of material throughout the entire biosphere. You're looking at the generation, entire development of earth's oceans, the development of earth's atmosphere, all of this is being produced by this flow through these living organisms. And as you look at how it operates, you realise that these things, this atmosphere, the oceans, the material on land, that this is a constantly flowing, evolving, changing, system *because* its being fueled by life and living processes.

And you can see if you follow certain key—they're often described as cycles, the carbon cycle, if you look at how carbon dioxide is brought in by plants, it's fixed through photosynthesis into these complex carbohydrates, more complex, organic molecules. Higher organisms are consuming these, making them part of their body. These, through a process of respiration are again secreted as either methane or carbon dioxide or waste products, and back into the atmosphere to be cycled again. You start seeing on a global scale, this incredible cycle of material and transformation of material, building, changing the surface of the planet, changing the geography of the planet.

This you obviously want, and what they often call the water cycle. Where you can see this process of

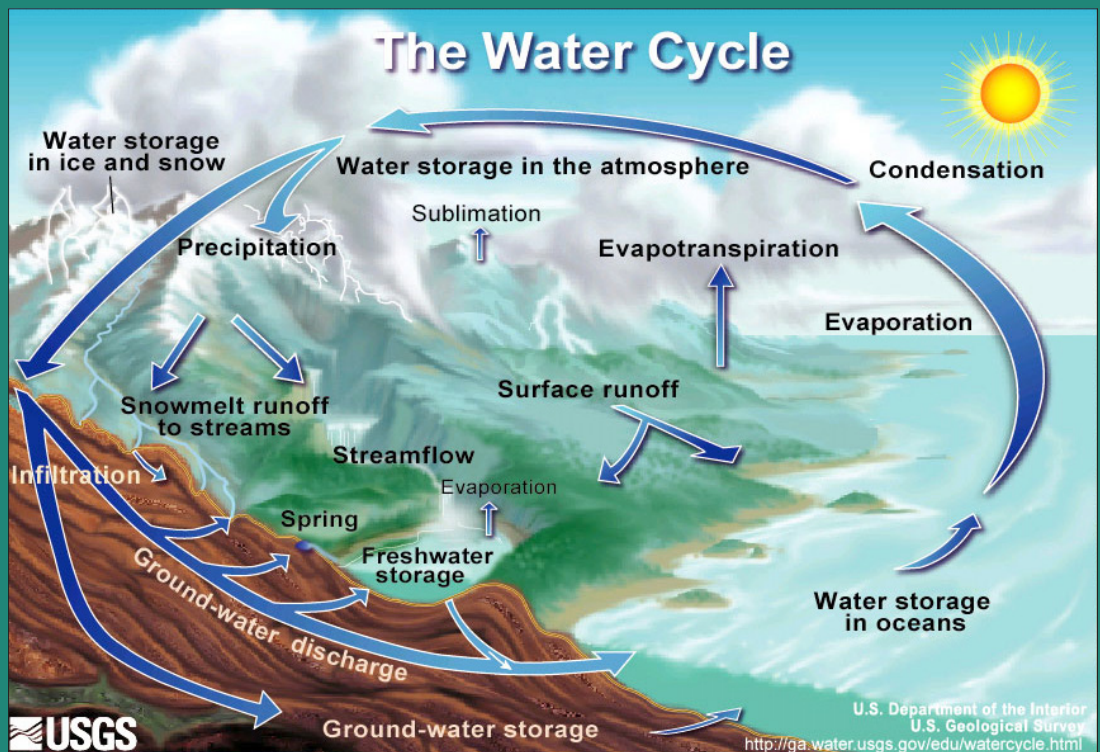
evaporation—first you can see a process of evaporation of the oceans, but also wherever there's plant and animal life, you can see where you've got a steady stream of water being released as water vapor, that makes weather—the atmosphere becomes clouds, becomes the atmospheric water, which then moves and rains down, preferential in certain places on the Earth, landing in soils, landing in rivers, pumping out, taking part again in living processes, to be immediately transpired out by living processes, or returned to the ocean. And you've got this constant flow of material, that's moving through the whole biosphere, in this case, water.

Now the question that we're talking about, is how do you harness that process, how do you harness that cycle, and then direct it so it's more efficient?

One of the big frauds that comes up when talking about NAWAPA—we're talking about water in general and people act as though there are these stores of water that are running down, that you're trying to find somewhere and suck out the water. . . We're behaving badly when we do that. When we stick to a single river basin you will loot the area, because you're not talking about a generic cycle. You're just trying to grab what's there.

But if you take this entire process, and say we're going to redirect what we're talking about, with NAWAPA—you're going to take one section of the cycle, that's a relatively long—large—cycle of just ocean to atmosphere, on to ground in Alaska, and back into the ocean, instead you're going to engineer a whole set of other things into that cycle, you're going to take that cycle and run it down through the whole desert area that the biosphere wants it to be in, would like to get in but hasn't quite been able to do it on its own. You're going to run it through that area, you're going to send it through, you're going to increase its useful life before it's cycled back up to Alaska again, to run back down again, start the process again.

That's the kind of transformation we're talking about, this is what you mean when you say you're deploying NAWAPA as a project.



Certain aspects of the process of biogenic migration are simplified into the "water cycle" pictured, "nitrogen cycle" and "carbon cycle", etc. Far from being simple, they are actually complex, interconnected networks whose causal interrelations are impossible to represent in a diagram.