

The Soil Series: Grassroots for the Climate Emergency
Part 6: A Soil Sponge to Cool the Planet
Speakers: Henry Swayze, Jan Lambert, Judith D. Schwartz, Karl Thidemann
April 24, 2019

Contents

- Living Notes FROM THE WALL: Actions; People; and information to connect with (from this Series session and links to past sessions)
- Events (upcoming, collected from all Series so far)
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- Presentation notes

Soil Series Hosts

- [Building A Local Economy \(BALE\)](#) - South Royalton, VT. BALE is a community resource center for local economy initiatives in the White River Valley of Vermont, intentionally multi-issue in focused and multi-dimensional in their programmatic work. Check out the [documentary film](#) Dancing With the Cannibal Giant: Five New Stories for the Great Transition.
- [Vermont Healthy Soils Coalition](#) - To join the Vermont Healthy Soils Coalition Email Listserv, fill out this [quick survey](#). Then, follow the instructions in the email confirmations that you'll receive to join the listserv. Join the [VHSC Facebook group](#).

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Living Notes FROM THE WALL

This is not complete list of resources by any means The lists below were compiled from the collective voices throughout the event. All this in just 2 hours!

ACTIONS (people are already doing these things in our region)

- Writing community and regional newsletters

- Join food coops
- Write and read out loud -poetry
- Fiber crafts - support Navajo, support grazers
- Community volunteering to help each other and to teach children
- Eat weeds - especially invasive ones
- Allow beavers to be beavers
- Go to advisory council meetings, legislative hearings, committees
- Take the Soil Series to Colleges
- Traditional dance and music - to mimic ecosystems
- Cannabis cultivation - soil remediation, build products, medicine, food for people and animals
- Grow mushrooms
- **Didi's class with Jeff**
- Slow down enough to learn
- River simulation table - an interactive display, [some examples](#)
- Volunteer at school gardens
- Vermont Green New Deal with focus on soil
- House/dinner gatherings: [FILM](#) - Dancing with the Cannibal Giant

EVENTS

PAST SOIL SERIES EVENTS

Part 1 Ground to Body Soil Health and Human Health: [VIDEO](#), [NOTES/RESOURCES](#)

Part 2 Shielding Soil with Plants & Animals: [VIDEO](#), [NOTES/RESOURCES](#)

Part 3 Connection Through Stories: [VIDEO](#), [NOTES/RESOURCES](#)

Part 4 Building the Soil From the Ground Up: [VIDEO](#), [NOTES/RESOURCES](#)

Part 5 Social Mycelium: the Fiber of Community Resilience [VIDEO](#), [NOTES/RESOURCES](#)

Part 6 A Soil Sponge to Cool the Planet (VIDEO *coming soon*) Notes Below

LAST SOIL SERIES EVENT - we need your voice!

[The Soil Series: Grassroots for the Climate Emergency](#)

May 8 Session 7 - Next Steps: Growing Grassroots Agency & Action for the Climate Emergency
6:00 PM potluck. 6:30 PM - 9:00 PM facilitated community discussion.

THIS WILL BE A POTLUCK STYLE EVENT!

ONGOING CALENDAR OF EVENTS collected the from Soil Series

April and May Events are below - [Full calendar HERE](#) (getting into summer!)

ONGOING

Hartland Resilience Group 2nd Saturdays Sept - May. Community breakfasts and presentation/discussion. Contact Laurel Stevenson a.laurel.stevenson@gmail.com

2019 UPRISE! Youth Activism Camp. Register youth (13 to 19). July 28th - August 4 in Marshfield VT - <https://www.uprisecampvt.org/>

Montpelier Tree Board, Regular Meetings 1st Thursday of each month, 5:30 p.m. Memorial Room, City Hall.

April 29 [Local Solutions, Global Change](#) Middlebury 7 PM 350 Vermont

May 1 Jobs, Climate, Justice - 9 to 1 at the VT Statehouse

May 2 [Montpelier Tree Board](#). Arbor Day Conference 8:30 am – 4:30 pm | Vermont College of Fine Arts. [Register](#).

May 2 [Spoiled to SOIL](#): Backyard Composting with Cat Buxton 6:30 - 8:00 PM Cavendish

May 3 [Tend the Root Talk Series](#) Speaker: Soryu Forall - Mind is Chief. 6:00 PM Vermont Room, Hotel Coolidge, White River Jct.

May 3 Course: Writing For Regeneration. Webinar with [Land & Leadership](#). The course begins on May 3rd, and will run for 5 consecutive Fridays in May. [Learn more here](#).

May 4 Spring Wild Plant Walk. 10 AM - noon. [Wisdom of the Herbs School](#). Woodbury, VT

May 4 Green Up Day in your town

May 5 Management - Intensive Grazing Class - 10 to 4 @ [Earthwise](#)

May 5 [All Species Day Parade](#) Hubbard Park to the StateHouse. Montpelier. 12 PM - 3 PM. Montpelier "All Species Day" Tree Planting 2:30 - 5:00 pm

May 5 Strategies for Social and Environmental Justice: Insights from India, A Workshop with Vandana Shiva. 8 AM - 4:30 PM. The School of the New American Farmstead at Sterling College. [Register in advance](#).

May 5 Course: Finding New Ground in Soil Health Legislation: How to use listening, consensus, and Holistic Management to create policy that people agree on. Webinar with [Land & Leadership](#). This course begins on May 6th, and will run for 4 weeks (three Mondays and a Tuesday). [Learn more here](#).

May 6 Vandana Shiva presents on the Statehouse lawn 11 AM - 1 PM

May 6 Measure Up Montpelier! Tree planting with [Montpelier Tree Board](#). 4:00 – 6:00 pm | St. Paul and School Streets

May 8 Soil Series - Next Steps: Growing Grassroots Agency & Action for the Climate Emergency 6 - 9 PM Bethany Church, Randolph. Potluck starts at 6 PM, discussion at 6:30 PM.

May 8 Vermont Community gardening Network [Grow It! Workshop](#). 4:30-7:30pm, The Family Place in Norwich. Brainstorm solutions, share stories, and swap ideas for stronger garden communities!

May 9 Spoiled to SOIL: Backyard Composting with Cat Buxton 6:30 - 8:00 PM Bridgewater Corners

May 10 [FIELD DEMONSTRATION OF NO-TILL CORN INTO SOD GROUND SHARE](#) 1 - 3 PM Fairlee, VT

May 11 Spring Wild Plant Walk. 10 AM - noon. [Wisdom of the Herbs School](#). Woodbury, VT

May 12 Crabapple Sunday and Mothers' Day Sunrise – Tree planting with [Montpelier Tree Board](#). Sunset | St. Paul and School Streets

May 14 [Holistic Management Intensive](#) 1 week course: May 14 - 22 Stonewall Farm, Keene NH

May 14 [Local Solutions, Global Change](#) Montpelier 7 PM 350 Vermont

May 15 Films: Allan Savory - How to green the world's deserts and reverse climate change, Soil Carbon Cowboys and discussion with Karl Thidemann, co-founder of Soil4Climate 7:00 – 8:30 pm | Montpelier Senior Activity Center. [Montpelier Tree Board](#).

May 16 Spoiled to SOIL: Backyard Composting with Cat Buxton 6:30 - 8:00 PM West Fairlee

May 19 Spring Wild Plant Walk. 1 PM - 3 PM. [Wisdom of the Herbs School](#). Woodbury, VT

May 20 [Tend the Root Talk Series](#) Speaker: Sherri Mitchell - Cultivating the Soil of Warriorship. 6:00 PM Vermont Room, Hotel Coolidge, White River Jct.

May 22 Film Taking Root: The Vision of Wangari Maathai and discussion with Shawn White, Project Manager at Friends of the Winooski River 6:30 – 8:00 pm | Kellogg-Hubbard Library, Hayes Room. [Montpelier Tree Board](#).

May 23 Spoiled to SOIL: Backyard Composting with Cat Buxton 6:30 - 8:00 PM Chester

May 28 Post Oil Solutions [Climate Café](#) usually meets on the 4th Tuesday of each month 6:00 PM, at Brooks Memorial Library, Brattleboro. "Our House is on Fire" Community Conversations.

May 29 Be Your Own Lorax! 3:00 - 5:00 pm | Kellogg-Hubbard Library, Hayes Room
Calling Montpelier's young tree stewards to come speak for the trees! [Montpelier Tree Board](#).

May 30 Spoiled to SOIL: Backyard Composting with Cat Buxton 6:30 - 8:00 PM North Pomfret

CONNECTIONS *(from this session)*

- [Brock Dolman](#) -Occidental Arts and Ecology Center. [TEDx Talk](#)
- Antonio Donato Nobre - [TED Talk](#)
- Peter Andrews - Australian Author, [website](#)

- Walter Jehne - Australian plant and soil scientist - Seminar in Fairlee VT, 2016 (*the spark that started VHSC*) Part 1 Restoring Water Cycles to Naturally Cool Climates and Reverse Global Warming ([2 hrs 15 min, P1 video](#)), Part 2 Regenerating the Soil Carbon Sponge ([2 hrs, P2 video](#))
- Valley Green Journal - [website](#)
- Valley Water Journal
- Dr. Michael Kravcik of Slovakia - Free download of [Water for the Recovery of the Climate: A New Water Paradigm](#)
- VOW4Climate - [website](#)
- Skip Lisle - Grafton, VT - [Beaver Deceiver](#)
- Soil4Climate Facebook Group - [link](#)
- Allan Savory - Savory Institute - How to Fight Desertification and Reverse Climate Change. ([20 min TED talk](#)). Hope for Reversing Desertification and Climate Change - What You Can Do ([1 hr 15 min, video](#)) at Stonewall Farm, Keene NH, September 2018.
- Bill McKibben - [Book](#): The End of Nature
- [Hunter Lovins](#) and [Amory Lovins](#) - [Rocky Mountain Institute](#)
- Connecting landowners to land/soil workers
- [Green Mountain Spinnery](#)/Textiles
- [The Grange](#) - Why is this not growing anymore? Where are the young people?
- R3 Randolph Group
- [Vermont Sheep and Wool Festival](#)
- [Beidler Family Farm](#) - organic valley milk
- [Luna Bleu Farm](#)
- [The Montreal Protocol](#)
- Spring event - Upper Valley [Flavors of the Valley](#) - Vital Communities, Valley Food and Farm
- [Old Brainstorm Farm](#)
- Jeff Goebel - [Community Consensus Institute](#), About Listening
- [Paul Costello](#) - Vermont Council on Rural Development
- [SWEEP](#) (vermont State-wide Environmental Education Programs)
- Upper Valley Teaching Place Collaborative ([UVTPC](#)) - new network via Wellborn Hub
- Peter Donovan - [***Measuring Soil Carbon Change: A Flexible, Practical, Local Method, by Peter Donovan. NDVI maps](#) - (normalized difference vegetation index) Measuring sunlight by mapping 3 years worth of photosynthesis at a time. Drafts by Peter Donovan. Map of the Champlain Basin (and others).
- [Patti Smith](#) - "Beaver whisperer" - [Director of Bonnyvale Environmental Education Center](#) in Brattleboro
- New Community Arts Center in Chelsea
- Land and Leadership: Online courses with Didi Pershouse.
<https://www.landandleadership.org/>

INFORMATION (*from this session*)

- 1% in soil organic matter can increase the water holding capacity of the soil by 20,000 gallons per acre
- "water" as a verb
- [Transpiration and evapotranspiration](#)- lead to cooling
- Latent vs Sensible Heat ([simple description](#))

- “Vegetation is the Midwife of precipitation”
- “Oxidize less, photosynthesize more” - Judith
- Beavers - prevent flooding and drought, promote water cycles, create habitat for many other species
- Regional climate is land based (small water cycle) - 10% recycling back constantly
- “Water is treated like a waste product”
- [Holistic planned grazing](#) - different than [other types of grazing management](#)
- Upper Valley Coop [Library](#)
- [Vermont Pesticide Advisory Council](#)
- Rainfall Simulator Video ([link](#), many more exist online!)
- 40 acres that can be used for young/new farmers

We’ve moved these two important sections to separate pages.

- 1) [PEOPLE \(alphabetical\) \(from ALL Soil Series sessions so far\)](#)
[also a list of recurring topics of interest on this page]
- 2) [GROUPS/INITIATIVES \(from all Soil Series so far, broken down into lists of Local and not-so-local, with links\)](#)

Group Discussion

Note: these discussion rounds will directly inform the May 8 event.

Pose a question that won’t be answered; State a comment or how you’re feeling; Question(s) you’re left with.

Below are your questions and statements as best as we could capture them

Questions:

- How do we make the most change the fastest?
- How do we connect with people who have land that they’re taking care of and might actually want to do these things?
- How do we get schools, teachers, and school boards involved to learn enough to allow kids to get out in the summer onto the land and earn the right to defend themselves?
- Where’s the balance for forest management/timing?
- How do we get younger people involved? To care about this with patience?
- Where are our young people tonight and every night? Do we need to go to them?
- Why do we continue to live in the stone age? ex: Farm Bill - 1930
- Why are we looking for water on Mars when we have plenty of water here on Earth?
- How can I work with my town and family to keep the leaves on the ground instead of putting them into plastic bags?

- How to get the message out to older farmers who do care about the soil and water, but don't want to change their methods?
- How can local farming and local consumption be accelerated in our communities?
- In the bigger picture, how do we keep heart and transition together? What can we learn from the soil and the patterns in nature? - Related to dance and mimicking nature
- Is there a way to communicate this knowledge in a way that organisms do in nature?
- How can we get people to understand that taking care of the earth is part of our spiritual journey and we are all spiritual beings?
- How to address the cannabis plant?
 - There is a way for us to use this plant and cultivation
 - Bioremediate the land and ourselves and animals, fiber for building materials, new products, new industry
 - How to integrate regenerative practice into this industry?
 - How to integrate regenerative agriculture into public media services?
- What are other people's thoughts on how to slow down to speed up?
 - It takes time to absorb all of this information
 - Every single element of our lives is going to change, how can we do this comfortably but also shift in time?
- How do you stay focused? What do you focus on when there is so much?
- How do we show up, what do we listen for in youth-centered activist spaces?
- What would it take to pass a Vermont Green New Deal in the next two years to pave the way for the whole country?
- How do we tap into the underlying goodness of the human race to be together and work as one in community - like what's seen after a natural disaster - i.e. Irene?
- How to have constructive conversations about this topic outside of and within the farming community?
- What is natural vs unnatural?
- What really is a problem?

Statements:

- Upper Valley Food Coop has an incredible education program
 - Pushing for it to be a center for information and education on ideas from the soil series
- Hooray for Henry! - Cooling is something that I can understand!
- What strikes me is how much I have to learn; appreciate this space
- "I now have two little Cat buxton's on my shoulders when gardening" - Roots in the ground! No soil left uncovered!
- Impressed with the four seven minute presentations today - so succinct. Now it's time to read more
- "Community" just means - "with unity"
- Green Mountain Spinnery to support the grazers
- Want to support the Navajo Nation - please contact if you are an expert on soil health
- Painful to do forest management when there is less green
- Can't thank Cat enough!
- The wealth of information and experience here

- Looking forward to the May 8th meeting
- Young people come to the farm for skills - but they aren't coming to this type of event, where is the disconnect?
- Nurturing the community of soil, things tonight are encouraging
- Always look at the sky
- For the past three years - been noticing jets leaving lines in the sky; it's lessened now
 - The sky in the morning and evening: there's cloudbanks - cloud shapes seen that have not been noticed before
 - Also noticed the light of the sun behind the cloudbanks indicating cloud thickness - possibly due to artificial clouds?
 - Quality to the sun that is very burning in past 2 summer afternoons that is unique; intensity
 - March 9th morning: perfect, clear sunrise - a second orb rose to the left of the sun - what is this? Could it be that all of those artificial clouds are to buffer/to hide. Ancient prophecies of a time of distress coming true, could there be a connection?
- Want to work with people to learn what I can do and to teach grandchildren to save ourselves!
- Barriers between knowledge and systems that are continuing in the ways that they have been working over time - how they can be broken down?
- Grange - the grangers are not for long; history of including young people
- Gives hope to see so many people caring about the land and nature and working together
- Great group, generous
- Young people are looking for role models and there are not enough
- Fiddlehead and Japanese knotweed - both are edible
- We need to wake up and turn the page
- Knowledge is great and knowledge is also power - we need to question knowledge
- We need to get this show on the road to reach young people - UVM, Bennington College, State House
- Solidarity with subsistence farmers around the world - they will suffer because of climate change
- Feel fortunate living and farming in Vermont
- If world leaders had this knowledge, there would be a lot more peace in the world
- Grazing farm in Randolph - experience living the ideas spoken about today - how to better communicate that to young people?
- Water is really key to this conversation - rainfall simulations and water holding capacity demonstrations with farmers - can see the water on their land
- [Montpelier Tree Board](#)
- Covering available land space with a variety of plants and veggies
- Don't rake leaves away!
- Role models are needed for young people! Support this idea!
- Rotational grazing and the connection between land and culture
- There is knowledge being lost
- Community of small houses (40 acres - laboratory encouraging young people to join) - putting in their first garden now
 - How can we bring animals to the land, which plants? - Permaculture plan
 - Soil has given another dimension to this planning phase

- This series is a great resource for all of us
- Concern about bank erosion, trying to find sanity in the process.
- Maybe there is a bigger system that will help us out with solving these issues - nature has an ability to find balance
- Recognize that hemlocks and ash trees are stressed out right now, but maybe try to think differently about the invasives that are moving in
- How do we work with things that are seemingly problematic?
- I am a wiser person every single day because of these emails and events
- No waste mushroom farm
- Young people have an issue getting past the stagnation point of climate change
- Appreciate that this has been a series and not a one-day one-off workshop
- Allows time for things to process and sink in
- Flavors of the Valley event - found oneself between a water table (Public Works) - no plants were included, infrastructure to move and redirect water was the focus. And a soil tunnel for kids (could see what the soil looked like; the kids loved it!)
- Teachers need so much help for gardens at their schools, everyone should want to volunteer if possible
- Thank you to all the farmers in the room - appreciate all of the local food in Vermont
- Thanks for sharing sadness and hope and intellect
- Intensive grazing of hereford cows has made a huge impact on their land; farmers are worried about it because it's seemingly more work (but it's really not)
- Every day, I chose to be grateful for what is, and when I do that I tend to see more possibility for everything
- Pasture land can be as important for sequestering carbon as a forest - the soil is everything
- The questions are oppressive in how big they are
- The big cycles of water, soil, and the air - it's so big and that's maybe why the youth aren't coming - they want simpler, more digestible ways of looking at the world
- Population - can't think about these issues without running into population being a huge factor
- Hope is found by keeping local connections, buying and producing as much locally as we can, appreciating groups like this that are gaining connections
- Never forgetting, with reverence, our spiritual place on this earth
- Thinking about how crazy tiny little Vermont has been a catalyst for the whole country
 - i.e. marriage equality bill
- Randolph Region Revitalized - as a result of participation in Model Climate Community - the greatest economic opportunity in history is climate resilience and response to climate change - wish it could be understood the huge potential that we have in this state with soil and water knowledge
- Paul Costello - Vermont Council for Rural Development head
 - A lot of young people are so full of anxiety and when you look at the worldwide apocalyptic games and doomsday talk - would that the adults find a way to find a way to talk to and around the young people with confidence, creativity, and engagement
 - In this room, we have the confidence that even if we don't make it (world ends) after embracing change, the quality of our lives and the inspiration that we are spreading is extraordinary. We can do this.
 - This series can enable us to be the role models that we've been talking about

- Spiritual aspects of our existence have been coming to the fore
- London has a bank of clouds over it all the time, contrast to Johannesburg - Joburg has a slightly higher annual rainfall than London but comes down in about 3 and a half weeks
- Johannesburg is known as the largest urban forest in the world (like Rio) but the climate has changed over one lifetime: trees have gotten bigger, more birds have come in, cooled off a little, more regulated by this canopy of trees
- This suggests that we often talk about how much water falls, but what really matters is where it falls, when it falls, and what happens to it when it lands?
- Green New Deal in VT focused on soil - Jeff Goebel - worked with people in New Mexico to pass soil health legislation. Consensus model of working with people to see that they all want the same things and how to get there
- Didi Pershouse is giving an online class to get bills passed in people's on state
 - Monday the 29th
- Cookies everywhere - Lenny got carried away with the cookies! This suggests that humans can go right at it in other things!
- Putting microrrhizome spores in all seedlings, cover crops, no till
- Impressed by everyone's ability to present in just 7 minutes
- Tried to be a role model all of her life
- Hoping to do more to share in a more direct way
- Need young people to share the work on the land - send young people Grace Gershuny's way
- Graze animals on neighbors land - the animals have been born on this land and follow their mother's lead
- Particularly interested in local textiles
- Textiles can do a lot of damage to the land - local fibershed, hemp possibility
- In Western Mass, there is a project to get flax processing equipment
- Bring the show on the road - feature people in different communities, get to young people
- [Vermont Sheep and Wool Festival](#) - allow nonprofits to table there very cheaply - First weekend in October in Tunbridge
- [Cows, Land, and Labor conference](#) at Dartmouth this Friday and Saturday

Presentations

Judith D. Schwartz

Presentation Overview ([Judith's slides](#))

- Lives in Bennington, VT
- Here we will focus on soil and water
- Water and soil are connected; Water and climate are connected
- Whenever water and climate are together, the conversation only goes one way: the impact that climate change will have on resources. Equally important is the effect that the water cycle has on climate.
- Water challenges are becoming more and more prominent

- It's not always that land is connected with water, but they are interconnected: this means, how we treat the soil matters
- Flooding, drought, etc. - soil management
- Living carbon rich soil is a sponge
- Every 1% increase in soil organic matter results in the capacity to retain 20,000 gallons of water per acre
- When people think of water infrastructure they think of: 51-mile concrete corridor in LA - the "pipeshed" as opposed to a "watershed"
- They can think of soil as water infrastructure
- With bare ground, falling raindrops batter the soil; soil covered by plants or mulch are sheltered
- Well aggregated soil has pore spaces for water to filter through and store
- Water problems are actually failure to keep water in the ground problems
- When people think about water, we think about it as a noun; Judith likes to think about it as a verb - the movement of water throughout the ground, landscape, etc.
- The earth manages heat through water - this is critical to climate
- Transpiration - the upward movement of water through plants
- Antonio Donato Nobre ([TED talk](#)) - [The Future Climate of Amazonia](#)
- The collective transpiration of the "vertical river" of plants in the Amazon is equal to 5x the amount of moisture in the Amazon River itself
- "Vegetation is the midwife of precipitation"
- Peter Andrews - "Plants manage water and in managing water they are managing heat"
[Article](#): "Concerned About Climate Change? Nature Wants to Help"
- Cows Save the Planet - [Book](#)
- Water in Plain Sight - [Book](#)
- "Oxidize less, photosynthesize more"
 - Water, as well as enhancing the relationship between water and soil, is a really big part of that

Henry Swayze

Presentation Overview ([Henry's slides](#))

- Member of the Vermont Healthy Soils Coalition
- Cooling the planet
- What do we need to do to fix climate change?
 - We have to focus on cooling while we're doing everything else
 - Without the cooling component, we won't win the battle
- Walter Jehne - Australian scientist
 - Changed thinking from just sequestering carbon to need to cool the planet
- The WHO estimates that 250,000 people will die each year as a result of global warming
- The IPCC says we only have 10-15 years to turn things around to cool the planet/ flatten the temperature curve down
- We all thought that turning fossil fuels off is the answer
 - But maybe not. Even if tonight, we shut off fossil fuels completely, the temperature would continue to rise for as much as one hundred years
- Time is limited
- Positive feedback loops are reinforcing warming - will runaway

- If we were to sequester carbon, we may be able to cool to pre-industrial levels within 20-120 years
- When the sun shines on bare surfaces - plowed field, roof, paved surfaces - creates ground level radiation which tries to get the heat back up to space
 - Humidity, microhazes, and distance make this hard
- A bare field is likely to be 40-50 degrees warmer than ground under a tree or plant because (in part) we are getting evaporation/transpiration from the plant
- Covering the soil by itself with actively growing plants could get the job done!!!! Would offset all of the warming that's currently going on
- More good news: the Water Cycle
 - Water cycle is driven by solar heat, getting evaporation and transpiration and getting water sent up to clouds
- How much heat do you think greenhouse gasses are actually trapping? Answer: 4%!!
- How much heat is being moved around by the water cycle? Answer: 94%
- So why are we spending so much time thinking about the greenhouse gas piece as opposed to the water cycle driven piece?
- When water gets formed into a raindrop, heat is released and it's closer to space so it can get into space more quickly - a pump to get heat back into space
- We need raindrops!
 - Raindrops need hygroscopic nuclei to form around
 - The nuclei come from the bacteria that is found on the outside of plants

Jan Lambert

Presentation Overview ([Jan's slides](#))

- jan@vow4climate.org
- Voices of Water for Climate www.vow4climate.org
- Facebook: [Water, Land and Climate](#)
- The water cycle, wetlands, and beavers
- Valley Green Journal and Valley Water Journal www.valleygreenjournal.org
- Water cycles act directly on the climate
- Water for the Recovery of the Climate
 - The new water paradigm
 - The Valley Water Journal
- Scholarly article - Jan's ---"Thermodynamics"
- Focusing on greenhouse gases alone ignores the water cycle and plants
- Wetlands perform so many ecosystem functions
 - help prevent flooding and drought (two sides of the same coin)
 - Help out the water cycle
 - Water cycles are climate - water causes weather, climate is the averages of weather
- Regional climate is actually land based - 10% of the atmospheric water is land-based, and just keeps cycling
- Just putting water into streams and sending it to the oceans is removing water from the water cycle
- We are treating water as a waste product
- Small water cycles = land-based; draw moisture from the land

- Wetlands are an incredible source of evapotranspiration
- Beavers are useful at creating wetlands
 - They do so much more good than harm
- Beavers create wildlife habitat for many other species
- [Patti Smith](#) - "Beaver whisperer" - [Director of Bonnyvale Environmental Education Center](#) in Brattleboro
- Beavers create scent mounds to mark territory even against humans
- Skip Lisle ([Beaver Deceiver technology](#))- Skip's wetland
 - Makes it so that beavers and humans can live together
- Road crew probably goes around killing beavers for fear of flooding

Karl Thidemann

Presentation Overview

- Co-founder for Soil4Climate
- Responding to climate change is about more than just reducing greenhouse gases
- Allan Savory - how to manage animals in a way that is beneficial by emulating the impact that herds have had
- Holistic Management/Grazing
- Poetry as a means of expression around climate change
- Hopeless phase:
 - The Lament of the Green
 - Apocalypse Almost Now
- Soil phase - more hopeful and optimistic:
Climate Farming

So, what's the future?
 Is there no hope?
 Healing the land
 Can help us cope
 And grow better food
 With less flooding, too
 Put carbon in soil
 Is what we must do

Draw down the heat
 Slow the sea rise
 Let birds and bees
 Thrive in the skies
 Good farming is how
 We deal with this mess
 Now the climate's fixed
 What's next to address?

Karl Thidemann
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- Walter Jehne's work inspired:
 - Moist
- John Denver - Musician
 - Oh Give Me a Home poem
- Hunter Lovins - Cofounder of the [Rocky Mountain Institute](#)