

# Vermont experience

## “Climate Change & Community”

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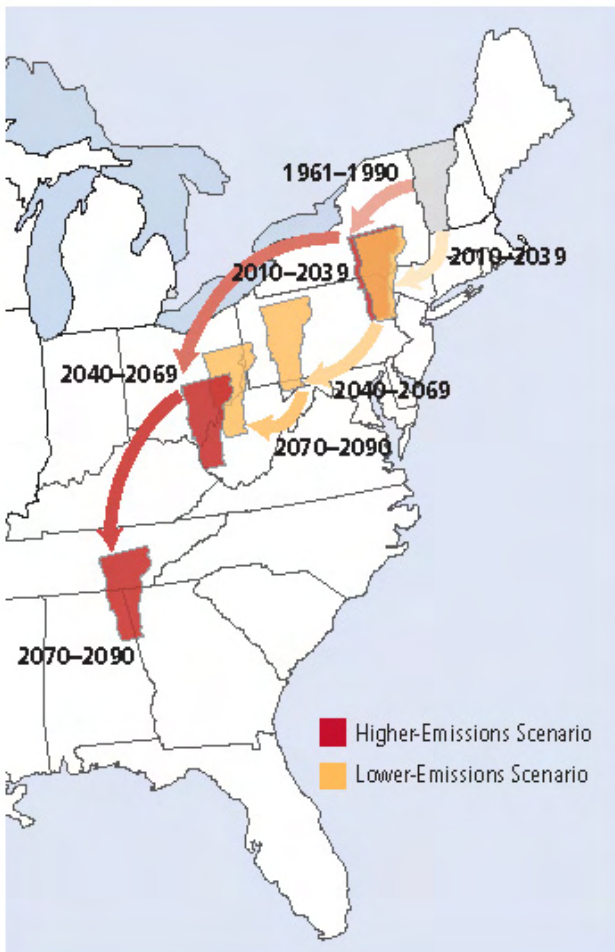
### Abstract

A new Sunday Environment section was started in January 2008 in the Vermont newspapers, the Rutland Herald and Barre-Montpelier Times Argus.

It arose from discussions between the Herald editor, a community activist, and this author, a climate scientist. We selected the section editor, Elizabeth Gibson, and knowledgeable columnists from the local community. We actively solicit articles from a variety of Vermont perspectives -- researchers, state officials, students, farmers, businesses, teachers and many people who simply appreciate the beautiful environment of Vermont, known as the Green Mountain state. Our focus is the broad sweep of environmental issues - including climate change - that affect the state either directly or indirectly; and our aim is to suggest new strategies for individuals, communities and society. We edit material for scientific accuracy, and strive to encourage a broad debate.

The framework is holistic: attempting to explain both the underlying science of what is happening to the earth, as far as it is known; and how we the people, through our industrial society, are now deeply interwoven with the future of the earth and its ecosystems.

My own columns go through the seasons, dealing with weather, climate, climate change, energy and policy issues as they are topical. They blend science with a systems perspective and encourage the reader to explore alternative and hopeful paths for themselves, their families and society.



**Migrating State Climate**  
Changes in average summer heat index—a measure of how hot it actually feels, given temperature and humidity—could strongly affect quality of life in the future for residents of Vermont. Red arrows track what summers in Vermont could feel like over the course of the century under the higher-emissions scenario. Yellow arrows track what summers in the state could feel like under the lower-emissions scenario.  
NECIA, 2007

**Rutland Herald & Montpelier Times/Argus**  
**Sunday Environment Section, Weekly Planet**  
[www.rutlandherald.com](http://www.rutlandherald.com)

### 2008 Topics [Alan Betts]

- |  |                     |
|--|---------------------|
| 1. <i>Welcome to the Planet</i>                          | (20 January, 2008)  |
| 2. <i>Looking back at 2007, and looking ahead</i>        | (10 February, 2008) |
| 3. <i>The integrity of science: the IPCC process</i>     | (2 March, 2008)     |
| 4. <i>The challenge we all face</i>                      | (23 March, 2008)    |
| 5. <i>Spring, carbon dioxide and the rebirth of life</i> | (13 April, 2008)    |
| 6. <i>The Spring climate transition</i>                  | (11 May, 2008)      |
| 7. <i>The mid-summer solar moon</i>                      | (8 June, 2008)      |
| 8. <i>The interdependence of water and life</i>          | (6 July, 2008)      |
| 9. <i>Facing the truth about our policies</i>            | (3 August, 2008)    |
| 10. <i>From the European Weather Centre</i>              | (31 August, 2008)   |
| 11. <i>Caring for our forests</i>                        | (5 October, 2008)   |
| 12. <i>Sustainable Systems</i>                           | (9 November, 2008)  |
| 13. <i>Our common Planet</i>                             | (14 December, 2008) |

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## 1. *Welcome to the Planet* (20 January, 2008)

This is an exciting moment for Vermont: the beginning of the “*Weekly Planet*” column and the new environmental section of this Sunday newspaper (the Rutland Herald and Barre-Montpelier Times-Argus). The journey before us will be a great adventure. We have reached a critical time for the earth. This past year, four reports from the Intergovernmental Panel on Climate Change mapped out in remarkable detail the scientific evidence that our fossil fuel economy is driving irrevocable climate change by increasing the heat-trapping greenhouse gases in the atmosphere. These reports also outlined what our society can do both to change direction, and adapt to the warming of the planet that is already under way.

We started 2007 in Vermont with record temperatures in January; by September, 40 percent of the Arctic icecap had melted. For the first time the fabled Northwest Passage was ice-free. The frozen north is melting rapidly as the Earth warms, and droughts are spreading in the subtropics.

The discovery of fossil fuels centuries ago drove the industrial development of our world. Until the last few decades, we had no idea of the consequences for the earth’s climate. Oil supplies may now be running scarce, because we burn it so wastefully; but centuries of coal reserves remain. If we simply burn all this coal as we have consumed oil, the earth will warm so much that the ice on Greenland and western Antarctica will eventually melt, although it may take many centuries. Sea-level will rise by as much as 50 feet to flood our coastal cities and plains. Whole ecosystems will be destroyed as the earth continues to warm, and hundreds of millions of people will become refugees, driven from their homes by environmental disasters, floods, drought and starvation.

It is difficult for us to grasp the scale and magnitude of the issue that we face. For many years a wealth —→



**Gardening in Pittsford, VT**  
**January 7, 2007**  
**[after warmest December on record]**

of opposing interests have been spreading misinformation about the global climate change that is under way, in an effort to deny that our wasteful use of fossil energy is responsible. Time is running out. We must change direction and reshape our infrastructure to be energy efficient and powered by renewable energy sources. We now have less than a generation to do this, because we have delayed so long. We need ideas, inspiration, and ways of working creatively and more humbly with the earth, not against it, as we make the transition away from fossil fuels. We need clarity and hope to find our way through the web of confusion and doubt that those who stand to profit in the short run will continue to weave. How can we recognize the landmarks on our way to a sustainable society?

Using fossil fuels to ship most of our food thousands of miles is not sustainable. Growing more of our food locally is not only sustainable but also benefits Vermont farms. It’s even easier for us now, as the warming of the earth has extended our growing season by one month in the past 30 years. For the last few years, I have been able to grow magnificent sweet potatoes in Pittsford!

We need to develop new, renewable energy sources and new business models that are sustainable and earth-friendly. Anything that makes our communities more self-reliant is a step in the right direction. As our society functions more efficiently and we use less fossil fuel, we save money and reduce the growth of the CO<sub>2</sub> burden in the earth’s atmosphere.

This is a huge but exciting transformation of our society, and it will require sustained community effort. The rewards for us, our children and grandchildren and our planet are immense. The price of continuing to ignore what our inefficient fossil-fuel society is doing to the web of life on this earth is beyond words.

### Flooded hayfields



### Vermont in Fall

## 12. *Sustainable Systems* (9 November, 2008)

Sitting outside the last few weeks on glorious sunny days, watching the leaves fall, I have been reflecting on the natural cycles of life. This October mirrored in many ways the spring transition that I talked about back in May. Nature delays the first frost as long as possible. When the forests are green, they are transpiring water, keeping the air moist and providing vapor to form clouds. Clouds and water vapor, a greenhouse gas, blanket the earth. This reduces night-time cooling, so temperatures before sunrise can stay in the 40s (4-10°C). Dew may form, but there is no frost.

In September as the nights get longer and the sun drops lower in the sky, the earth cools, until one night cold dry air blows down from the north, and the temperature falls until frost forms. Our summer vegetables die, and our forests recognize frost as a signal to prepare for winter. The leaves turn, and transpiration falls dramatically. The air gets drier, cloud cover diminishes and so frosts become more frequent.

Nature goes through a cycle of growth and decay. The forests grow slowly and respond to the supply of nutrients, water and sunlight. All parts of the system - soil, roots, tree, leaves and air - are exchanging and ‘communicating’ with each other. There is a balance, with a complex network of regulatory controls providing stability.

Sure, I harvest some trees for fuel and compost some leaves to feed my garden in the spring. But if I am wise, I do so in moderation.

Contrast this with our human economic and financial system. Against all evidence, we believe that we have unlimited material and financial resources. We think that we can grow our economies, our wealth and our debt without limit, with less and less regulation and control - and without proper information flows and feedbacks to keep the system stable. What arrogance! Blinded and driven by greed we have created an unstable financial system that grows like a cancer until it collapses, most recently into a bottomless sea of ‘toxic debt.’ Trillions of dollars of complex financial instruments (think ‘virtual money’) have sucked all the real wealth out of business.

We don’t know how to uncouple one part of the financial system from the whole. We have not built in a way to ‘compost’ this toxic debt and separate it from the basic banking system that we all need for commerce. We got drunk with greed, and failed to notice we had coupled the real world, which has real limits, with our virtual world of limitless leveraged debt. With so much money and ideology at stake, no one wants to discuss the reality of the mess and admit the truth, especially in an election season. And it is silly to expect economists and financiers to sort it out. It was their false assumptions and dishonesty that created it in the first place. Ecologists understand sustainable systems much better - we should listen to them!

A sustainable society is not just a slogan; we know better and could do better. So let us spend this winter in all our communities, planning a better future, where the rules are designed to work for us, the earth and the whole of creation! There are many places to start. Here is just one, with a rich thirty-year history.

The Institute for Local Self-Reliance has proposed we develop a set of new rules that restore human-scale politics and economics and rebuild our communities. These rules are an extension of the ‘localism’ movement which has been discussed on these pages. They embrace three principles:  
- Decisions are made by those who will feel the impact of those decisions.  
- Communities accept responsibility for the welfare of their members and for the next generation.  
- Households and communities possess or own sufficient productive capacity to generate real wealth.

These seem like common-sense principles, but they are a radical shift from the unregulated global financial system, which accepts no responsibility for communities or for the earth. We feel its impact, but it is by design out of control. Contrast the rapid rise of the local food movement in Vermont, which meets a real need, is under local control and generates real wealth in our communities. You could feel the excitement and satisfaction last weekend when the Rutland winter farmers market re-opened in the old Strand Theater.

What would it take to transform our communities so that our citizens and entrepreneurs are active and informed, with the skills to generate real wealth and the authority to be self-governing? We have still a little precious time, and one rich, unlimited and sustainable resource in our spirit and collective wisdom. Here lies the source of our faith, honesty and trust. But our expertise has been scattered and weakened by a sea of deception. Across Vermont we need to gather together in groups in our communities to collect ideas and inspiration, and then get to work.