



Addressing Current Environmental Challenges



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(Journalism Class)

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Outline

- I am a scientist, a writer, and public speaker
 - I speak about what I know
 - Local issues and global issues
 - Science matters – *but far beyond 'science'*
 - Clash between Earth system 'reality' and political and economic ideologies - *"Earth wins"*
 - Many difficult ethical and moral choices
- The transition we face is huge (but we must face it)
 - Can we stabilize the climate?
 - Can we build a sustainable future?
 - Why we need community

Earth's climate sustains life

- Burning fossil fuels is increasing greenhouse gases
- **Climate is warming: ice is melting, extreme weather is increasing**
- Water plays crucial amplifying role



Sunday Environment Section Vision

Environmental journalism revisited (Betts and Gibson 2012)

The traditional journalistic model has been to follow interesting stories, expose scandals and explore controversies. This approach has been very relevant to the political process, but it is not so applicable to the now-critical relation between humanity and the Earth.

Today's communities must understand the **interconnections between energy use, climate and food** to make the transition to an **efficient, resilient and sustainable society**.

This involves people from all sectors – businesses, citizens groups, farmers and foresters, students and teachers, officials in state government, politicians and voters.

It requires an **informed public** with access to a wide range of articles of **trustworthy information** relating to local and global environmental issues. This vision led to the Sunday Environment Section (January 2008) in the Rutland Herald and the Barre Montpelier Times Argus.

Articles in the Herald/Times Argus

(74 articles since 2008...)

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But Society is Deeply Polarized

Ideology has become more important than 'evidence'

Follows the 'big lie' principle with constructed phony 'evidence'

Example (Sen. Sheldon Whitehouse, 10/11/2015)

"In recent weeks the right-wing attack machine has been up in arms regarding a letter sent by a group of 20 climate scientists to President Obama, Attorney General Lynch, and White House science adviser John Holdren requesting that the Department of Justice (DOJ) investigate fossil-fuel companies that appear to have lied about the effects of their products on our world's climate. This week, the [Wall Street Journal](#) [joined the fray](#), writing that "[a]dvocates of climate regulation are urging the Obama Administration to investigate people who don't share their views... they want the feds to use a law created to prosecute the mafia against lawful businesses and scientists."

The “Big Lie” Principle

All this was inspired by the principle—which is quite true within itself—that in **the big lie there is always a certain force of credibility**; because the broad masses of a nation are always more easily corrupted in the deeper strata of their emotional nature than consciously or voluntarily; and thus **in the primitive simplicity of their minds they more readily fall victims to the big lie than the small lie**, since they themselves often tell small lies in little matters but would be ashamed to resort to large-scale falsehoods. **It would never come into their heads to fabricate colossal untruths, and they would not believe that others could have the impudence to distort the truth so infamously.** Even though the facts which prove this to be so may be brought clearly to their minds, they will still doubt and waver and will continue to think that there may be some other explanation. **For the grossly impudent lie always leaves traces behind it, even after it has been nailed down, a fact which is known to all expert liars in this world and to all who conspire together in the art of lying.**

(Mein Kampf: Adolf Hitler)

Journalistic “balance” has morphed into “divide, confuse and rule”

The traditional journalistic model needs rethinking

- Balance and a semblance of objectivity has been transformed into polarized media outlets, representing a political view
- Many, many issues are not being discussed that need to be discussed! Called “Social Silence”
- In many parts of the world, journalists are jailed or killed if they don’t follow the party line
 - But we have a free press - right?
 - Or media that self-censor for financial and political reasons?
(eg WCAX-TV – May 2014)
 - CNN declares Clinton the “winner” *(some polls - Sanders)*
(Time-Warner owns CNN, donated 500K to Clinton campaign)
 - Many would like to see climate scientists harassed or jailed for challenging right-wing ideology with scientific evidence!

What is Needed?

Honesty, Accuracy, Clarity!

- **Honesty and integrity**
 - **Moral values: rooted in the Earth and spirit**
- **Accuracy needs understanding/fact-checking**
 - **Collaboration with professionals/scientists**
- **Clarity needs plain English, not jargon**

The Future Is Not Our Past

- **Collectively, we create the future, so we need to plan for a transition to a sustainable society**
- **In the face of a powerful economic and financial system driven by short-term profit**
- **Needs deep community discussion**
 - *New values that respect the Earth*

Community is central

- **You cannot deal with environmental issues alone**
 - They were created by the community over time
 - You need a community to weigh the evidence, search for creative solutions, and tell the truth
 - For moral support - *to deal with the opposition without fear or despair*
- **You need a grounding in yourself, as a group and with the Earth**

Engineering Guidelines/Rules to Minimize Impacts

- **Minimize the lifetime of human waste products** in the Earth system and eliminate waste with critical biosphere interactions
- **Minimize the use of non-renewable raw materials, and**
- **Maximize recycling and re-manufacturing**
- **Maximize the efficiency** with which our society uses energy and fresh water, and
- **Maximize the use of renewable resources**

Change of Attitude Needed?

- **Do we just exploit the Earth's wealth**
 - For greater 'economic growth'
 - For a wealthy few
 - What is left for our children?
 - What happens to the ecosystems we depend on?
- **Moral Issue**
 - Don't we need to co-operate with the Earth?
 - Shift in understanding and mind-set needed

- **“Many things have to change course, but it is we human beings above all who need to change. We lack an awareness of our common origin, of our mutual belonging, and of a future to be shared with everyone.”**

Pope Francis, Encyclical 2015

What Do We Need?

- So we need **honest, truthful, smart** pathways forward
 - That will **not frighten people** into paralysis
 - That will **spread hope, not anger or despair**
 - That sidestep ideological barriers **with new language**
 - That **develop adaptive governance**
 - The US Constitution gives no rights to the Earth
 - **That respect Earth system limits**
 - **That accept our moral responsibilities**

Overview of Herald/Time-Argus Environment page: 2008-2012

Feature articles grouped into eight categories

1. Technical solutions: renewable energy, efficiency, infrastructure changes (26%)
2. Vermonters' relationships to their natural environment, including such diverse aspects as birds, butterflies, marshes, meadows, forests, stream monitoring, the land ethic, and environmental literacy (23%)
3. Community initiatives, projects and conferences, social transformation (13%)
4. Educational and school projects, climate and energy literacy issues (10%)
5. Forestry, agriculture, and food issues, including biofuels, farmers markets, composting, and the Vermont farm-to-plate movement (10%)
6. Impact of climate change on Vermont's seasonal climate and growing season (7%)
7. Significance of personal lifestyle and energy use choices (7%)
8. Legislative issues (4%)

Alan Betts Columns: *Philosophy*

These columns go through the seasons, dealing with weather, climate, climate change, energy and policy issues. **They blend science with a systems perspective**, and encourage the reader to explore alternative and hopeful paths for themselves, their families and society. **They are written so that a scientist will perceive them as accurate** (although simplified); while the **public can relate their tangible experience of weather and climate to the much less tangible issues of climate change, energy policy and strategies for living sustainably with the Earth system**

Alan Betts Columns: *Framing*

Each Column frames a single theme

1. Weather/climate connection: technically accurate but 'clear'
2. Broader global context or theme
3. Strategies for dealing with issue or adapting in future
4. End on hopeful, creative sentence (with emotional content)

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(74 articles since 2008...)

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- b) **Working with the Earth** (**March 15, 2015**)
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Working with the Earth (3/15/2015)

This winter the eastern United States and Canada have had below-normal temperatures and above-normal snow cover. These go together: snow reflects sunlight and can lock in cold temperatures. In the fall the warmer Great Lakes produced many lake-effect storms, and in the past 2 months, there have been many powerful coastal snowstorms developing over the warmer Gulf-Stream. As the oceans warm, evaporation increases, storms get stronger and dump more snow.

It has been chilly here, but almost everywhere else in the northern hemisphere, from the western US to Eurasia, there were record high temperatures in January. California saw the warmest three-months on record for November to January. I heard the grizzly bears in Yellowstone were coming out of hibernation early!

On a global scale the Earth set a new global temperature record in 2014, and this continued into January. But it is stationary weather patterns that again are giving us these extremes. After two cold snowy winters in New England, we have probably forgotten the winter of 2011-2012 when we were locked into the opposite warm pattern with very little snow.

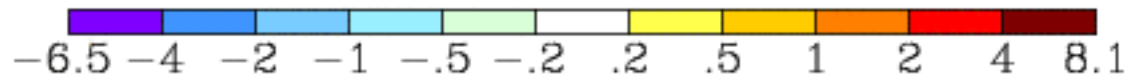
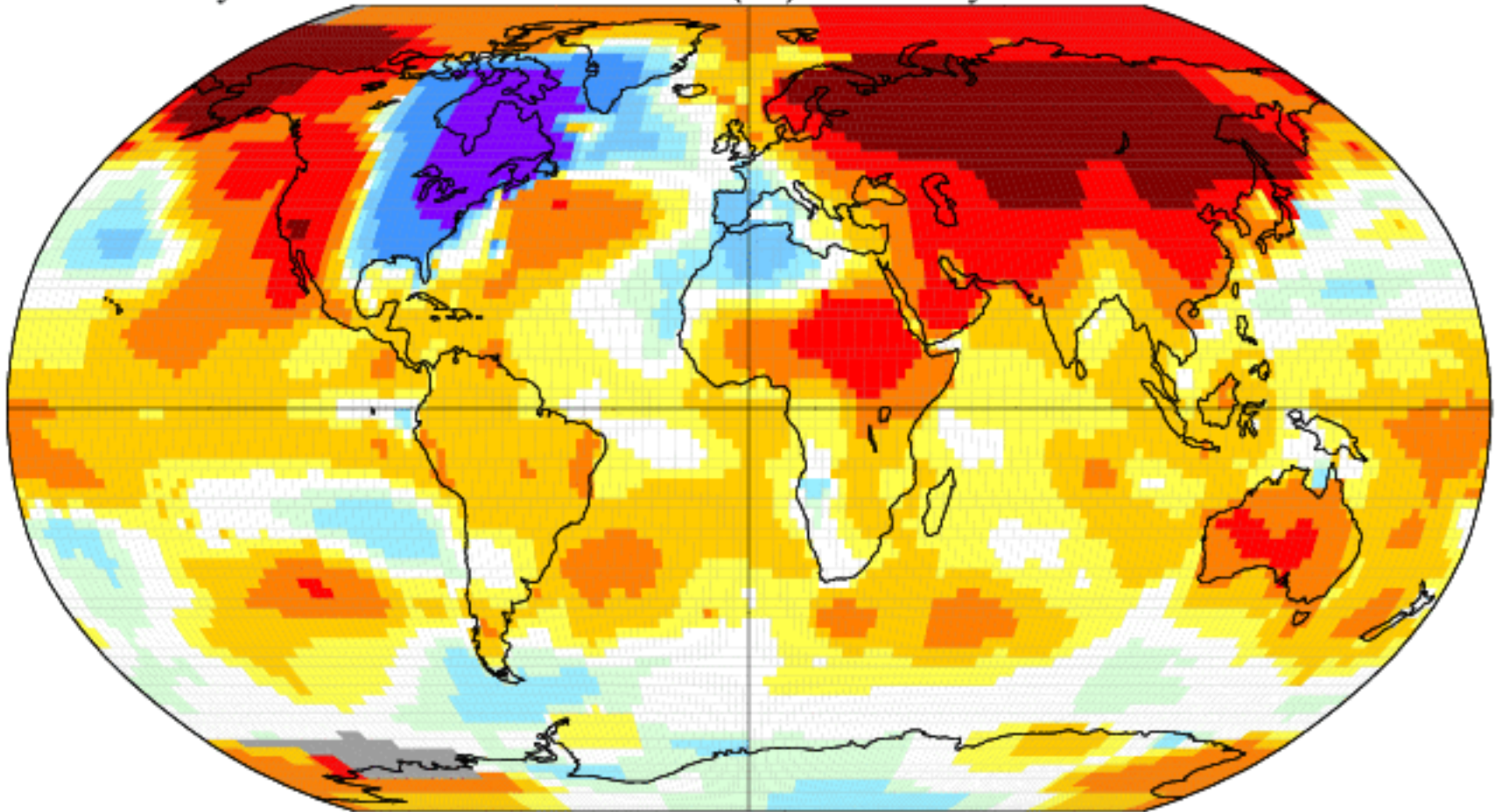
Extremes Larger in February

Pattern stationary Jan., Feb., March

February 2015

L-OTI(°C) Anomaly vs 1960–1980

0.77



We have wasted the past 20 years. Instead of drafting binding international agreements to reduce carbon pollution, we constructed a binding but amoral global market, based on minimizing costs and maximizing profit. It was designed to make cheaper goods for us, but it has dumped staggering pollution into the atmosphere in Asia, where the primary energy source was burning coal.

We know technically what to do to slow the march of climate change: use energy more efficiently and shift to renewable sources. The latest dimmable LED lights still give me a thrill with their clear light and low energy use. Thanks to Efficiency Vermont they are cheap in the hardware store. Technically we know what to do, but ethically and morally we are lost souls.

The latest research confirms that to have a fair chance of keeping the average global warming below about 4 degrees Fahrenheit this century, we will have to leave a third of the oil, half the gas and more than 80 percent of the coal reserves in the ground. So it's clearly time to stop developing new fossil fuel reserves. This is disturbing news to an economic system that sees fossil fuels as simply wealth to be exploited now, deferring the staggering climate costs into the future. This is why we need a pollution tax on burning fossil carbon.

Earlier this year, Pope Francis quoted an old farmer as saying: “God always forgives, humans rarely forgive, but nature never forgives”. At first I thought this was a little harsh, so I checked the source.

The farmer was referring to the exploitation of the land by monoculture until the soil has lost its vitality. Fair enough: if we don’t stop burning fossil carbon, than nature, as well as human conflict, will crush our economic system with overwhelming costs. The Earth simply responds to our thoughtless exploitation with melting polar ice, rising seas, intensifying storms and extreme weather.

But what happens when we change direction and start to work with the Earth; as when a farmer diversifies into organic agriculture and the soil is rejuvenated. The Earth heals, and we are healed also; so in this sense we may be forgiven.

This is the great moral challenge we face this century: understanding and reconnecting to the Earth. We tried to suppress the wisdom of the indigenous peoples who had a spiritual connection to the land. Little did we realize that a century later, this wisdom would be central to our survival as a species, and a profound source of hope.

Discussion

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Society has been slow to appreciate that technology itself, which has afforded the marvels of human civilization, must be managed along with all the waste and pollution. Technological developments have been market driven, without proper costing of the adverse impacts.

More generally, society has not grasped the fundamental distinction between the predictable manmade world of technology and the unpredictable, complex natural world, which is poorly understood (Schumacher, 1977).

Today's global environmental problems are both severe and unpredictable because technology, combined with a rapidly expanding human population, is now having a global impact on the natural world. The earth system itself cannot be managed; only human impacts can be managed and severely limited.

This basic understanding, however, conflicts with traditional thinking in industrial societies.

Articles in the Herald/Times Argus since 2008 (74 articles)

List of topics in 2008 (13)

- a) Welcome to the Planet (20 January, 2008)
- b) Looking back at 2007, and looking ahead (10 February, 2008)
- c) The integrity of science: the IPCC process (2 March, 2008)
- d) The challenge we all face (23 March, 2008)
- e) Spring, carbon dioxide and the rebirth of life (13 April, 2008)
- f) The Spring climate transition (11 May, 2008)
- g) The mid-summer solar moon (8 June, 2008)
- h) The interdependence of water and life (6 July, 2008)
- i) Facing the truth about our policies (3 August, 2008)
- j) From the European Weather Centre (31 August, 2008)
- k) Caring for our forests (5 October, 2008)
- l) Sustainable Systems (9 November, 2008)
- m) Our common Planet (14 December, 2008)

List of topics in 2009 (9)

- a) Winter reflections, one year on. (January 18, 2009)
- b) Snow's Global Impact. (March 1, 2009)
- c) Envisioning a sustainable energy future. (April 5, 2009)
- d) Balancing technology, economics and values. (May 10, 2009)
- e) Protecting our forests. (June 21, 2009)
- f) The choices we face. (August 2, 2009)
- g) The Transition into Fall. (September 13, 2009)
- h) Climate limits are closing in. (October 25, 2009)
- i) The Copenhagen Challenge. (December 6, 2009)

List of topics in 2010 (10)

- a) Earth science and society (January 31, 2010)
- b) Winter waste management (March 7, 2010)
- c) Spring climate transition and new beginnings (April 25, 2010)
- d) Oil disasters and the transition to sustainability (June 6, 2010)
- e) Lilacs grow green earlier ... and winter shrinks (July 4, 2010)
- f) Human actions have local and global impacts (July 18, 2010)
- g) Earth's response to human stresses on the natural landscape (August 29, 2010)
- h) Today is a day of climate action around the world (October 10, 2010)
- i) Climate change affects fall and winter transitions in Vermont (Nov. 7, 2010)
- j) What to do with all this rain! (Nov. 21, 2010)

List of topics in 2011 (10)

- a) New Year's reflections on our responsibility for the Earth (January 2, 2011)
- b) Winter reflections on more signs of climate change (February 13, 2011)
- c) Let's be honest about our global interdependence (April 3, 2011)
- d) Real power lies in resilience, not risk (May 8, 2011)
- e) Floods and more floods get our attention (June 19, 2011)
- f) Our children's future is a changing natural world (July 31, 2011)
- g) The second flood of 2011 (September 4, 2011)
- h) Vulnerability and resilience after tropical storm Irene (September 11, 2011)
- i) Understanding and dealing with a changing world (October 23, 2011)
- j) A miraculous protocol saved the ozone layer (December 4, 2011)

List of topics in 2012 (10)

- a) A year of weather disasters and climate inaction (January 15, 2012)
- b) Vermont winters are changing rapidly (February 26, 2012)
- c) A glimpse into the future of our Vermont climate (April 8, 2012)
- d) Climate change requires us to become an energy-efficient society (May 20, 2012)
- e) A lost generation: No progress on reducing climate change (July 1, 2012)
- f) Vermonters debate wind energy: Public input is part of the process (July 8, 2012)
- g) Finding our way to a sustainable future (August 19, 2012)
- h) The leaders we've been waiting for (October 7, 2012)
- i) Extreme weather and climate change (November 11, 2012)
- j) Water plays key role in weather and our lives (November 25, 2012)

List of topics in 2013 (9)

- a) The price we pay for ignoring climate change (January 6, 2013)
- b) Reflections on our environment, five years later (January 20, 2013)
- c) Accelerating climate change brings more extreme weather (February 24, 2013)
- d) Climate change brings many surprises (April 14, 2013)
- e) Spring resilience and fossil carbon taxes (June 2, 2013)
- f) Extreme weather, climate change and the future of our planet (July 21, 2013)
- g) Communities can build a more resilient society (September 8, 2013)
- h) Collaboration can solve our Environmental Challenges (October 27, 2013)
- i) Climate Change is a moral issue (December 15, 2013)

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- g) Warming world challenges ideology (November 22, 2015)