

## ABSTRACT

I have been a climate advisor to the people and the state of Vermont since 2005, when I served a term as President and of the Vermont Academy of Science and Engineering. My framing [1, 2] is to relate weather and climate concepts to the direct experience of audiences, so they can grasp my own climate research. I tell stories about the impact of extreme weather on people's lives; and map what lies ahead for our children and grand-children with our present fossil fuel-based economy.

My multifaceted strategy is open, clear and transparently honest, aimed at helping society understand and deal with critical issues. My road-map has many facets:

- 1) Public talks to schools and colleges, citizens groups, professional, business and religious groups.
- 2) Articles for state newspapers, and the journal 'Green Energy Times'
- 3) Radio and television interviews
- 4) Technical reports for the state.
- 5) Research focused on climate and energy issues for Vermont and northern latitudes [3-4]
- 6) An open access web-site: <http://alanbetts.com>.

## 1) Public Talks

Since 2006, I have given 275 talks across the state to receptive Vermont audiences, eager to understand what is happening to their climate. I blend climate with strategies for a sustainable future.

More technical talks for colleges and professional groups dealing with forest, land-use and watersheds. For high-schools, I will address what they can do in their lives and the challenges they will face if society continues with 'business as usual'. For business groups, I will contrast the needs of the Earth with current economic and financial doctrine. For religious groups, I will discuss our choices and our moral responsibility for the interconnected web of life.



# Climate Advisor to Vermont

Alan K. Betts

Atmospheric Research, Pittsford VT 05763

<http://alanbetts.com>

PA13E-0895

## 2) Articles:

•These articles (125 since 2008) are a blend of science and opinion, which deal with weather and climate, energy and policy issues from a systems perspective. They encourage the reader to explore alternative and creative paths for their families and society. In recent years, they contrast our real changing climate and its consequences with political delusions and denial.

•We all share responsibility for the future of the Earth.

## 3) Radio and TV interviews

These are occasional when requested to address current issues. A few are lengthy discussions for public television, or radio shows. Some are part of films. For some years I was a commentator for Vermont Public Radio.

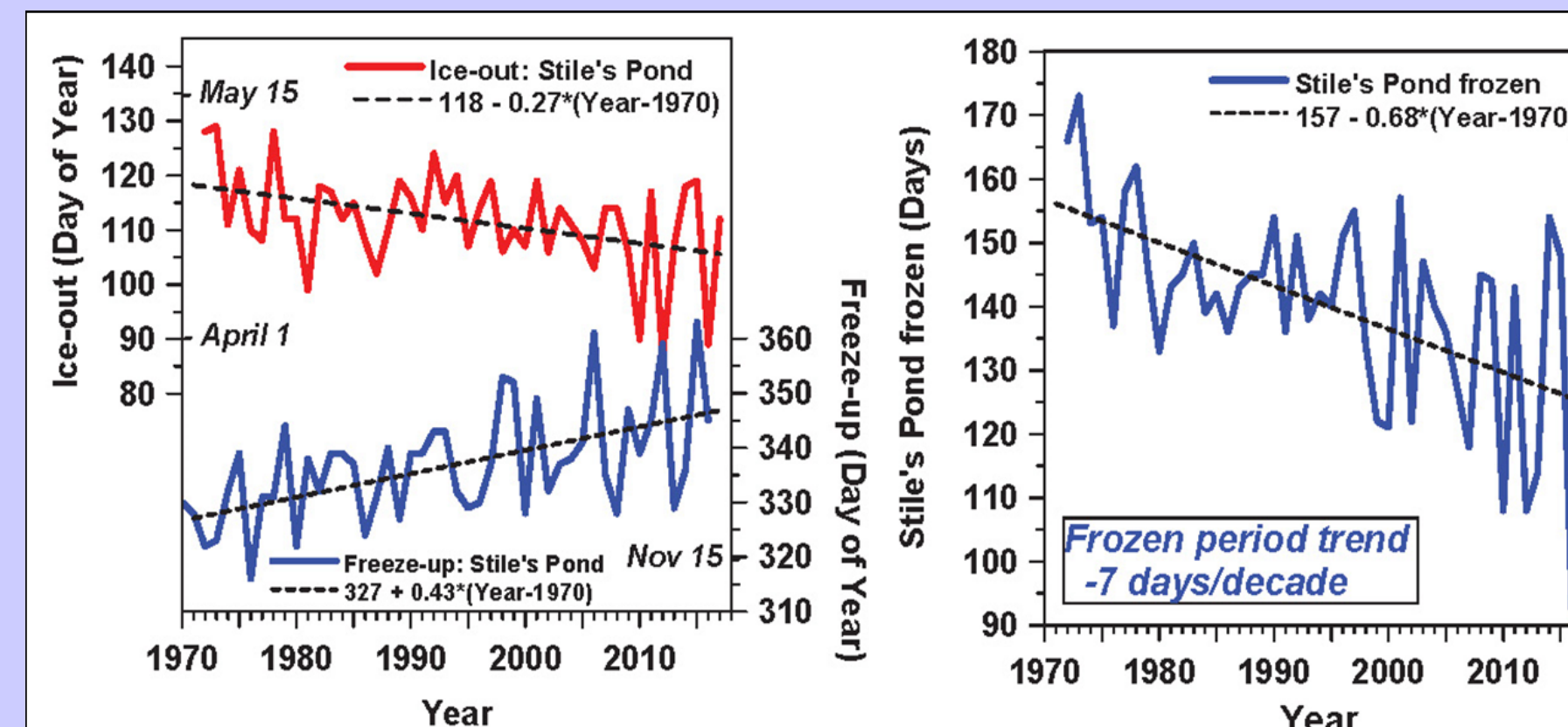
## 4) Technical Reports for Vermont

In 2006, the Governor appointed a Climate Change Commission that I advised; and in 2017, a second Climate Action Commission was appointed. For these I drafted summary reports

*Betts, A.K. (2017): Climate Change in Vermont. Vermont Climate Change Report for the Governor's Vermont Climate Action Commission. DOI:10.13140/RG.2.2.30544.81920*

## 5) Vermont Climate Research

Northern climates are marked by the large impact of snow cover on winter climate and the frozen period. As the planet warms, the winter climate is separating into modes with and without snow cover that do not overlap. The mean frozen period of a Vermont reference lake has been shrinking for decades, but now the interannual variability is huge.



Frozen period shrinking: Large winter variability coupled to snow cover

## 6) Web-site

My personal web-site makes all my writings, talks and research available.

It also addresses key climate questions in plain language. (<http://alanbetts.com>).

## CONCLUSIONS

Vermont is a State with a strong environmental ethic supported by Democratic, Progressive and Republican parties to different degrees. Transformation of the State energy system to renewables is underway, but progress in reducing greenhouse gas emissions is falling behind commitments.

The devastating flooding from Tropical Storm Irene, and the need to protect Lake Champlain has galvanized the State into planning for future extreme events.

Supported by VT EPSCoR: NSF OIA 1556770

## REFERENCES

1. Betts, A.K. and E. Gibson (2012), Environmental journalism revisited. Ch. 41, pp. 382-390, in Environmental Leadership: a Reference Handbook. Deborah R. Gallagher, editor.
2. Betts, A. K. (2011), Communicating Climate Science. EOS Transactions, 92, No. 24, 14 June 2011.
3. Betts, A. K. (2011), Vermont Climate Change Indicators. Weather, Climate and Society, 3, 106-115.
4. Betts, A. K. (2011), Seasonal Climate Transitions in New England. Weather, 66, 245-248.