WASHINGTON POLICY CENTER
Improving lives through market solutions

POLICY NOTE

No sign of warming: Snowpack levels in Washington state are average again

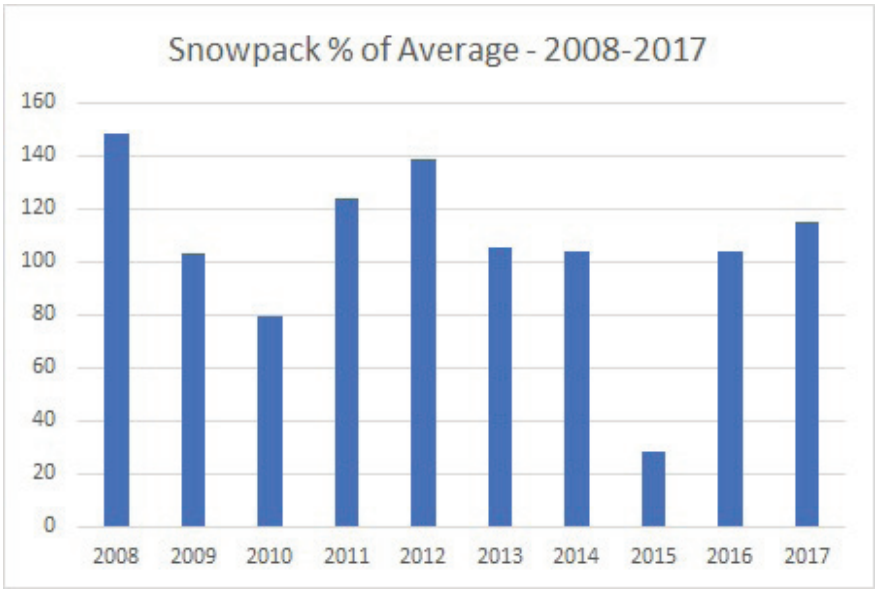
By Todd Myers, Director, Center for the Environment — April 2017

Key Findings

1. Some academics, like University of Washington Professor Paul Johnson, say that declining snowpack levels in the Northwest is a sign of global warming.
2. State Director of Ecology Maia Bellon says less snow and warm, dry winters "could be the new normal."
3. They're wrong. Snowpack levels have been above average in eight of the last ten years.
4. In the winter of 2015-16 snowpack was 112% of normal. In 2016-17 it was 115% of normal.
5. Politicians and activists have a strong incentive to tell alarmist stories even when they are not true.
6. However, imposing dramatic and costly public policies based on poor science shows the harm of believing false predictions about climate change.

It is one of the most common claims about the impact of climate change in the Pacific Northwest – the threat that our snowpack will decline, harming recreation, water supply, farmers, and fish. Recently, University of Washington professor Paul Johnson pointed to the claim that "our mountain snowpack is reduced by an increasingly earlier spring and later fall."[1]

Actual snowpack data, however, contradict this oft-repeated claim, as shown in the graph below.



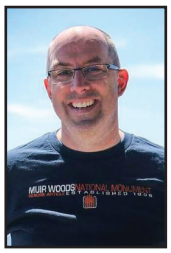
Snowpack levels in Washington state have been above average in eight of the last ten years

Although snowpack fluctuates during the winter, the percentages reported on April 1st are a useful guide to gauging water supply for the coming summer. Including 2017, snowpack on April 1st has been higher than average in eight of the last ten years.

If climate change is "here and now," as Professor Johnson says, this claim is not showing up in our snowpack. This is not just one or two years. It is the finding for eight of the last ten years.

Some may argue that ten years is not long enough to see the impacts of climate change. That may be, but we cannot point to declining snowpack as

1 "Climate change is not in the future but is here and how," by Paul Johnson, guest op-ed, *The Seattle Times*, March 31, 2017, at www.seattletimes.com/opinion/climate-change-is-not-in-the-future-but-is-here-and-now/.



Todd Myers is the Director of the Center for the Environment at Washington Policy Center. He is one of the nation's leading experts on free-market environmental policy. Todd is the author of the landmark 2011 book *Eco-Fads: How the Rise of Trendy Environmentalism Is Harming the Environment* and was a Wall Street Journal Expert Panelist for energy and the environment. Todd's research on the failure of "green" school mandates has stirred a reassessment of those requirements in school districts across the country. He currently sits on the Puget Sound Salmon Recovery Council and served on the executive team at the Washington State Department of Natural Resources. Todd also served as Director of Public Relations for the Seattle SuperSonics and Director of Public Affairs for the Seattle Mariners, and he holds a Master's degree from the University of Washington.

Published by
Washington Policy Center

washingtonpolicy.org
206-937-9691

evidence of climate change today when the level of snowpack is above average most of the time.

Another example is provided by state Director of Ecology Maia Bellon, who said in 2015 that warm, dry winters "could be the new normal" and that "nature seems upside down."[2] She was wrong. That winter of 2015-16 the Natural Resources Conservation Service reported snowpack was 112 percent of normal.[3]

Additionally, there is no evidence of higher temperatures turning winter snow into rain on a regular basis. By looking at the amount of snow and rain recently compared to normal, we can see if what is causing high snowpack is heavy precipitation but a lower-then-normal amount falling as snow, or that temperatures are not high enough to reduce snowpack.

For example, this last winter (2016-17), snowpack was 115 percent of normal, but precipitation levels were even higher, at 126 percent. This finding indicates that even though we had higher-than-average snowpack, it was driven in part by overall higher precipitation rather than cool temperatures.

That trend, however, does not hold over the last ten years. In six of the ten years, the percentage of precipitation that fell as snow was higher than average. For example, in 2009 and 2014, we had lower-than-average overall precipitation, but higher-than-average snowpack. There are other reasons snowpack reported on March 31st could be higher than average while precipitation lagged, but the fact that in six of the ten years snowpack grew while overall precipitation was lower indicates a very weak, or nonexistent, warming influence.

There are two important lessons from this data.

First, we should be less certain about the impacts we will see in the future. Several local scientists and advocates say we are already seeing declining snowpack as a result of global warming, even as the data show otherwise. Policymakers, looking to scientists for confident predictions about future impacts, should build in more uncertainty than scientists may be willing to admit.

Second, there is a strong incentive to continue to tell alarmist stories even when they are not true. Former Seattle Mayor Greg Nickels said in 2005, that "we'd never see normal snowpack again."[4] He was wrong. We have seen more above-normal snowpack years since then than below-normal years. Yet, the claim of declining snowpack continues to be one of the first impacts mentioned by those pushing for harsh new carbon regulations, more subsidies, and aggressive climate policy.

There is a strong push in Washington state to lock in dramatic and expensive climate policies. The failure to accurately predict something as relatively simple as snowpack levels should be a warning to policymakers who want to get the solution right without sacrificing economic growth or other public priorities. Given the uncertainty about climate impacts, we should avoid policies that are expensive and inflexible. The harm of believing false predictions about climate change may be greater than the benefit.

2 "Fall and winter forecast: warm and dry across the Northwest," by Jack Broom, *The Seattle Times*, September 23, 2015, at www.seattletimes.com/seattle-news/weather/fall-forecast-warm-and-dry-across-nw/.

3 "Snow Telemetry (SNOTEL) and Snow Course Data and Products," Natural Resource Conservation Service, U.S. Department of Agriculture, March 31, 2015, at www.wcc.nrcs.usda.gov/snow/.

4 "Nickels pushing pro-Kyoto resolution to mayors," by Bob Young, *The Seattle Times*, June 9, 2005, at www.seattletimes.com/seattle-news/nickels-pushing-pro-kyoto-resolution-to-mayors/.