

# Beyond Trump vs Clinton: A scientist's guide to the US election

The congressional races and state ballot measures that could shape US science.

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JimLo Scalzo/EPA

Some voters have already cast their ballots in the US 2016 election.

The presidential race [between Hillary Clinton and Donald Trump](#) is dominating the discussion about the upcoming US election, but it's not the only contest to watch on 8 November. Choices that voters make will influence other levels of government — and some of these decisions will steer the course of science and science policy.

## Will Congress change hands?

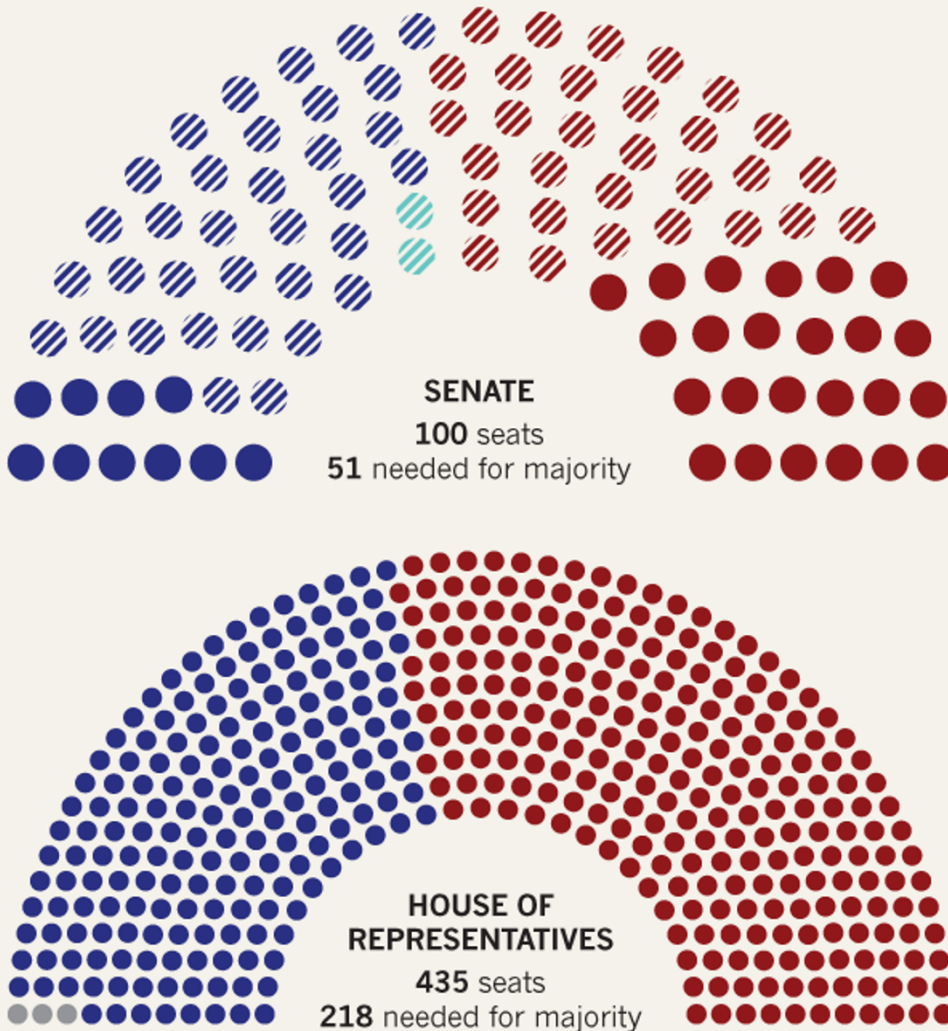
Winning the White House is only half the battle for the next president. The political balance of the two houses of Congress — the US House of Representatives and the Senate — can determine whether a president's policies become law or die on the vine.

The Republican Party currently controls both houses. But on 8 November, all 435 seats in the House of Representatives are up for grabs, as are 34 of the 100 seats in the Senate.

## CONGRESSIONAL CONTROL

The House of Representatives is likely to remain majority Republican after the 2016 US election, but Democrats could capture the Senate. The entire House and 34 Senate seats are up for re-election.

● Republican ● Democratic ● Vacant ● Independent  
▨ Seats not up for vote



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Although the House seems likely to remain in Republican hands, a Democratic take-over of the Senate is possible. That would benefit Clinton — a Democrat — if she prevails over Trump: the latest [polls suggest she has a narrow lead](#). A Democratic Senate would be more likely to back her funding and policy priorities, such as increasing science spending and fighting climate change, and to approve her nominees for government posts at NASA, the National Science Foundation (NSF) and other agencies key to science.

And if the Senate ends up split with 50 Democrats and 50 Republicans, the vice-president — who is also president of the Senate — would break the tie, handing control to the party that wins the White House.

### Congressional races to watch

Individual House and Senate races — and retirements — are set to change the political landscape for US science agencies in subtler ways.

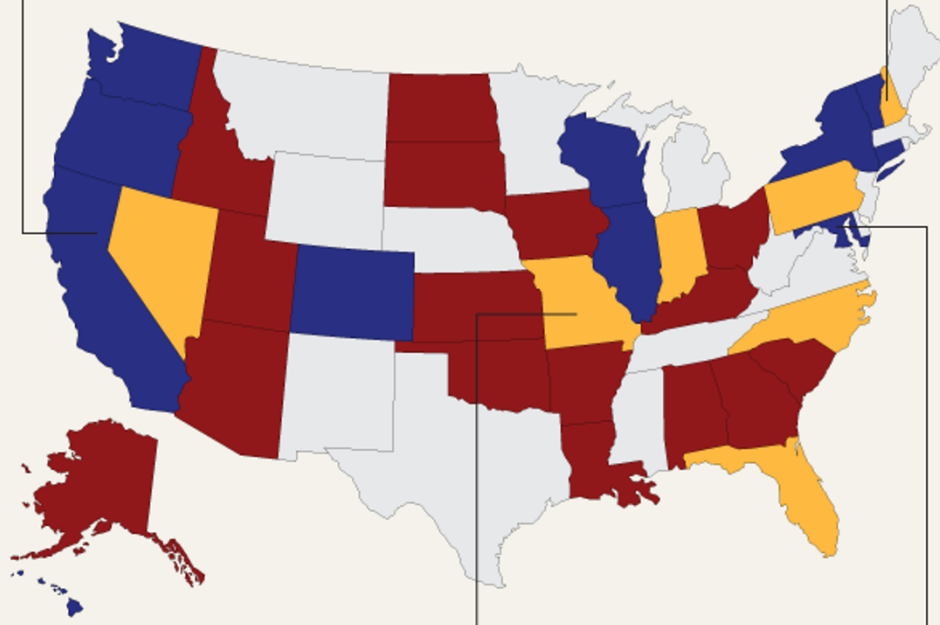
## SENATORS AND SCIENCE

34 Senate seats are up for grabs in 2016, some of which could have particular implications for science.

● Likely Republican\* ● Likely Democrat\* ● Too close to call\*

**California:** Democratic environmental champion retires

**New Hampshire:** Republican climate-change believer in tight race



**Missouri:** Republican supporter of health-research spending in tight race

**Maryland:** Democrat who was science advocate retires

\*According to polling data.

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Take **Maryland**, whose senior senator, Barbara Mikulski, is retiring after 30 years in office. Mikulski is not only the highest-ranking Democrat on the powerful Senate Appropriations Committee, which formulates the Senate's spending bills. She's also the top Democrat on the Senate subcommittee that oversees funding for the NSF, NASA and the National Oceanic and Atmospheric Administration (NOAA), and has pushed to increase spending on science over the years. That interest is home-grown: NASA's Goddard Space Flight Center and several NOAA facilities, including the agency's satellite operations centre, are located in Maryland. Many Earth, climate and space scientists consider Mikulski to be a powerful ally. Although her replacement is likely to be a fellow Democrat, that person won't have her seniority or inherit her science-friendly committee posts.

Similarly, **California** will say good-bye to Democratic senator Barbara Boxer, who has made environmental issues a focus during nearly a quarter of a century in the Senate. Boxer has led several attempts to enact comprehensive climate-change legislation as a leader of the Senate Environment and Public Works Committee; all failed in what she now says is her biggest regret as she heads into retirement. As with Mikulski, Boxer is likely to be replaced with another Democrat.

In **New Hampshire**, Republican senator Kelly Ayotte is fighting a close race to keep her seat. She's one of just five Republican senators who voted in favour of a 2015 amendment that declared climate change to be real — and caused by human actions. Ayotte's track record on environmental issues is mixed: she backed the Keystone XL oil pipeline, for example. But if she loses to her Democratic opponent, the Senate will lose one of its few Republicans who believe in climate change.

And in **Missouri**, long-time Republican senator Roy Blunt is in a surprisingly close race with a Democratic challenger. Blunt heads the Senate panel that helps to set funding for the US National Institutes of Health (NIH), the world's largest basic-research agency. In recent years, he has pushed to increase NIH spending even as his party has sought to reduce the government's overall budget.



Bill Clark/CQ Roll Call via AP Images

Senator Kelly Ayotte believes climate change is real.

### States get scientific

The federal election isn't the only game in town. Many states will be offering voters the chance to decide on legislation directly through 'ballot measures' — and a handful of these proposals relate to science.

State	Purpose of measure	Why it's interesting
Washington	Set a carbon tax.	Washington's plan would be the first state-level carbon tax in the United States. It borrows from the <a href="#">carbon tax instituted by British Columbia, Canada</a> , in 2008. Greenhouse-gas emissions from burning fossil fuels would be taxed at US\$15 per tonne starting in 2017, rising to \$25 per tonne in 2018 — and, ultimately, to \$100 per tonne (in 2016 dollars). The money raised would be used to offset other taxes. Many environmental groups support the plan, but some heavyweights — such as the Sierra Club, based in San Francisco, California — oppose it. They argue that the money raised should be used to promote renewable energy, improve public transportation or help communities adapt to climate change.
Montana	Establish a state biomedical research authority.	The Montana Biomedical Research Authority would award research grants on brain diseases, brain injuries and mental illness — up to \$200 million over ten years. Only researchers in Montana — a tiny state with a population of just 1 million — would be eligible for the funding. The research authority would join a handful of similar, but in some cases much larger, state grant programmes, such as the <a href="#">California Institute for Regenerative Medicine</a> , which has a budget of billions, and the <a href="#">California Blueprint for Research to Advance Innovations in Neuroscience</a> .
Oregon	Ban trade in products from 12 endangered species, including rhinos, elephants and whales.	The measure seeks to limit wildlife trafficking to protect endangered species — drawing on a similar measure that neighbouring Washington state backed in 2015, which was spearheaded by billionaire philanthropist and Microsoft co-founder Paul Allen. Oregon's measure would ban <a href="#">trade in elephant ivory</a> , shark fins and products from 10 other species that are struggling to survive. Exceptions include the sale and possession of antiques and musical instruments, donations for scientific or educational purposes, inheritance of animal products or use of such items by Native Americans.

State	Purpose of measure	Why it's interesting
Arizona, Arkansas, California, Florida, Maine, Massachusetts, Montana, Nevada and North Dakota	Legalize marijuana.	<p>Five states, including California, will vote on measures that would legalize recreational marijuana use. Another four states will vote on whether to permit or expand pot use for medical reasons.</p> <p>Four states already permit recreational pot use, and 25 states plus Washington DC allow medical marijuana. Researchers are struggling <a href="#">to understand the public-health implications</a> of such laws.</p> <p>The federal government still bans any marijuana use, although it recently agreed to <a href="#">expand the supply of pot for research</a>.</p>



*Josh Edelson/AFP/Getty Images*

It is legal to sell recreational marijuana in the state of Oregon.

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