

# Root is LEADING ON Climate

## RootForCitizenCongressman.org

### 117<sup>th</sup> U.S. Congress, House of Representatives, 2020 Election



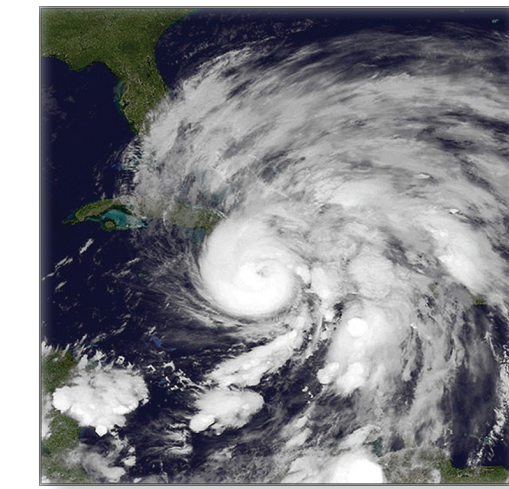
Root Routledge, PhD

Colorado, CD3

Progressive Western Democrat  
Grassroots, no corporate/PAC money

## We are out of time...

Our climate is rapidly *destabilizing* — we are at the precipice of runaway tipping points due to nonlinear feedback loops spiraling out of control. We need to turn the corner *now!*



Hurricane Sandy, 2012



Mother Earth is at Risk Now

## The Arctic Affects Everything



Ice shelves, sea ice and glaciers are rapidly disappearing. Glacier National Park had 150 glaciers in the late 1800s; it now has 26, with area loss of 90%. Glaciers are the sole source of drinking water for 250 million people. None will be left by 2100. Antarctica has had a 6-fold increase in melting since the 1970s. Greenland lost enough water the last two days of July, 2019, to cover Florida by 5 inches. This nonlinear phenomena could see a sealevel rise of over 3 meters by 2050. Source: Dahr Jamail, *The End of Ice*, 2019



Thawing permafrost and melting sea- and lake-bottom methane-hydrates release massive amounts of CH<sub>4</sub>, with at least 25x CO<sub>2</sub> equivalent, pushing us to the tipping point brink. Such an enormous aggregate of multiple nonlinear changes are abrupt, unexpected, and challenging to predict.



An iceless Arctic will cause polar bears and other species to go extinct. Marine habitat mammals require sea ice to hunt and feed. Planetary climate stability depends on ice. Impacts of the loss of Arctic ice are enormous due to Earth's massive thermal and mass inertia interacting with amplifying feedbacks. Melting fresh water entering the North Atlantic is altering the Gulf Stream, which affects the temperature and weather patterns of Europe.



Regional and local weather patterns are determined by the impact of the Arctic on the jet stream. The Arctic is warming at twice the rate of planetary global warming. Earth is poised to experience strong amplifying polar feedbacks to moderate warming. Source: Dr James Hansen



Enormous changes, like expanding droughts, are already "baked in".



Hurricane Irene, 2011, road cut by river flooding. Infrastructure is at risk due to climate impacts.

## Western Colorado



Wildfires have increased in frequency, duration and areas burned - twice what would have burned had climate change not occurred. Drying and beetle infected forests are more susceptible to burning; forests can become net carbon emitters.



Fourth National Climate Assessment, Volume II, 2018 U.S. Global Change Research Program.

Increasing disruption to agricultural productivity — Livestock health, declining crop yields and quality, dropping groundwater and extreme events threaten rural livelihoods, sustainable food security, price stability.



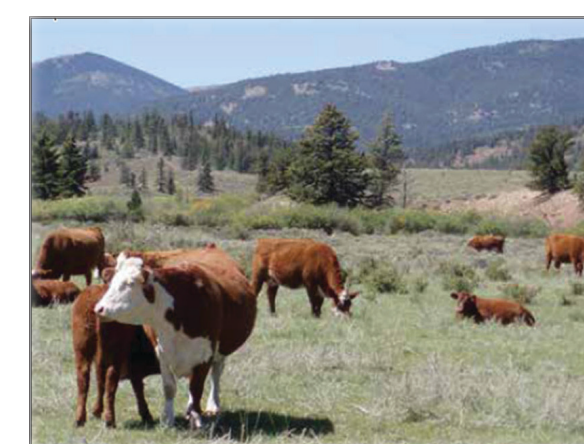
Rocky Mountain Climate Organization, 2018 Report - Northwest Colorado Council of Governments Headwater Counties: Eagle, Grand, Gunnison, Pitkin, Routt, and Summit — Water & snow are at climate risk. Less winter precipitation as snow, more as rain; snowpacks declining; snowmelt occurring earlier in season. All result in decreased river flows, including the Colorado River, largest source of water in the country's driest region; providing irrigation water as well as drinking water for 22 of the 32 largest cities across the West.



As temperatures rise, irrigation water gets used more frequently to cool crops as aquifers are depleted and not recharged, and water tables continue to drop



Increasing frequency, intensity and duration of droughts cause crop failures



Cattle can suffer reduced weight gain or fatal heat stress due to heat extremes



More intense summer drought & warmer winters lead to physiological stress and forest susceptibility to insect outbreaks



Loss of alpine habitat can lead to local species extinctions such as the pika

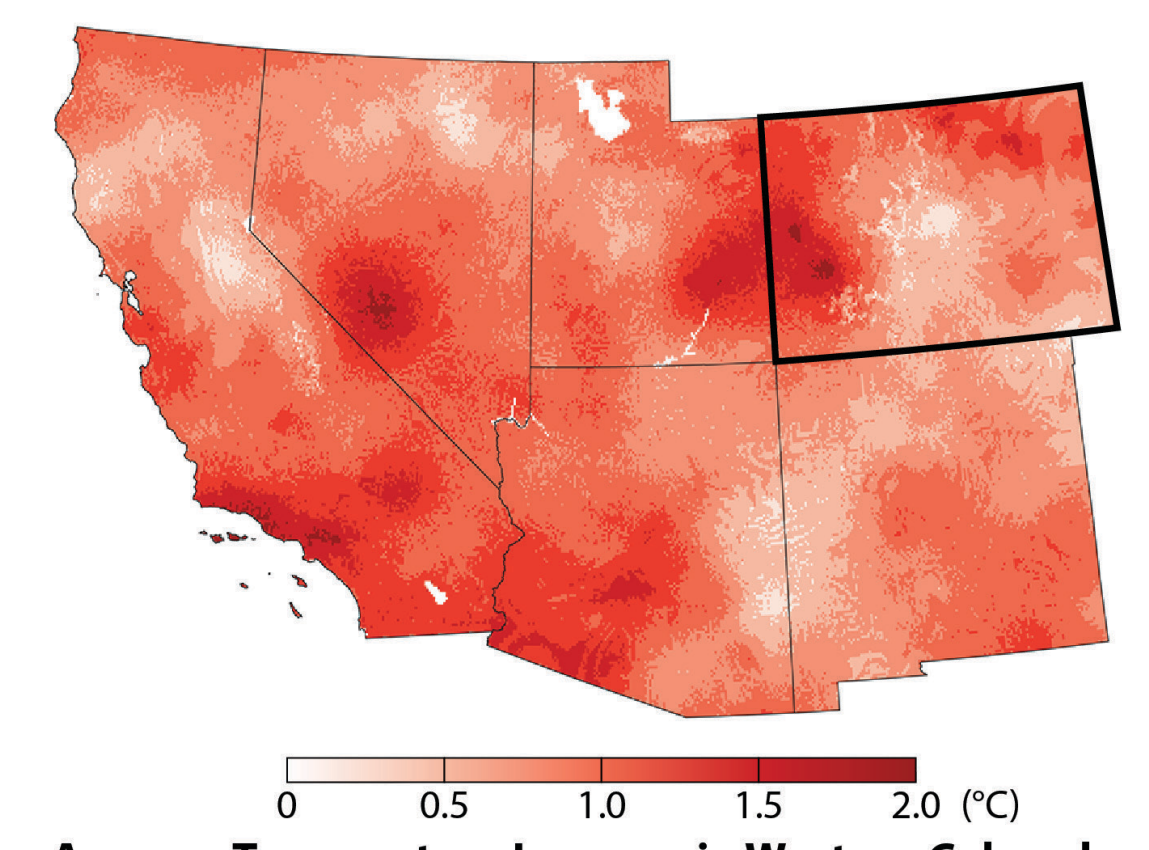


Biotic interactions with climate, such as seasonal shifts in plant phenology and pollination, affect ecosystem functioning

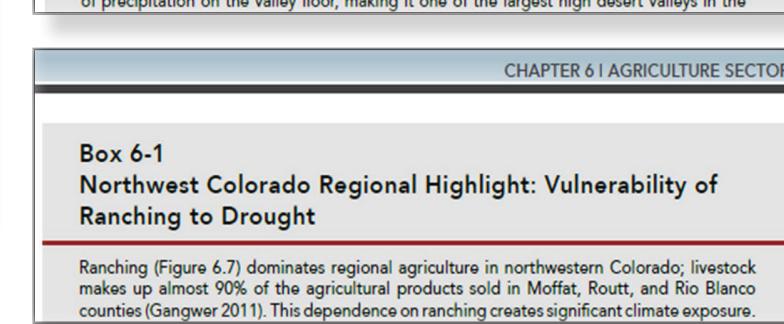
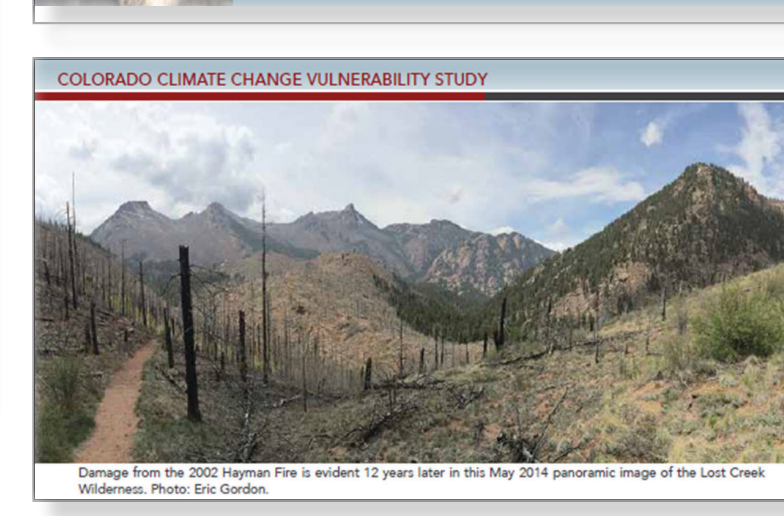


Native Colorado cutthroat trout at risk due to rising stream temperatures, lower flows and habitat fragmentation

The impacts are current, pressing, and very serious



Average Temperature Increase in Western Colorado  
Past 30 years (1986-2016) vs Early 20th Century (1901-1960)  
Source: Fourth National Climate Assessment (2018)



### Strategic Vision for a Viable American Future

- **Healthy Democracy**
  - » [HR 1: For The People Act](#)
    - Election access, integrity, security - restore VRA, indep nonpartisan redistricting
    - Campgn finance emprmt, small\$, C/U fndgs
    - Ethics, conflict-of-interest, transparency
- **Healthy Population**
  - » [HR 1384: Medicare For All Act](#)
    - Universal: All are covered, provider choice
    - Comprehensive expanded benefits
    - National health budget - no premiums, no deductibles or co-pays, meds covered
- **Healthy Environment**
  - » [HR 763: Energy Innovation and Carbon Dividend Act](#)
    - Incng Fee on Carbon at source, adj/progress
    - Good for People & Economy, Rev neutral
    - Effective: Mkt resp drvs CO<sub>2</sub> emns to net=0
    - Dividend pmts to all U.S. Citzns/Lawful res
  - » [HRes 109: Green New Deal](#)
    - A system-wide perspective and response
- **Healthy Economy**
  - Inc Progressive House; take Senate & Ldrshp
  - [Pres Bernie Sanders](#) - [window to the future](#)