

Root is **LEADING** ON **CLIMATE**

A Military Veteran with Grit



C-141 Navigator
Strategic Global Airlift



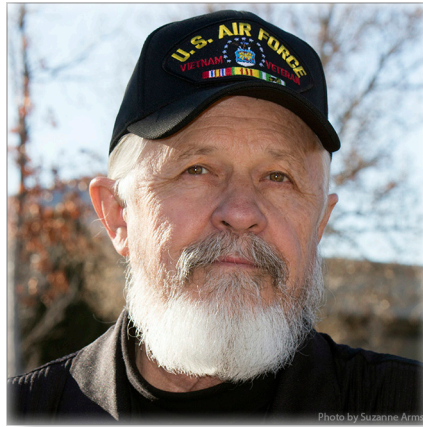
Tactical Combat Airlift
Troops and Supplies



EC-47 Navigator
Tactical Military Intelligence



Captain Root Routledge
Vietnam Combat Veteran
Distinguished Flying Cross



Root Routledge, PhD
Colorado, CD3, U.S. House, 2020
RootForCitizenCongressman.org

A Problem Solver Who Knows Systems

A viable future calls for a system-wide perspective and response

[Strategic Vision for a Viable American Future](#)

- **Progressive Western Democrat**
- **Authentic Leader** — Trust and Integrity
Leading with Vision and Conviction
- **Grassroots Campaign** —
No Corporate or PAC Money
- **Patriotic Vision** — American People,
Our Common Good, A Viable Future
- **Strategic Priorities**
 - » **Healthy Democracy: HR1**
Fix Our Democracy First
Equal Citizen Participation
 - » **Healthy Population: HR1384**
Comprehensive Medicare for All
Progressive Financing
 - » **Healthy Environment: HR763, HRes109**
Carbon Fee-and-Dividend, Just Transition
Distributed Renewable Energy
Clean Energy, Ban Fracking, Energy Indep
 - » **Healthy Economy: Pres Bernie Sanders**
Econ Justice, Public Projects ⇒ Public Bank
Free Public Education, Strng Econ ⇒ Jobs,
Livable Wage, Infrastructure, Commons
- **Protect the Colorado We Love**
Public Lands, Water Consvrn, Rural Needs,
Strong Local Economy, Fund Fire Fighters

A Westerner Who Means Business



Owned Horses
Gathered Cattle
Grazing Impact Studies



Trail Rides & Packing
Natural Resource Management



Root Routledge, PhD
Founder, [Alpine Analytics](#)
Industrial Consultant

Root is LEADING ON Climate

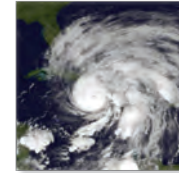
RootForCitizenCongressman.org
117th U.S. Congress, House of Representatives, 2020 Election



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 Jamal, *The End of Ice*, 2019



Thawing permafrost and melting sea- and lake-bottom methane-hydrates release massive amounts of CH₄, with at least 25x CO₂ equivalent, pushing us to the tipping point brink. Such an enormous aggregate of multiple nonlinear changes are abrupt, unexpected, and challenging to predict.



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



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



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

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



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



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



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

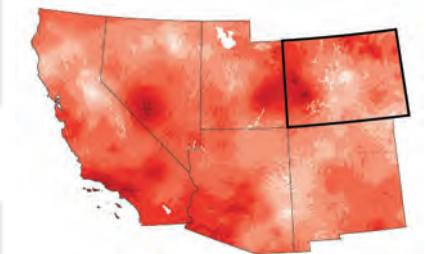


Loss of alpine habitat can lead to local species extinctions such as the pika



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 CO₂ 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 Prgressive House; take Senate & Ldrshr
- [Pres Bernie Sanders - window to the future](#)

