

HR 12 Written Testimony Set Four 2.3.20

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24. Dick Farnell
25. James Schwarber

From: [REDACTED]
To: [House Resources](#); [Rep. Harriet Drummond](#)
Subject: House Committee on Climate Policy
Date: Friday, January 31, 2020 1:09:03 PM

Dear Members of the Committee-

We are at the front lines of Climate Change here in Alaska and we must have a framework for decision making that recognizes that reality. As House Resolution 12 states, we must ensure that we are understanding of current climate research and exploring policy options relating to climate change effects, mitigation, resilience, and adaptation in the state.

I strongly support the establishment of a House Special Committee on Climate Policy in the Alaska Legislature.

Sara Dykstra
Anchorage, AK

From: [REDACTED]
To: [House Resources](#)
Subject: I Support H.R. 12
Date: Monday, February 03, 2020 5:27:51 PM

Dear Alaska House Resources Committee Members,

As a retired fish biologist with 26 years of experience in Alaska, I am deeply concerned about human-caused climate change. Just last year we have witnessed heat and wildfires, melting sea ice and coastal erosion, and resulting impacts to human health and our subsistence wildlife. Salmon perished in warming streams, caribou struggled with increased rain on snow events, and birds lost habitat. I urge you to support H.R. 12 to form a Special Committee on Climate Change.

Alaska is on the forefront of climate change and ought to be a global leader in implementing climate solutions. It is time for our elected officials to step into leadership roles on climate issues. H.R. 12 would help implement a step in the right direction.

Thank you for your attention to this critical issue.

Sincerely,

Ms. Brenda Wright

[REDACTED]
[REDACTED]

Juneau, AK 99801-8317

From: [REDACTED]
To: [House Resources](#)
Subject: I Support H.R. 12
Date: Friday, January 31, 2020 1:50:16 PM

Dear Alaska House Resources Committee Members,

We are experiencing climate change at over twice the rate of the average world-wide. As an Alaskan, I am deeply concerned about human-caused climate change. Just last year we have witnessed heat and wildfires, melting sea ice and coastal erosion, and resulting impacts to human health and our subsistence wildlife. Salmon perished in warming streams, caribou struggled with increased rain on snow events, and birds lost habitat. I urge you to support H.R. 12 to form a Special Committee on Climate Change.

Alaska is on the forefront of climate change and ought to be a global leader in implementing climate solutions. It is time for our elected officials to step into leadership roles on climate issues. H.R. 12 would help implement a step in the right direction. Please, please let's start planning to mitigate and adapt to this. We need this committee to guide us in taking these steps.

Thank you for your attention to this critical issue.

Sincerely,
Paula Williams

[REDACTED] Anchorage, AK 99502-4687
[REDACTED]

From: [REDACTED]
To: [Rep. Adam Wool](#)
Cc: [House Resources](#); [Rep. Ben Carpenter](#); [Rep. Matt Claman](#); [Rep. Harriet Drummond](#); [Rep. David Eastman](#); [Rep. Bryce Edgmon](#); [Rep. Zack Fields](#); [Rep. Neal Foster](#); [Rep. Mel Gillis](#); [Rep. Sara Hannan](#); [Rep. Grier Hopkins](#); [Rep. Sharon Jackson](#); [Rep. DeLena Johnson](#); [Rep. Jennifer Johnston](#); [Rep. Andy Josephson](#); [Rep. Gary Knopp](#); [Rep. Chuck Kopp](#); [Rep. Jonathan Kreiss-Tomkins](#); [Rep. Bart LeBon](#); [Rep. Gabrielle LeDoux](#); [Rep. John Lincoln](#); [Rep. Kelly Merrick](#); [Rep. Mark Neuman](#); [Rep. Daniel Ortiz](#); [Rep. Lance Pruitt](#); [Rep. Sara Rasmussen](#); [Rep. George Rauscher](#); [Rep. Laddie Shaw](#); [Rep. Ivy Spohnholz](#); [Rep. Andi Story](#); [Rep. Louise Stutes](#); [Rep. Colleen Sullivan-Leonard](#); [Rep. David Talerico](#); [Rep. Geran Tarr](#); [Rep. Steve Thompson](#); [Rep. Cathy Tilton](#); [Rep. Chris Tuck](#); [Rep. Sarah Vance](#); [Rep. Tammie Wilson](#); [Rep. Tiffany Zulkosky](#)
Subject: HR 12 Climate Committee Needed
Date: Saturday, February 01, 2020 10:50:11 AM

Hello Representative Wool (et all),

I am writing you in regards to the decisions to add a Climate Action committee to the House, and urging you to please move forward with this newest addition. I am a born and raised Fairbanks resident and have seen through the years how climate change is directly affecting those who live in Alaska, as well as the many precious ecosystems that are found in this northern area. Now more than ever there is a strong need to ensure a just transition into a more sustainable and renewable energy economy, as well as raise up indigenous voices and create a plan for climate crisis situations. There is much work to be done and having a House Committee to be working on these topics full-time is crucial.

Sincerely,
Sophia Walling-Bell

From: [REDACTED]
To: [House Resources](#)
Subject: I Support H.R. 12
Date: Friday, January 31, 2020 1:50:09 PM

Dear Alaska House Resources Committee Members,

As an Alaskan, I am deeply concerned about human-caused climate change. Just last year we have witnessed heat and wildfires, melting sea ice and coastal erosion, and resulting impacts to human health and our subsistence wildlife. Salmon perished in warming streams, caribou struggled with increased rain on snow events, and birds lost habitat. I urge you to support H.R. 12 to form a Special Committee on Climate Change.

Alaska is on the forefront of climate change and ought to be a global leader in implementing climate solutions. It is time for our elected officials to step into leadership roles on climate issues. H.R. 12 would help implement a step in the right direction.

Thank you for your attention to this critical issue.

Sincerely,
Mr. Ben Sullender
[REDACTED] Anchorage, AK 99508-5139
[REDACTED]

From: [REDACTED]
To: [House Resources](#)
Subject: I support HR12
Date: Friday, January 31, 2020 2:12:09 PM

My name is Emiko Strandberg who lives on 3217 Purdue St. Anchorage ,Ak 99508,
I surely support HR12. Hopefully you get money enough to fix the problems. It has been discussed for a long times.
Especially around coastal areas. The meantime people live around there move away from the erosions areas.

Thanks for hardworking when we have so much to solve many problems.

The best regards, Emiko Strandberg
Sent from my iPhone

Hello, I'm Shayna From Faith Christian School and Tutoring

My classmates and I support lines ¹⁸

through ²⁰ on page ³ which states,

"Whereas, the state is the only

Arctic state in the nation and is

properly positioned to be an active

and independent voice in international

discourse relating to climate change

and ^{adap.tation} adaptation policies, independent

of the federal government;". The US

Constitution and the Bill of Rights

give the federal government limited

enumerated authority. All other authority is given to the states and the people. Why should the federal government be involved with this? I am proud to be born in Alaska, the state that is taking the initiative to be the state voice on climate change.

Shayna

From: [REDACTED]
To: [House Resources](#)
Cc: [Rep. Andy Josephson](#)
Subject: HR 12 Special Committee on Climate Policy
Date: Sunday, February 02, 2020 9:32:55 AM

Dear Resource Committee members,

Thank you for the opportunity to testify in support of HR 12 on Friday. Backing up my comments (copied below) on costs to Alaska's infrastructure, I provide the following link to the study completed in 2017. <https://www.pnas.org/content/pnas/114/2/E122.full.pdf>. It is summarized in this Anchorage Daily News article: <https://www.adn.com/alaska-news/environment/2017/02/09/climate-change-to-be-costly-to-alaskas-public-infrastructure-study-says/>

I would like to add that this special committee is just the smallest of steps. To effectively address climate change and our contribution to it requires mainstreaming it throughout government agencies and programs. This means when we make a decision-- whether it is how we manage a fishery, permit oil development, construct a new highway, fight wildfires, or deliver social services to rural communities-- we consider how that decision impacts or is impacted by climate change.

Best regards,

Sally Schlichting

Testimony:

I support HR 12 to create a special committee on climate policy. Across our state, our communities are struggling to cope with rapid changes and impacts as a result of global warming. Not only is our state warming faster and facing some of the most extreme effects of climate change, but we're also the largest state in the country facing this challenge.

As you and your colleagues work to solve our state's budget problems, I urge you to view climate impacts through a fiscal lens. Coastal erosion, thawing permafrost, forest fires, and drought pose infrastructure costs in the billions. Banks, insurance companies and investment firms are moving away from businesses, infrastructure and real estate that have climate risks. Their decisions will affect Alaska's bottom line.

This is why a special committee on climate policy is an opportunity to focus on legislation that can climate-proof our budget and ensure community resilience. Legislation could include energy conservation and efficiency, incentives to transition to renewable energy, and addressing our state's infrastructure vulnerabilities. Such measures will allow our communities to thrive and grow in a changing world, but also reduce state expenditures over the long-term. We are a big state on the front lines of climate change. We need this special committee to give this challenge the attention it requires.

I urge you to pass House Resolution 12.

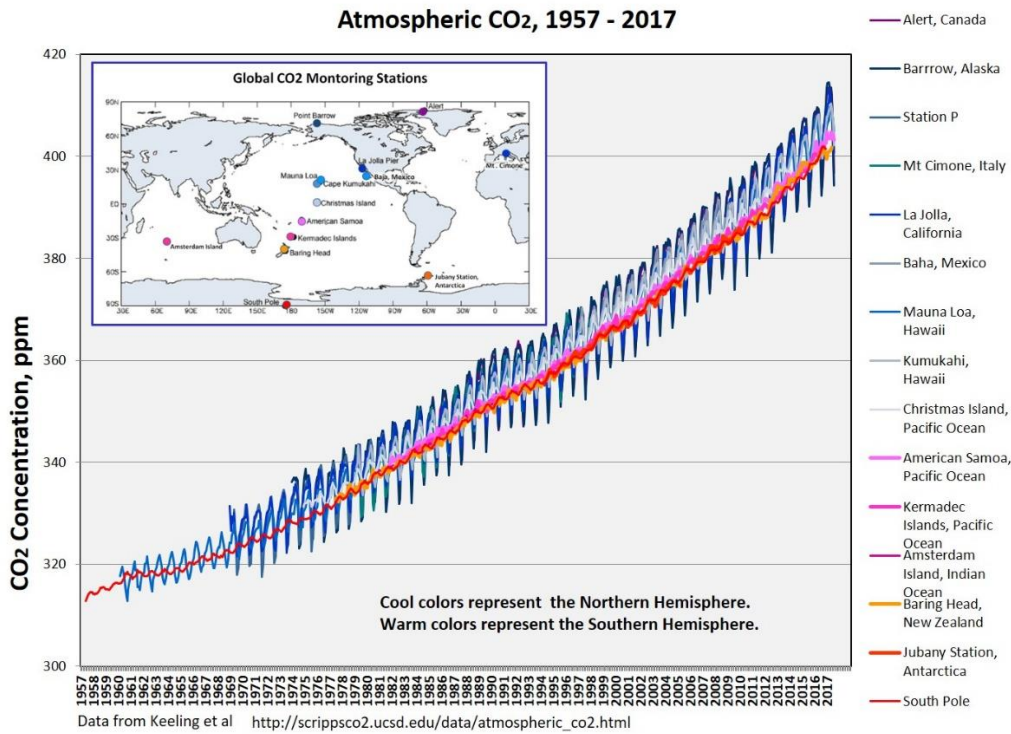
Climate Change in Alaska

- **Climate Change is real. It is unquestionably caused by human emissions of greenhouse gases, and it will cause problems ranging from serious to catastrophic for people and nature in coming decades.**
- **Global warming** is the direct warming of the earth by greenhouse gases. **Climate change** includes the **second-order effects** from global warming such as changing winds, drought, rainfall, melting ice, distribution of deserts, sea-level rise and the biosphere.
- CO₂ has been known to be a greenhouse gas for 150 years. The first calculations of global warming were published in 1896 by Swedish chemist Arrhenius. Warming by greenhouse gases is well quantified and proved by the heat appearing in earth systems.
- **The oceans are warming from the surface downwards. The atmosphere is warming. Ice is melting in almost every setting on earth.** The quantity of heat now appearing in earth systems closely matches the heat known to be retained by greenhouse gases, leaving no doubt as to the source of the excess heat.
- Increasing concentrations of CO₂ and other greenhouse gases are unquestionably from human sources, mostly from burning fossil fuels. CO₂ accounts for about 2/3 of current retained heat.
- **Future global warming can be forecast reliably** depending on future CO₂ concentrations. The reductions in carbon emissions needed to keep warming under two degrees C seem unlikely to be achieved.
- There are **feedback mechanisms** accelerating the warming. Feedback mechanisms include rising humidity (which is another greenhouse gas), decreasing sea ice and release of methane from permafrost. Feedback mechanisms may account for as much as 1/3 of current warming, and are expected to have an increasing impact on global warming.
- **Arctic amplification** of greenhouse warming was predicted in the 1960s, and quantified with models in the late 1970s. Arctic amplification is caused by the loss of sea ice, and the increase in heat absorbed by the ocean.
- **Alaska is warming at an alarming rate.** The most significant consequences to people in Alaska will be **damage to fisheries, damage to tourism and quality of life due to summer wildfires, coastal erosion, and impairment of subsistence resources.** Loss of winter snow will impact wildlife. Changes to oceans and land will impair subsistence life and communities.
- Global consequences include migration of deserts, impairment of agriculture in many countries, coastal flooding and stronger storms. Refugee crises will become more common as some countries will not be able to provide for their citizens.
- A dedicated Climate Committee in the House of Representatives is necessary to develop policies for mitigation and adaptation of climate change in Alaska, and to plan for a transition to an economy without oil. Immediate issues regarding attention include fuel-gas usage on the North Slope, which accounts for 2/3rd of Alaska's greenhouse gas emissions. Other policies to reduce fossil-fuel dependence in the state are also necessary. Policies for adaptation are necessary to help Alaskan communities deal with environmental challenges of coastal erosion and loss of subsistence resources. Effective forecasting is necessary to enable businesses to adapt as well.

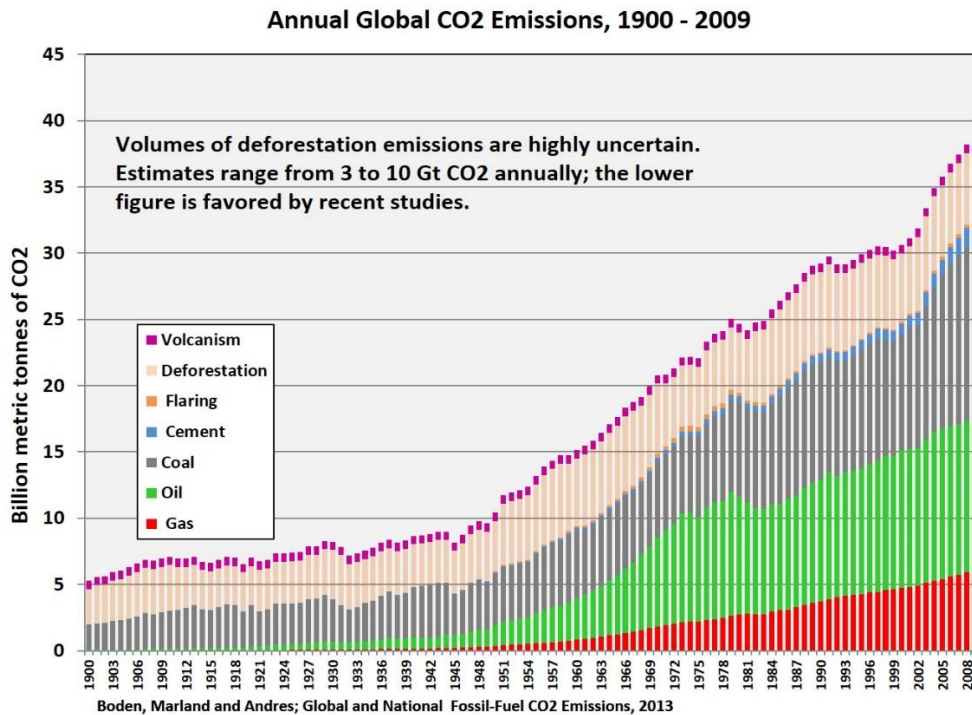
-- Continued on next page. --

The Cause, Evidence and Consequences of Climate Change

Take a deep breath. There is more CO₂ in that breath than there was a year ago. There has been more CO₂ in the air every year since you were born.



Rising CO₂ in the atmosphere is unquestionably due to fossil fuels. The evidence is in the volume of fossil-fuel emissions, the isotopic composition of atmospheric CO₂, the depletion of oxygen in the air, the steady rise of CO₂, and the location of where CO₂ is rising fastest. All of these show that fossil fuels are the source of rising CO₂.

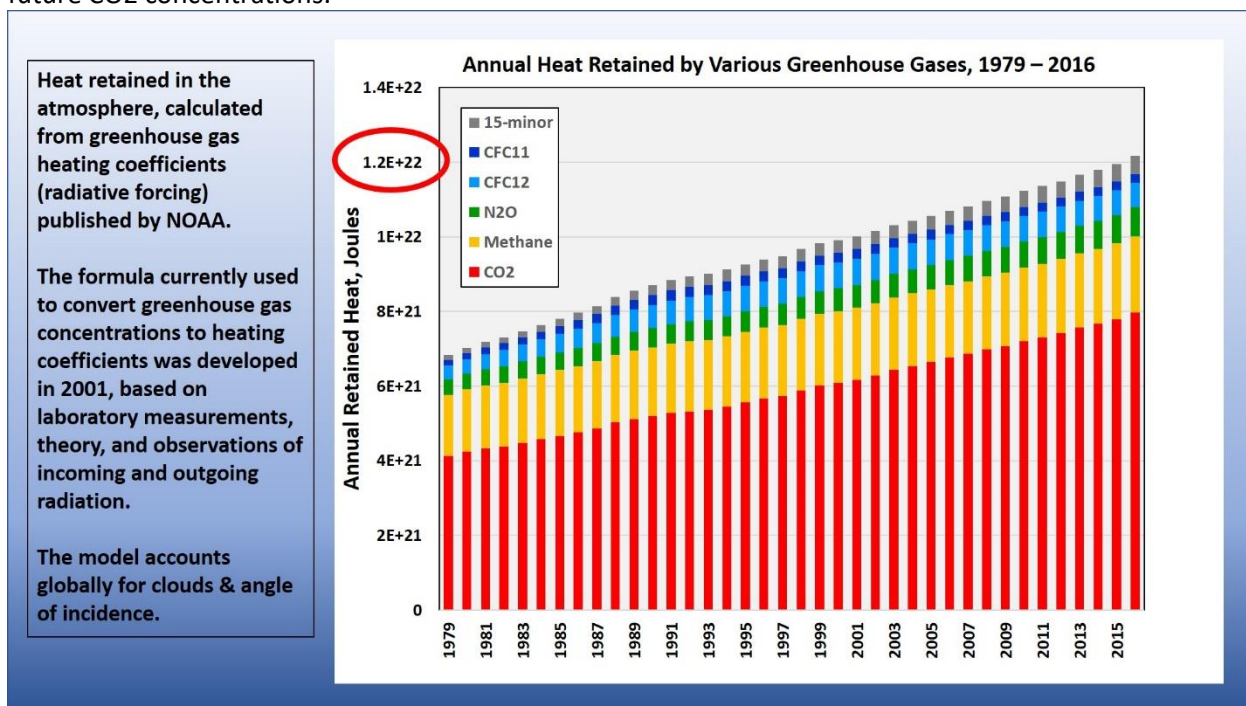


The extra CO₂ in the air isn't a problem for breathing, but it traps heat in the atmosphere. We know how greenhouse gases work and how much heat they retain. Like a one-way mirror, greenhouse gases allow the sun's radiance to reach the earth, but block some of the returning thermal infrared radiation from escaping into space. At current levels of CO₂, we have a heat imbalance, with about 0.4% of the incoming heat retained and constantly accumulating.

CO₂ has been known to be a greenhouse gas for 150 years. The first calculation of the impact of higher CO₂ on atmospheric temperature was in 1896; first recognition that burning coal could change the climate was in 1906, both by Swedish chemist Arrhenius. Modern scientific warnings about climate change were made in 1965 (President's advisory committee), 1979 (Jasons report), 1989 (Hansen testimony to Congress). Exxon scientists produced forecasts of changing CO₂ and rising temperatures in the 1980s; the forecasts are amazingly accurate. The first IPCC report was issued in 1991. There have now been five IPCC reports and four National Climate Assessments, all warning of potentially catastrophic change.

We can calculate how much heat has been retained by CO₂ in the past, and we can forecast how much heat will be retained at higher levels of CO₂ in the future. The amount of heat appearing in the oceans, ice and air is a close match to the amount of heat that has been retained in the atmosphere by CO₂ and other greenhouse gases.

NOAA publishes a table showing the heating coefficients for various greenhouse gases for each year since 1979. A simple function established in 2001 allows calculation of future heating, depending on estimates of future CO₂ concentrations.



The heat calculated to be retained by greenhouse gases is a close match to heat that is showing up in earths' heat sinks – the oceans, melting ice, and the atmosphere. There is no other credible source for this heat. There are no processes known or conjectured that are warming the earth in the quantity observed. Further, every speculative alternate explanation fails in one important regard: by failing to explain what happened to the heat retained by greenhouse gases.

Evidence of Climate Change

Ocean

The oceans are warming from the surface downward. The U.S. Navy has measured ocean temperature since WWII, and since 2004, a fleet of 4000 probes has taken the temperature of the oceans every ten days with an accuracy of 0.002 degrees C, to a depth of 2000 meters. Surface waters have warmed by about one degree F since 1970, and warming extends to at least 2000 meters. Oceans absorb more than 90% of the heat retained by greenhouse gases.

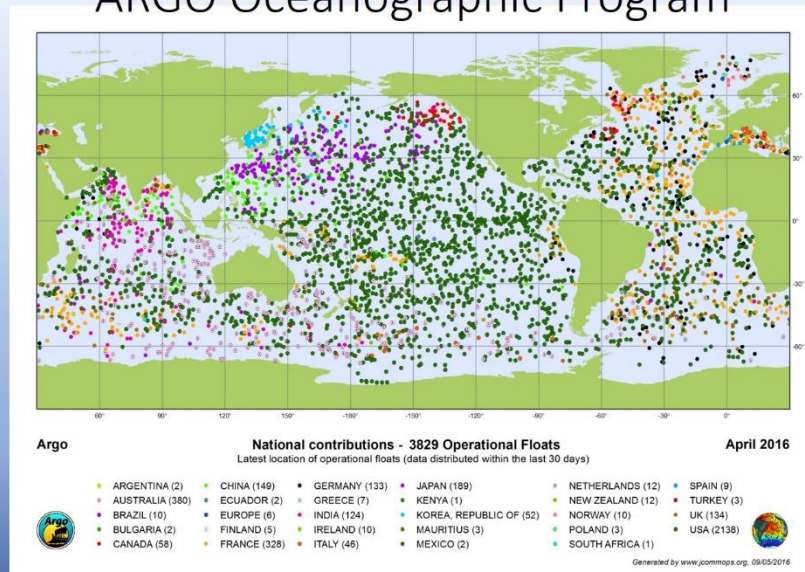
Ocean

We've been measuring the temperature of the oceans since Benjamin Franklin found the Gulf Stream.

Systematic measurements were begun from ships beginning in WWII.

ARGO measures Salinity, Pressure and Temperature (to accuracy of 0.002 degrees C) to depth of 2000 meters, since 2004.

ARGO Oceanographic Program



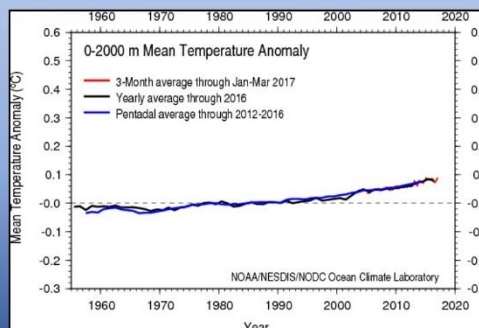
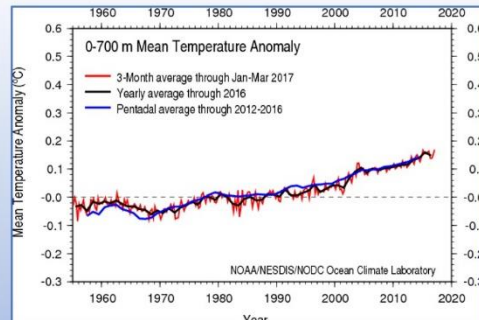
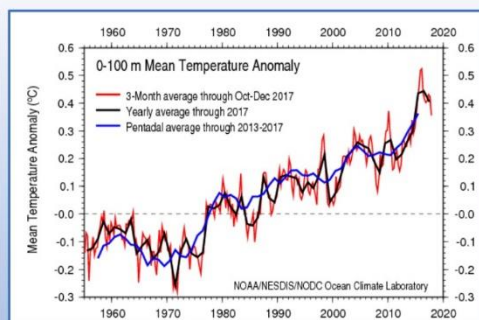
Ocean Temperature

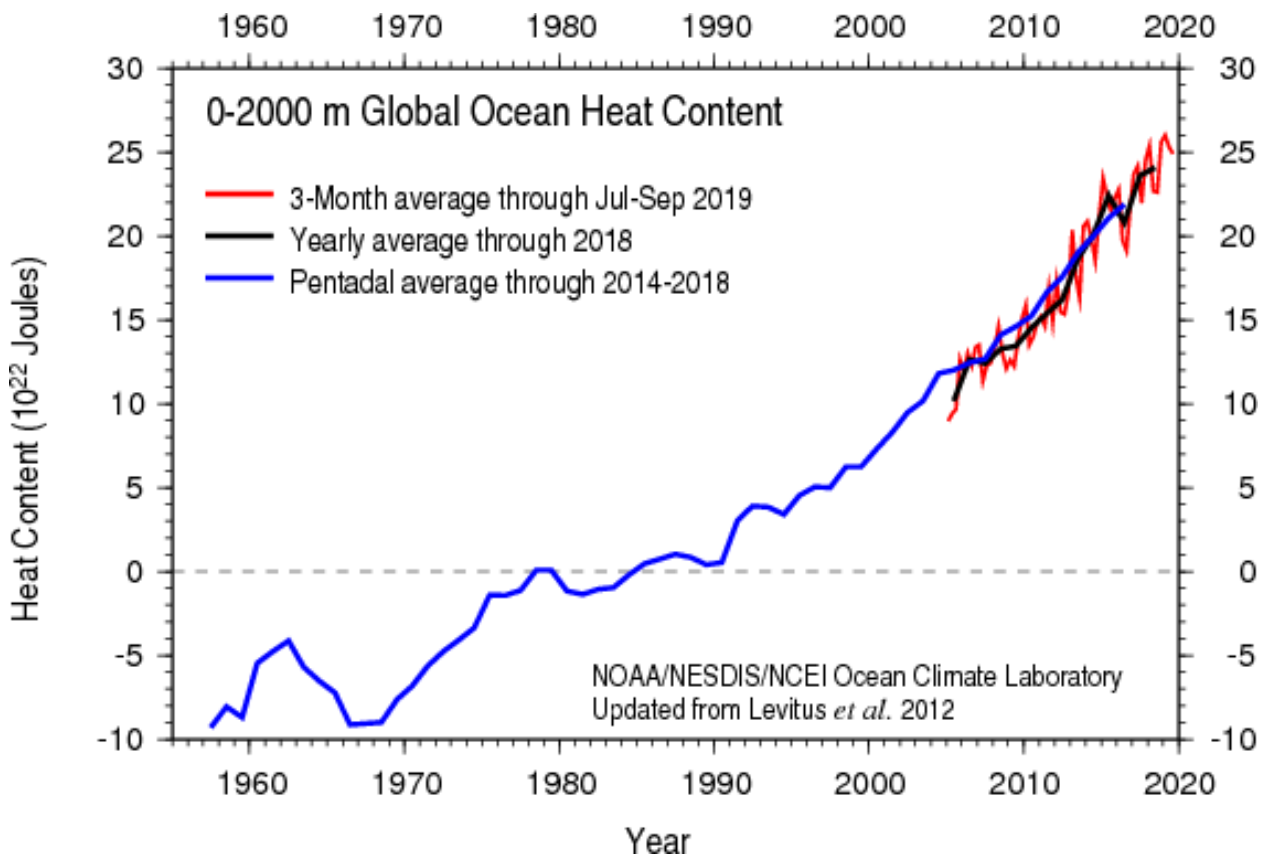
The oceans are warming from the surface downwards.

The upper 100 m has warmed by about 0.6 deg. C since 1970.

The upper 700 m has warmed by about 0.2 deg. C since 1970.

The upper 2000 m has warmed by about 0.1 deg. C since 1970.





Ice

Ice is melting in almost every setting on earth; exceptions are trivial and temporary. Ice is melting on Antarctica and Greenland, on continental glaciers, Arctic sea ice and permafrost. Ice covers about 3% of the earth's surface; melting ice accounts for a similar percentage of the heat retained by greenhouse gases.

Ice

Ice is melting in every setting on earth.

Alaskan permafrost has warmed by 2 degrees C in recent years, and is melting over much of the state.

GRACE (Gravity) Satellite Gravity Measurement of Antarctic Ice Mass
1800 gigatonnes of Antarctic ice lost since 2003.

Source: climate.nasa.gov

GRACE (Gravity) Satellite Measurement of Greenland Ice Mass
3700 gigatonnes of Greenland ice lost since 2003.

Source: climate.nasa.gov

Mass Loss from Continental Glaciers, 1945 – 2005
UNEP Global Glacier Monitoring Service
3425 gigatonnes of glacial ice lost since 2003

Arctic Sea Ice – NOAA Microwave Satellites
Measuring Thickness & Area
1900 gigatonnes of ice lost since 2003.

Average Monthly Arctic Sea ice Extent
November 1978 - 2017

National Snow and Ice Data Center

Data images from NASA, NOAA, and UN GMS.

Atmosphere

The atmosphere is warming. Average air temperature over oceans has increased by about 1 F since 1950; air temperature over land has increased about 2 F since 1950. Atmospheric warming is the most noticeable aspect of climate change to us, but it accounts for only a tiny fraction of the heat retained by greenhouse gases. The upper atmosphere is slightly cooling, as heat radiating from the earth is trapped closer to the earth's surface.

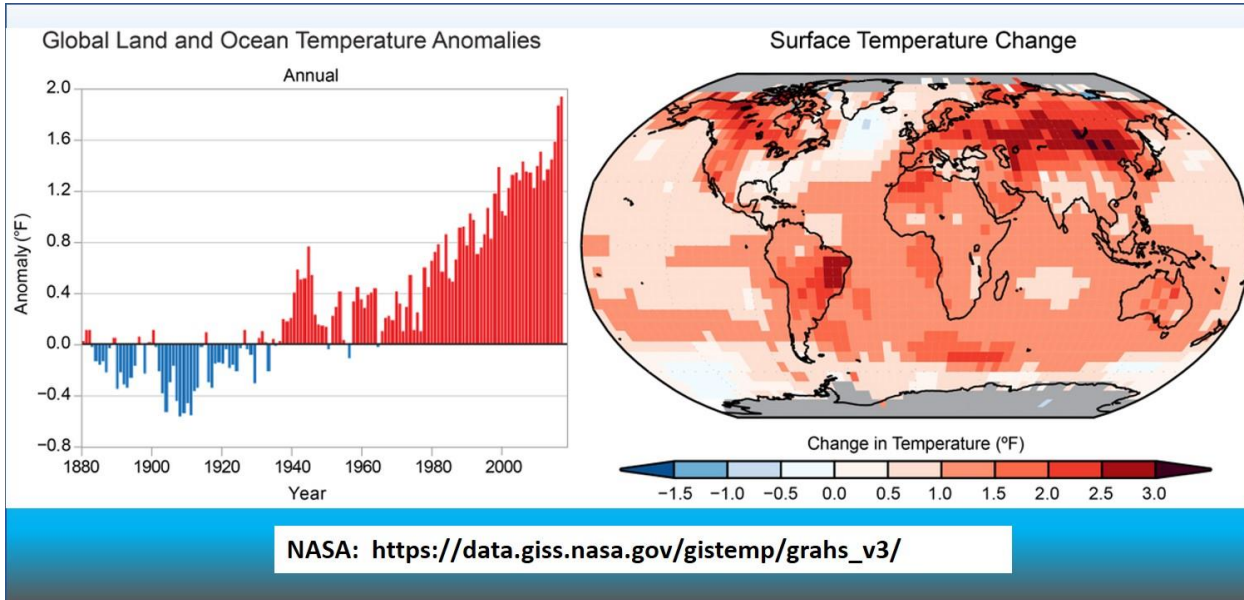
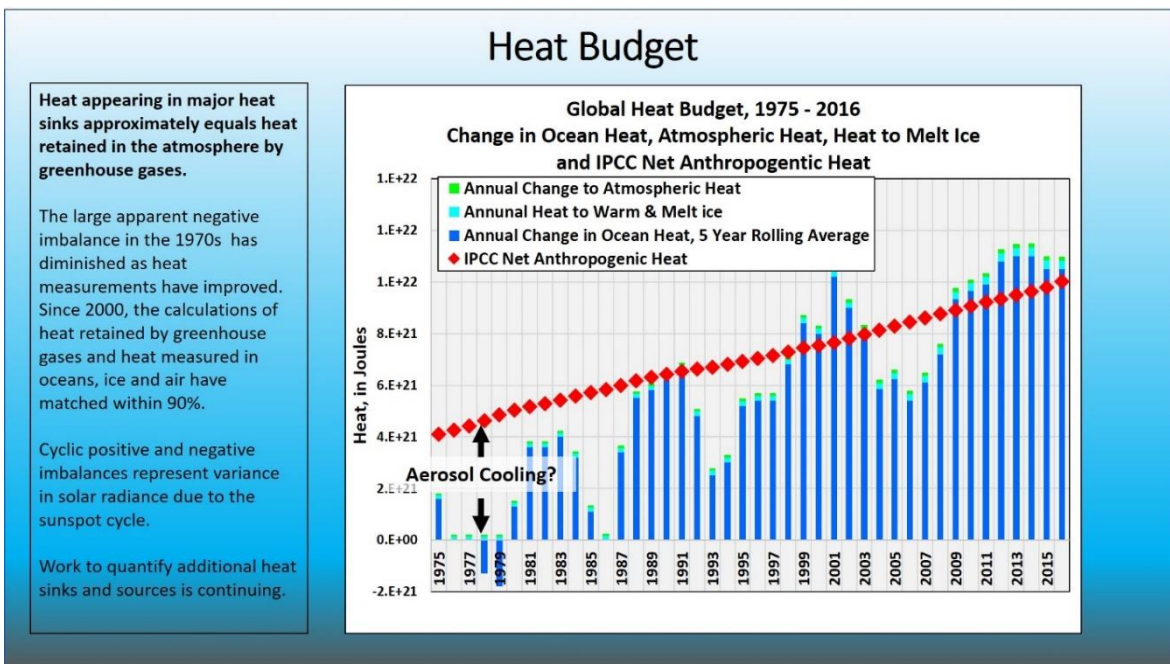


Image credit NASA.

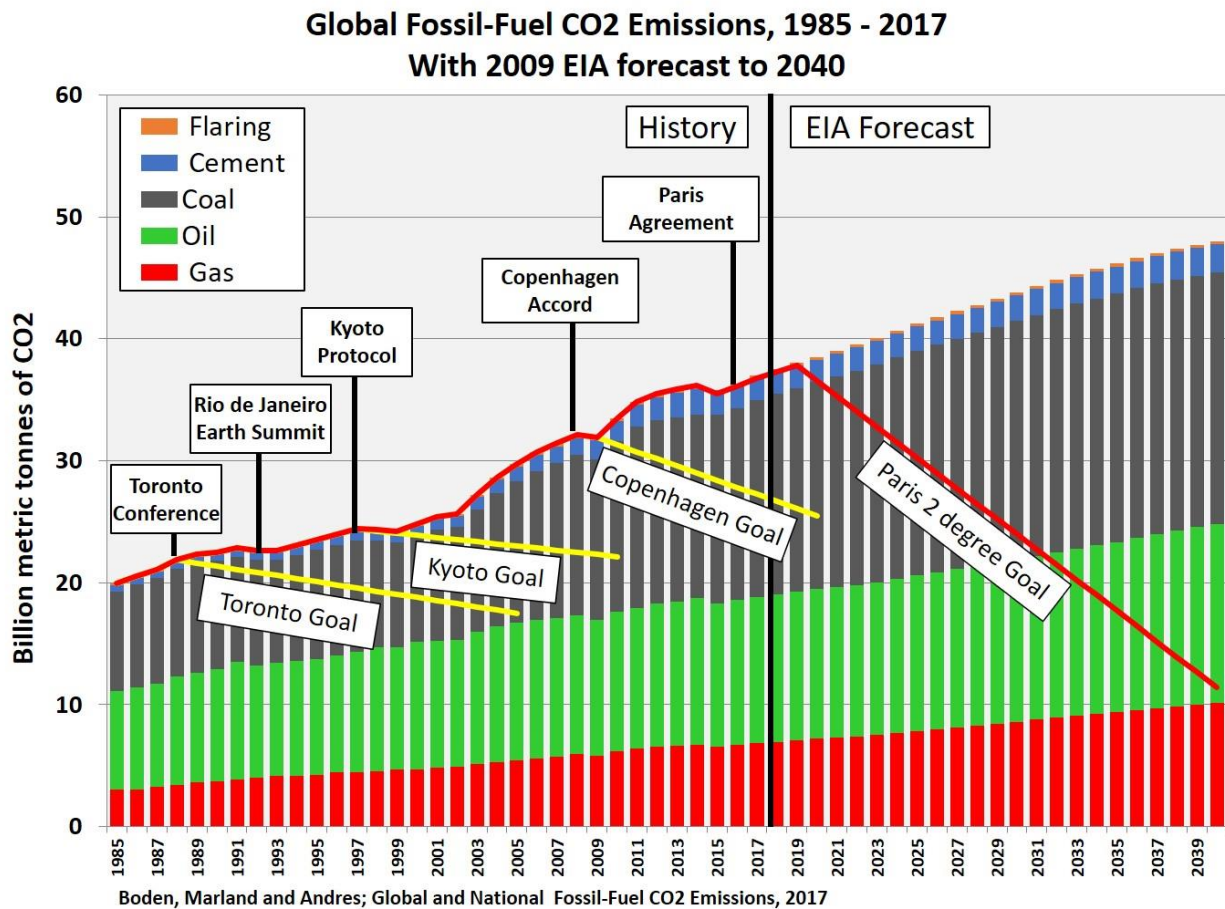
IPCC has published the heating coefficients for greenhouse gases (identical to NOAA's numbers), and for anthropogenic cooling influences, such as sulfur dioxide aerosol, from burning coal. The net heating from human influences (red diamonds in the chart below) is a close match to the heat appearing in earth's heat sinks – oceans, melting ice, and the atmosphere. There is a negative imbalance in the 1970s, perhaps showing more cooling influence. More heat is now appearing in the oceans, reflecting increasing impact of feedback mechanisms.



Melting ice and warming oceans cause sea level to rise. We've measured sea-level rise with tidal gauges since 1800, and by high-resolution satellite since 1993. The amount of sea level rise confirms our measurements of melted ice and warmer water.

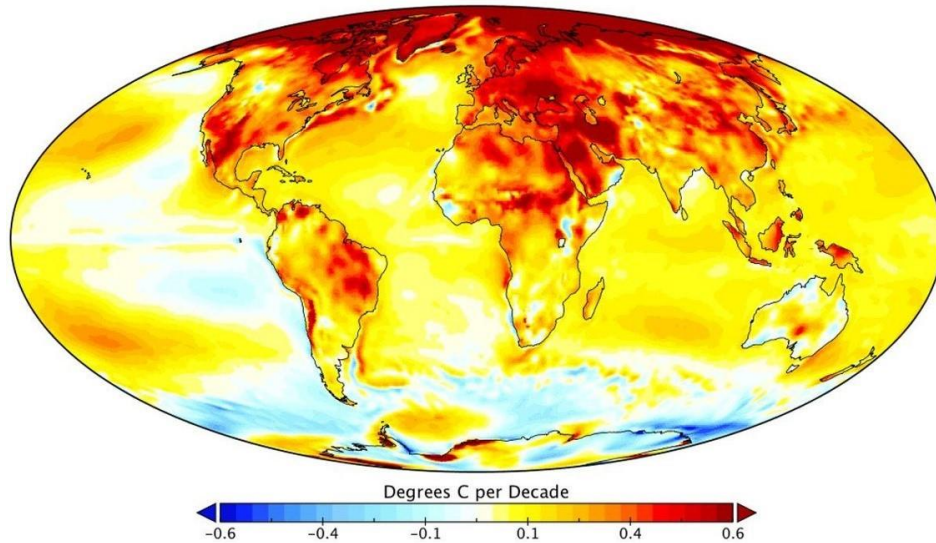
We can reasonably forecast future climate change because we understand how CO2 retains heat in the air. We can project future CO2 concentrations based on continuing use of fossil fuels, and calculate future temperatures in the ocean and the air. We know that future warming will cause significant disruptions to society and nature within a few decades.

The EIA CO2 emissions forecast to 2040 shown in the figure below takes into consideration increasing use of renewable energy, yet still represents increasing global use of fossil fuels. The reductions in carbon emissions recommended by the Paris accord are extremely steep, and unlikely to be realized.

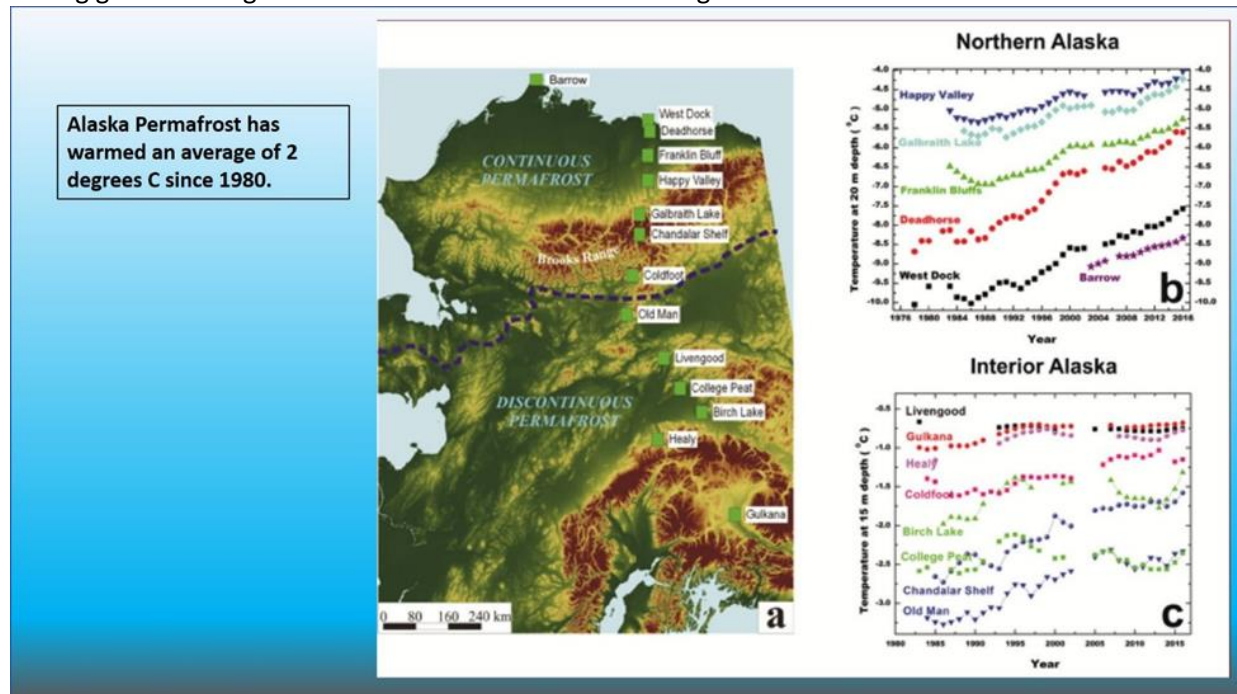


Feedback mechanisms occur when global warming creates a process that causes additional warming. Feedbacks are already apparent in the global heat budget, and may account for up to quarter of current heating. Known feedback mechanisms include higher humidity, caused by a warmer ocean surface. Water vapor itself is a greenhouse gas, which contributes to additional warming. The loss of snow and sea ice means that more solar heat is absorbed by the ground and ocean rather than reflected. This process is particularly important to Alaska. "Arctic amplification" of global warming was predicted by climate models in the 1970s. The loss of sea ice means that more heat is absorbed by the ocean, and air temperature is moderated by open, unfrozen, water. As a consequence, the Arctic has warmed at three times the rate of the global average.

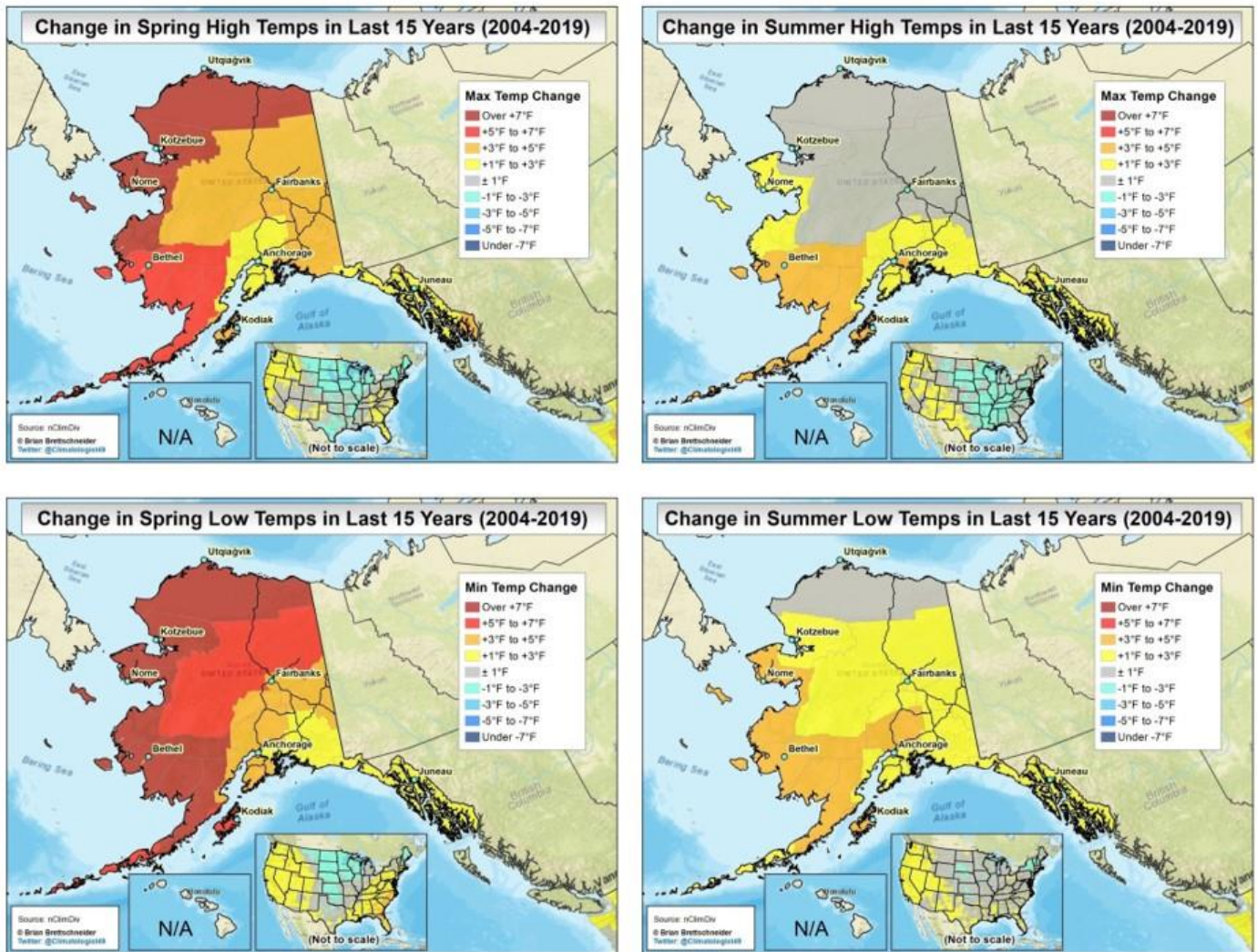
ERA5 Surface Temperature Trends, 1979–2018



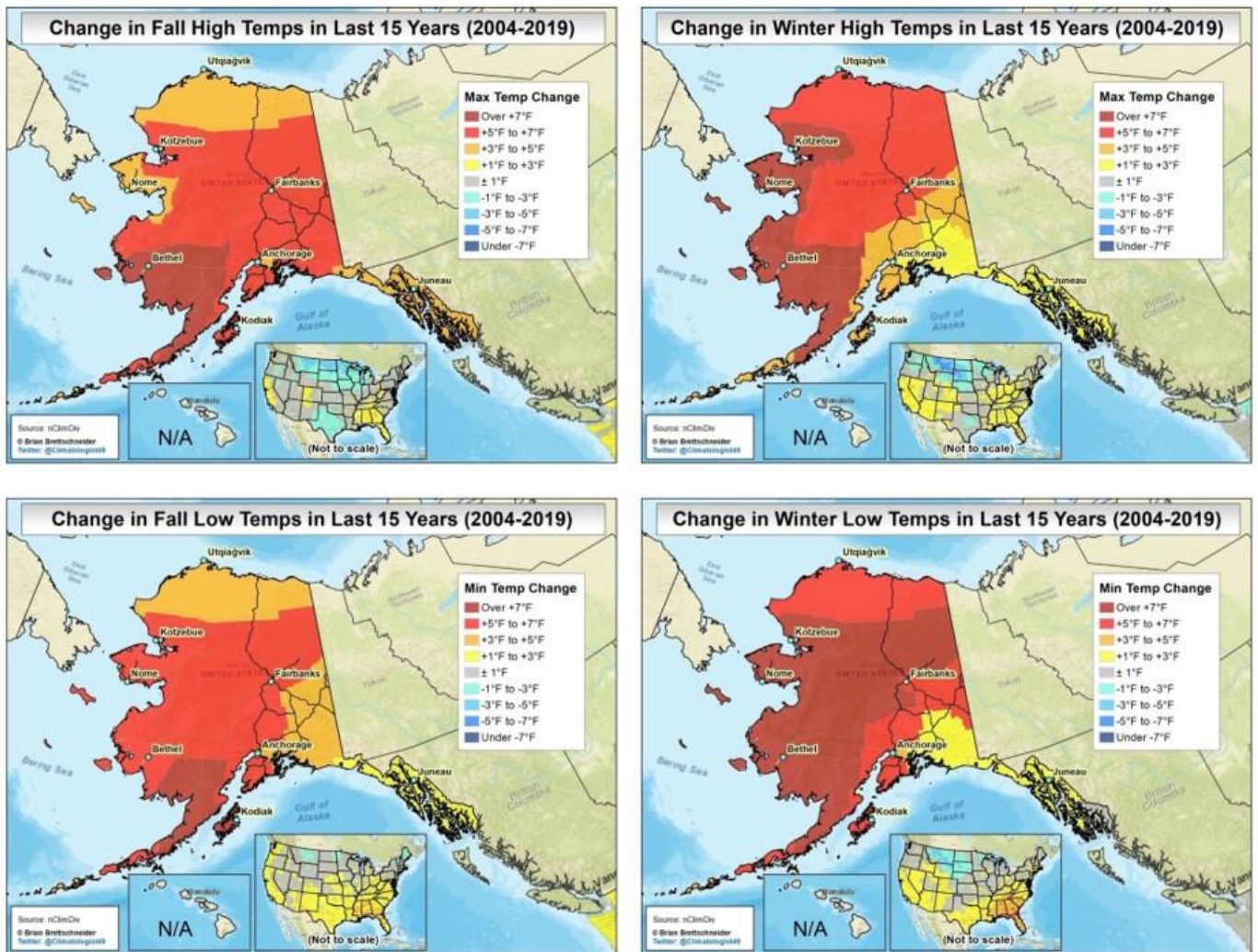
Melting of permafrost is expected to release methane which is currently trapped in ice or frozen deep underground as gas hydrates. Permafrost across Alaska has broadly warmed by over 2 degrees C. Methane release from permafrost is not yet volumetrically significant, but may greatly complicate the problem of reducing greenhouse gas concentrations in the future. Image credit: Rick Thoman.



Temperatures are changing at an alarming rate in Alaska. Fall, winter and spring temperatures have changed significantly in the past 15 years. These are the seasons that are most influenced by the loss of sea ice around Alaska. If these trends continue, we might see additional temperature increases of ten to fifteen degrees Fahrenheit across much of Alaska in the next 30 years in non-summer months.



Alaska temperature changes by season over the past 15 years.



Alaska temperature changes by season over the past 15 years. Image credit: Brian Brettschneider.

Consequences of Climate Change

In Alaska, those changes will include warmer oceans, higher air temperatures, more wildfires, melting sea ice, melting permafrost. Changes elsewhere in the world will impair agriculture. Changes in ocean circulation and the ocean food-chain may be happening already and are a serious threat to Alaska's fisheries. These issues should concern Alaskans now.

Oceans

Warming ocean temperatures are a serious threat to Alaska's fisheries. Arctic waters are typically very productive, because upwelling currents bring nutrients from the ocean floor. Warm surface waters interfere with that circulation by setting up a density stratification, shutting down the food chain for marine life. Die-offs of sea birds have been attributed to this problem; it is likely that other sea life is affected as well.

OCEANS PERSISTENTLY WARM AROUND ALASKA

- Warm season (May-Oct)
- Sea surface temperature departure from normal (°C)

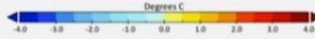
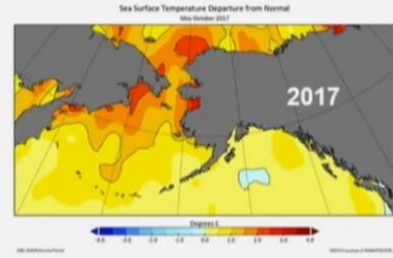
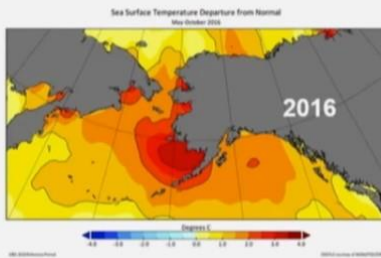
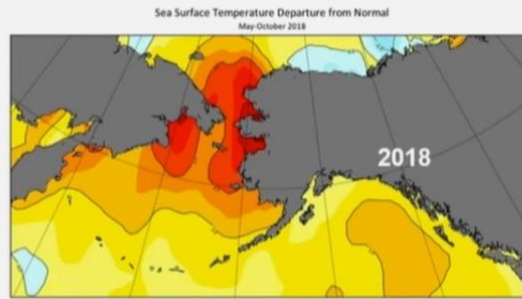
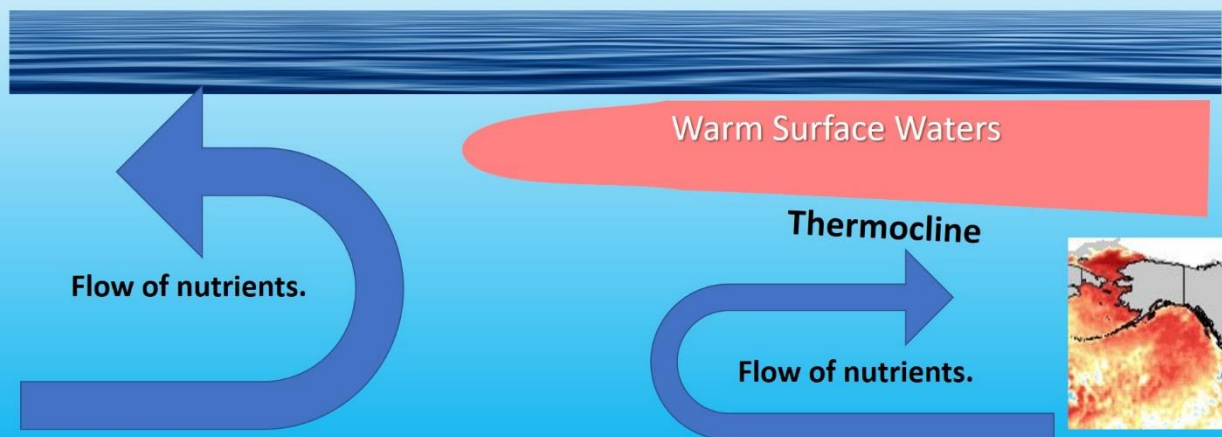


Image credit Rick Thoman.

Impact to Fisheries



- **Loss of base of food chain, due to loss of deep circulation.**
- **Die-offs of whales, seals, murre, puffins, starfish, and salmon have occurred in the past 5 years.**

Deep waters are also warming. Changes in water temperature are affecting the range of fish such as the Arctic Cod, which has practically disappeared from the Bering Sea. Halibut and cod fisheries are both underperforming expectations, and there is evidence that warmer waters interfere with successful reproduction of these deep-water fish.

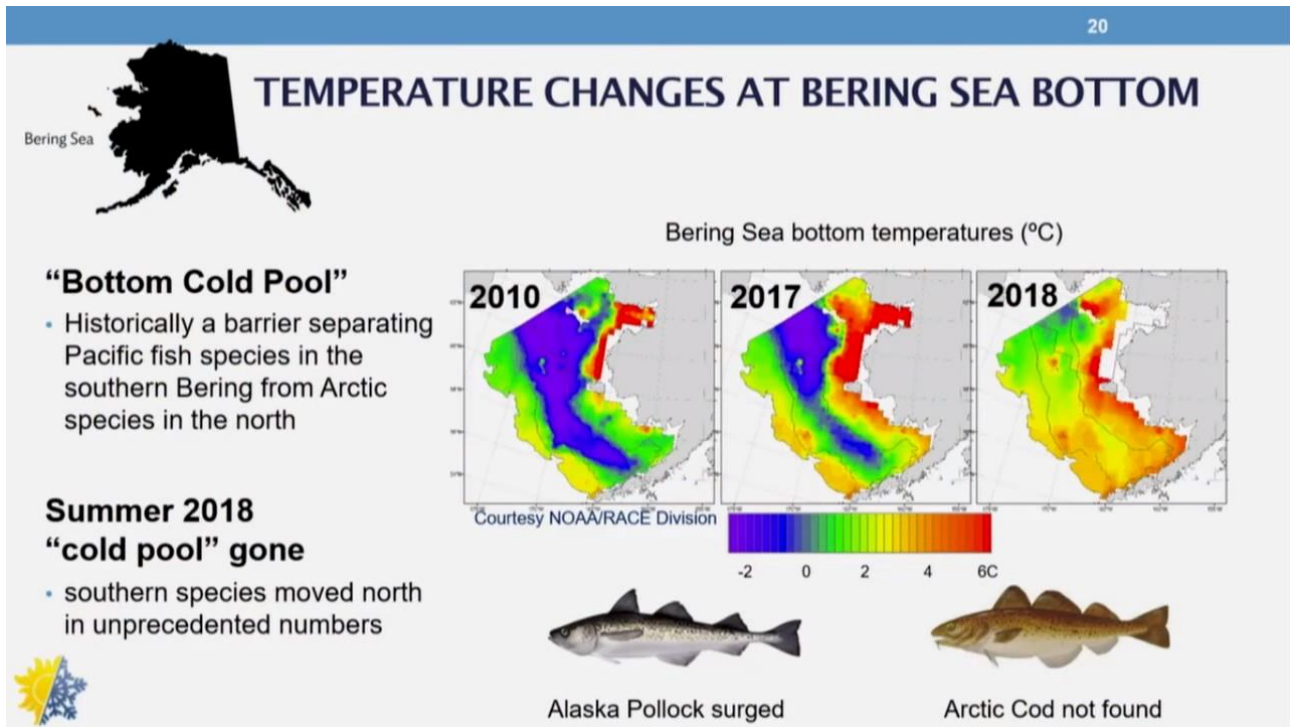


Image Credit: Climatologist Rick Thoman

Wildfires

Most wildfires in Alaska are caused by lightning strikes. As the climate warms, thunderstorms are becoming more prevalent in Alaska. Prior to 2000 in Fairbanks, severe smoke events occurred about 1 in 4 years. Since 2000, smoke events have occurred in all but one year. The incidence of 2,000,000 acre wildfire seasons in Alaska has roughly doubled since 2000. (Rick Thoman, ACCAP).

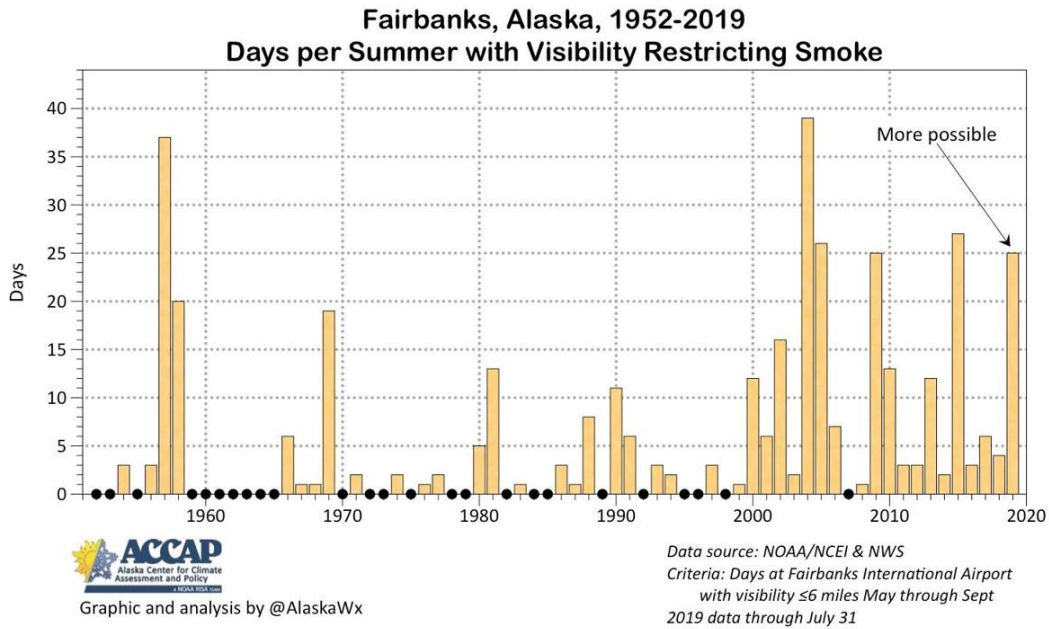


Image credit: Climatologist Rick Thoman.

Coastal Erosion

Sea ice protects the coasts in winter by eliminating wave action from strong winter storms. The loss of protective sea ice means more severe coastal erosion in Alaska, and a threat to coastal communities on the west and north shores of the state.

Global Consequences

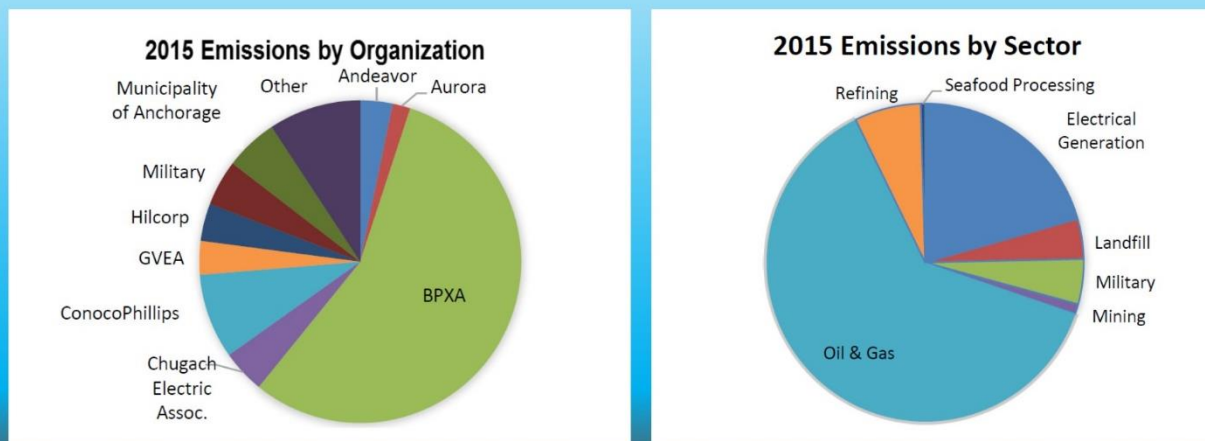
Global consequences of climate change are likely to include impaired agriculture in areas of drought or torrential rainfall. (In general, climate change will cause dry areas to become drier, and wet areas to become wetter.) Damage from wildfires and storms will become more severe. Coastal communities will suffer from flooding due to sea-level rise.

Conclusion

The problem of climate change in Alaska is clear, and growing. The solution to the problem is not at all clear, but the time available to solve the problem is getting shorter.

Approximately 2/3 of Alaska's greenhouse gas emissions are from fuel-gas usage on the North Slope.

The Largest Single Source of GHG emissions in Alaska is Fuel-Gas Use on the North Slope.



The best sources for information regarding climate change in Alaska are climatologists Brian Brettschneider, in Anchorage, and Rick Thoman, in Fairbanks. I have used their materials freely in this document.

Other important climate references can be found here: <https://dougrobbs.blogspot.com/2019/07/key-references-for-understanding.html>

Doug Robbins, retired petroleum geologist; former Director, Chugach Electric Assn.

████████████████████

████████████████

12/13/2019

From: [REDACTED]
To: [House Resources](#)
Subject: Written Testimony for HR 12
Date: Friday, January 31, 2020 2:20:17 PM

Dear Co-Chairs Lincoln and Tarr,

I am writing in support of the HR 12. Creating a committee that deals with issues specifically relating to our changing climate is prudent and I am pleased that this legislation has been introduced. As stated in the Resolution, we are uniquely positioned here in Alaska as the only state in the Arctic, surrounded by environments immediately impacted by a changing climate. On lines 22-23, HR 12 aptly states that the University of Alaska contributes significantly to the scientific body of work relating to climate change. These points drive home the how effective this committee can be given the right tools. But, after it is established, I also would like to encourage the House Special Committee on Climate change to work with our Industry and Resource Development partners rather than against them to come up with attainable solutions the climate challenges we face. Collaboration is the best path forward to face these problems.

Lastly, I would like to thank the bill sponsors, Rep. Josephson and Rep. Spohnholz for bring this legislation forward.

--

Owen Phillips
District 21

--

Owen Phillips

From: [REDACTED]
To: [House Resource](#)
Subject: HR 12: Support for Climate Change Committee
Date: Friday, January 31, 2020 11:55:28 AM

To the House Resource Committee Members:

We are grateful that you are considering creating a committee on climate change. Copper Country Alliance, as an organization whose mission is to protect the rural and wild natural environment of the Copper Basin/Wrangell Mts. Region, climate change tops the list of our concerns. It also plays into every other concern—whether that be the future of salmon, caribou, and other subsistence resources; the effect of heat or drought on local farms; the viability of our community well water sources; the need for renewable energy and energy conservation; the safety of the Trans-Alaska Pipeline in melting permafrost; or the arrival of invasive weeds. Climate change is affecting all Alaskans, and it is time to get to work on the problem. We're all in this together.

Sincerely,

Ruth McHenry

--
Ruth McHenry, Volunteer Executive Director
y Alliance
[REDACTED], AK 99573
[REDACTED]

From: [REDACTED]
To: [Rep. Ben Carpenter](#); [Rep. Matt Claman](#); [Rep. Harriet Drummond](#); [Rep. David Eastman](#); [Rep. Bryce Edgmon](#); [Rep. Zack Fields](#); [Rep. Neal Foster](#); [Rep. Mel Gillis](#); [Rep. Sara Hannan](#); [Rep. Grier Hopkins](#); [Rep. Sharon Jackson](#); [Rep. DeLena Johnson](#); [Rep. Jennifer Johnston](#); [Rep. Andy Josephson](#); [Rep. Gary Knopp](#); [Rep. Chuck Kopp](#); [Rep. Jonathan Kreiss-Tomkins](#); [Rep. Bart LeBon](#); [Rep. Gabrielle LeDoux](#); [Rep. John Lincoln](#); [Rep. Kelly Merrick](#); [Rep. Mark Neuman](#); [Rep. Daniel Ortiz](#); [Rep. Lance Pruitt](#); [Rep. Sara Rasmussen](#); [Rep. George Rauscher](#); [Rep. Laddie Shaw](#); [Rep. Ivy Spohnholz](#); [Rep. Andi Story](#); [Rep. Louise Stutes](#); [Rep. Colleen Sullivan-Leonard](#); [Rep. David Talerico](#); [Rep. Geran Tarr](#); [Rep. Steve Thompson](#); [Rep. Cathy Tilton](#); [Rep. Chris Tuck](#); [Rep. Sarah Vance](#); [Rep. Tammie Wilson](#); [Rep. Adam Wool](#); [Rep. Tiffany Zulkosky](#)
Cc: [House Resources](#)
Subject: Support HR 12
Date: Monday, February 03, 2020 10:58:03 AM

Hello,

My name is Rylin McGee, and I live in Anchorage. I view climate change as the most important challenge facing our society at present, and especially in Alaska where the impacts of climate change are experienced at a higher & faster rate than most other locations in the world. Already, we've seen **worsening wildfires, permafrost melt, climate injustice, ecosystem disruption and unpredictable winters**. As a result, Alaska's communities, health, infrastructure, cultures, wildlife, food security, safety and recreational opportunities are all **threatened**. Climate change impacts all facets of society, and therefore needs to be comprehensively addressed.

As Senator Lisa Murkowski has said about climate change, "It's obvious, it's there, we have a responsibility... let's act." Moving into a future where (climate) change will become our new steady state, we need to be prepared.

I am urging you to **support House Resolution 12**, to create a climate committee with the following responsibilities:

1. **Hold hearings** to listen to experts and the public on the climate crisis and write up their findings in a report for the legislature;
2. Have key climate-focused **legislation referred to it**, such as policies that would reduce our state's climate pollution or help our communities adapt to climate change impacts;
3. **Serve as an official body** for the Alaska legislature to address climate change concerns.

Not only is this committee an investment in our future, but also a testament to our resilience as Alaskans. I believe it would be foolish not to support the resolution when the science on climate change and its impact on our state is so clear and visible.

Thank you,
[REDACTED]

From: [REDACTED]
To: [House Resources](#)
Subject: I Support H.R. 12- Please support climate change solutions.
Date: Monday, February 03, 2020 3:31:00 PM

Dear Alaska House Resources Committee Members,

As an Alaskan, I am deeply concerned about human-caused climate change. Just last year we have witnessed heat and wildfires, melting sea ice and coastal erosion, and resulting impacts to human health and our subsistence wildlife. Salmon perished in warming streams, caribou struggled with increased rain on snow events, and birds lost habitat. I urge you to support H.R. 12 to form a Special Committee on Climate Change.

Alaska is on the forefront of climate change and ought to be a global leader in implementing climate solutions. It is time for our elected officials to step into leadership roles on climate issues. H.R. 12 would help implement a step in the right direction.

Thank you for your attention to this critical issue.

Dianne Mahaffey
Anchorage, AK 99507

Sincerely,
Mrs. Dianne Mahaffey
[REDACTED] Anchorage, AK 99507-1231
[REDACTED]

From: [REDACTED]
To: [House Resources](#)
Subject: I Support H.R. 12
Date: Friday, January 31, 2020 1:50:10 PM

Dear Alaska House Resources Committee Members,

As an Alaskan, I am deeply concerned about human-caused climate change. Just last year we have witnessed heat and wildfires, melting sea ice and coastal erosion, and resulting impacts to human health and our subsistence wildlife. Salmon perished in warming streams, caribou struggled with increased rain on snow events, and birds lost habitat. I urge you to support H.R. 12 to form a Special Committee on Climate Change.

Alaska is on the forefront of climate change and ought to be a global leader in implementing climate solutions. It is time for our elected officials to step into leadership roles on climate issues. H.R. 12 would help implement a step in the right direction.

Thank you for your attention to this critical issue.

Sincerely,

Tabitha Layton

[REDACTED] Eagle River, AK 99577-1411

From: [REDACTED]
[House Resources](#)
Subject: I support HR12
Date: Friday, January 31, 2020 11:15:14 AM

Hello House Resources Co-chairs and committee members,

I support H.R. 12 which would form a Special Committee on Climate Change.

My husband and I and our extended family of eight rely solely on commercial fishing for our collective livelihoods, which are at risk from anthropogenic climate change. This is a crisis in progress and in plain sight. The time to act is past due. The formation of a committee to address effective mitigation measures as well as those to prevent/curtail further warming is a responsible course of action.

As the H.R.12 Sponsor Statement warns, last year was the warmest year on record. In Southeast Alaska, there was little to no snowmelt to cool fish bearing streams and maintain water levels sufficient for fish spawning. This was especially evident where vast swaths of old growth forest had been removed. There were numerous reports of fish die-offs, likely related to low levels of dissolved oxygen, and hundreds of salmon, schooled at the mouth of various streams, unable to migrate upstream to spawn due to low water levels. Moreover, vast swaths of our forested landscapes had transformed to a dull brown color instead of vibrant green due to heavy Hemlock sawfly infestations, that only occur during overly dry periods. These stands may well be on their way to a forestwide mortality event.

If the biological impacts from this human caused climate crisis are not enough to concern you, the economic impacts should be. We are all in this together.

I urge your committee to approve the formation of a House Special Committee on Climate Change for the 31st Legislature.

Sincerely,

Rebecca Knight
Petersburg, AK

SITKA LEGISLATIVE INFORMATION OFFICE

Email: ^{LIO.SITKA} ~~Sitka~~ LIO@akleg.gov

Phone: 907-747-6276 / Fax: 907-747-5807

WRITTEN TESTIMONY

NAME:

Eric J.W. Jordan

REPRESENTING:

Myself & SFCO AC

BILL # or SUBJECT:

Formation of a climate policy committee

COMMITTEE:

House Resources

DATE:

Jan 31, 2020

NOTE: This testimony is considered part of the official record and will be posted online with the hearing documents

Dear House Resources:

My name is Eric Jordan ^{in Sitka}. I am a life long Alaska ^{fisherman} and 40 plus year member of the Sitka Fish & Game AC.

Attached is a copy of a declaration of "climate change emergency" in the Sitka Dec by our committee last November 13th. Adopted unanimously.

I strongly support formation of a House Special Committee on Climate Change. The resolution asks the Governor & Legislature among others, to take effective action needed to address this emergency.

Thank you, Eric Jordan

SITKA FISH & GAME ADVISORY COMMITTEE

RESOLUTION NO. 2010-1

A DECLARATION FOR CLIMATE CHANGE STATE OF EMERGENCY IN SITKA AREA

WHEREAS, the Sitka Fish & Game Advisory Committee (SFGAC) are 17 publicly elected representatives of Fish, Wildlife, Conservation, and Subsistence interests in the Sitka area; and

WHEREAS, the responsibility of the SFGAC is to recognize and comment on issues affecting the conservation, sustainability, and sharing of wildlife resources in the Sitka Area; and

WHEREAS, members of the SFGAC and the constituents they represent are noticing dramatic changes in the Sitka environment, including but not limited to, melting of local ice fields, much warmer ocean water temperatures, ocean acidification, disappearance of fish such as sand lance and capelin, sea star wasting disease, depleted sea bird populations, pink salmon collapse in much of northern SE Alaska, and greatly increased hungry brown bear activity in Sitka; severe weather events from droughts, floods, intensive storms, landslides, and generally more severe weather patterns which cause impacts to our local wildlife; and

WHEREAS, the SFGAC is aware of climate science reports, recent Alaska Federation of Natives declaration of "a state of emergency on climate change", and our responsibility to advise the Board of Fisheries (BOF) and Board of Game (BOG), Sitka, and others on our perspective; and

WHEREAS, the SFGAC has a long history of leadership in recognizing local problems and providing leadership in proposing solutions that often are adopted regionally and statewide; and

WHEREAS, the traditional, experiential, and scientific information and observations already presented to the SFGAC over the past year clearly tell the story of unprecedented ecological problems associated with climate change; and


WHEREAS, the SFGAC recognizes its responsibility to share its learning with the BOF and BOG, our community, and local, state, and national leaders and ask them to take action; and

WHEREAS, the Mt. Edgecumbe and Sitka High Environmental Clubs, who represent over 15 communities and at least 4 different tribal groups across the State of Alaska who are facing hardships directly correlated with Climate Change, such as changing ocean conditions and precipitation patterns that adversely impacts the fisheries and ecosystems for which they rely on for culture, subsistence and economy, our ability to generate hydroelectricity, the occurrence of algae blooms and paralytic shellfish poisoning, coastal erosion, the integrity of our infrastructure, and the health and safety of our people have asked the SFGAC to support their resolution declaring a climate change emergency (attached).

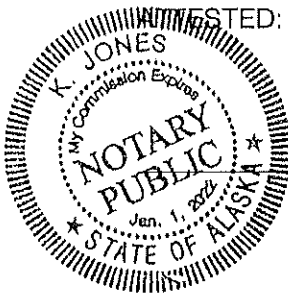
THEREFORE, BE IT RESOLVED that the SFGAC declares a "CLIMATE CHANGE EMERGENCY" in the Sitka area and requests the Sitka Assembly, Sitka Tribe of Alaska, local, regional, state, and national groups, the BOF and BOG, the Alaska Legislature, Governor Dunleavy, and our congressional delegation to join us to recognize and to take effective action needed to address this emergency.

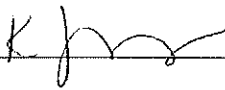
CERTIFICATION:

PASSED and APPROVED by the Sitka Fish and Game Advisory Committee this 13th day of November, 2019.



Jon Martin, Chair, Sitka Fish & Game Advisory Committee 16-Nov-2019
Date





11/16/19
Date

From: [REDACTED]
To: [House Resources](#)
Subject: I Support H.R. 12
Date: Friday, January 31, 2020 1:50:16 PM

Dear Alaska House Resources Committee Members,

As a born and raised Alaskan who directly works with wildlife, I am deeply concerned about human-caused climate change. Just last year we have witnessed heat and wildfires, melting sea ice and coastal erosion, and resulting impacts to human health and our subsistence wildlife. Salmon perished in warming streams, caribou struggled with increased rain on snow events, and birds lost habitat. I urge you to support H.R. 12 to form a Special Committee on Climate Change.

Alaska is on the forefront of climate change and ought to be a global leader in implementing climate solutions. It is time for our elected officials to step into leadership roles on climate issues. H.R. 12 would help implement a step in the right direction.

Thank you for your attention to this critical issue.

Sincerely,
Christina Howell

[REDACTED] Eagle River, AK 99577-9040
[REDACTED]

From: [REDACTED]
To: [House Resources](#); [Rep. Cathy Tilton](#); [Sen. Shelley Hughes](#)
Subject: House testimony on climate change committee
Date: Friday, January 31, 2020 1:09:55 PM

Dear Representatives,

I am writing you on short notice today to say I support the creation of a committee on climate change. This is an issue that will only get worse the more we delay action. We are already seeing powerfully destructive natural disasters across the country every year, and the science is clear. They are directly related to climate change and will only get progressively worse unless we decrease our society's carbon emissions. Alaska could be next with devastating wildfires or a collapsed fishery.

Oil has been a huge boon to humanity. It has allowed our society to progress as no other has. But we now have the knowledge that rampant use of carbon resources will make our planet inhospitable to human society. That sounds like an extreme statement, but the science is clear. The extreme stance would be to do bury our heads in the sand while the world burns and sinks.

Furthermore, the entire world is beginning to move away from fossil fuels. Alaska should be at the head of the new economy. We should not stay stuck in the past. When our children and grandchildren are grown, we want them to be proud we did everything in our power to fight climate change, not ashamed that we delayed until it was too late.

It is time we took this issue seriously. Please do what is right and create a committee to start examining this issue for Alaskans.

Thank you for your time.

Sincerely,
Joe Donohue
Palmer, AK

From:

[Rep. Ben Carpenter](#); [Rep. Matt Claman](#); [Rep. Harriet Drummond](#); [Rep. David Eastman](#); [Rep. Bryce Edgmon](#); [Rep. Zack Fields](#); [Rep. Neal Foster](#); [Rep. Mel Gillis](#); [Rep. Sara Hannan](#); [Rep. Grier Hopkins](#); [Rep. Sharon Jackson](#); [Rep. DeLena Johnson](#); [Rep. Jennifer Johnston](#); [Rep. Andy Josephson](#); [Rep. Gary Knopp](#); [Rep. Chuck Kopp](#); [Rep. Jonathan Kreiss-Tomkins](#); [Rep. Bart LeBon](#); [Rep. Gabrielle LeDoux](#); [Rep. John Lincoln](#); [Rep. Kelly Merrick](#); [Rep. Mark Neuman](#); [Rep. Daniel Ortiz](#); [Rep. Lance Pruitt](#); [Rep. Sara Rasmussen](#); [Rep. George Rauscher](#); [Rep. Laddie Shaw](#); [Rep. Ivy Spohnholz](#); [Rep. Andi Story](#); [Rep. Louise Stutes](#); [Rep. Colleen Sullivan-Leonard](#); [Rep. David Talerico](#); [Rep. Geran Tarr](#); [Rep. Steve Thompson](#); [Rep. Cathy Tilton](#); [Rep. Chris Tuck](#); [Rep. Sarah Vance](#); [Rep. Tammie Wilson](#); [Rep. Adam Wool](#); [Rep. Tiffany Zulkosky](#)

Cc:

[House Resources](#)

Subject:

Supporting House Resolution 12

Date:

Monday, February 03, 2020 11:11:31 AM

Dear Representatives,

My name is Emily Cornett, and I live in Anchorage. I view climate change as the most important challenge facing our society at present, and especially in Alaska where the impacts of climate change are experienced at a higher & faster rate than most other locations in the world. Already, we've seen **worsening wildfires, permafrost melt, climate injustice, ecosystem disruption and unpredictable winters**. As a result, Alaska's communities, health, infrastructure, cultures, wildlife, food security, safety and recreational opportunities are all **threatened**. Climate change impacts all facets of society, and therefore needs to be comprehensively addressed.

As Senator Lisa Murkowski has said about climate change, "It's obvious, it's there, we have a responsibility... let's act." Moving into a future where (climate) change will become our new steady state, we need to be prepared.

I am urging you to **support House Resolution 12**, to create a climate committee with the following responsibilities:

1. **Hold hearings** to listen to experts and the public on the climate crisis and write up their findings in a report for the legislature;
2. Have key climate-focused **legislation referred to it**, such as policies that would reduce our state's climate pollution or help our communities adapt to climate change impacts;
3. **Serve as an official body** for the Alaska legislature to address climate change concerns.

Not only is this committee an investment in our future, but also a testament to our resilience as Alaskans. I believe it would be foolish not to support the resolution when the science on climate change and its impact on our state are so clear and visible.

Thank you,
Emily Cornett

--
Emily Cornett
she/her/hers

From: [REDACTED]
To: [House Resources](#)
Subject: I Support H.R. 12
Date: Friday, January 31, 2020 1:50:08 PM

Dear Alaska House Resources Committee Members,

As an Alaskan, I am deeply concerned about human-caused climate change. Just last year we have witnessed heat and wildfires, melting sea ice and coastal erosion, and resulting impacts to human health and our subsistence wildlife. Salmon perished in warming streams, caribou struggled with increased rain on snow events, and birds lost habitat. I urge you to support H.R. 12 to form a Special Committee on Climate Change.

Alaska is on the forefront of climate change and ought to be a global leader in implementing climate solutions. It is time for our elected officials to step into leadership roles on climate issues. H.R. 12 would help implement a step in the right direction.

Thank you for your attention to this critical issue.

Sincerely,
Tim Covell

[REDACTED] Healy, AK 99743-0074
[REDACTED]

From:



Support H.R. 12

Date:

Friday, January 31, 2020 1:50:19 PM

Dear Alaska House Resources Committee Members,

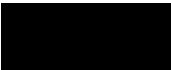
As an Alaskan, I am deeply concerned about human-caused climate change. Just last year we have witnessed heat and wildfires, melting sea ice and coastal erosion, and resulting impacts to human health and our subsistence wildlife. Salmon perished in warming streams, caribou struggled with increased rain on snow events, and birds lost habitat. I urge you to support H.R. 12 to form a Special Committee on Climate Change.

Alaska is on the forefront of climate change and ought to be a global leader in implementing climate solutions. It is time for our elected officials to step into leadership roles on climate issues. H.R. 12 would help implement a step in the right direction.

Thank you for your attention to this critical issue.

Sincerely,

Joan Burnett



Dr Anchorage, AK 99516-3023

Testimony for House Resources Committee in favor of HR 12, establishing a Special Committee on Climate Change, January 31, 2020.

My name is Michael Tobin and I live in Juneau. The "Whereas" portion of HR 12 and our own experience lay out many of the reasons Alaska needs this committee. The state is warming at twice the rate of the rest of the country. Southcentral residents are experiencing hot, smoky summers. After several years of drought, and in light of the firestorms in California and Australia, including in their rainforests, residents of Southeast Alaska are becoming aware that our forest could burn too.

The "global warming" of a few years ago has become the climate crisis of today. Thawing permafrost, lack of sea ice, melting glaciers, shorter snow seasons, thinner river ice, acidifying oceans, heat, drought and fire and animal die offs: all areas of our lives are or will be affected.

But this is not "the new normal". This is just the early stage of the climate emergency, which is promising to be rapidly changing and unpredictable. Climate scientists talk about tipping points, beyond which change happens in accelerated ways. In other words if you poke the sleeping climate bear enough, the bear wakes up angry. Did you know, for example, that in 2018, temperatures in winter Siberia were 70 degrees above normal in February, and above freezing for several days in northern Greenland or that the rate of melt of Greenland's ice sheet is several times faster than historical rates?

I support HR 12, creating a Special Committee on Climate Change as one way to evaluate legislation from a climate perspective, conduct investigations, and propose legislation to increase Alaska's ability to adapt to climate change, and do what we can to combat climate change itself. Thank you.

Submitted by Michael Tobin MD

██████████
Juneau, AK, 99801
██████████

HB 12. Special committee on climate change

My name is Bob Schroeder. I am a Juneau resident, retired, with a 40 years of research and management experience dealing with natural resources.

- 1. I applaud the introduction of HB 12, a bill that would allow the House to begin to address the global climate emergency that affects Alaskans disproportionately.**
- 2. I am hopeful that this first step will initiate thoughtful fact finding, deliberation, and actions that may**
 - a. Begin to reduce the increases in global temperature**
 - b. And mitigate and ameliorate the inevitable effects of global heating on Alaskans**
- 3. Two good starting points for committee work would be:**
 - a. Chapter 26 of the National Climate Assessment...the Alaska Chapter. Congressionally ordered and produced by about 10 Federal Agencies released in Nov. 2018. This assessment focuses on:**
 - i. Marine ecosystems**
 - ii. Terrestrial processes**
 - iii. Human health**
 - iv. Indigenous people**
 - v. Economic Costs**
 - vi. And Adaptation**
 - b. Hearing from constituents**

In my work with subsistence in rural Alaska in SE, I have heard testimony from subsistence, sport,

and commercial fishers and from subsistence and sport hunters. Basically these Alaskans are experiencing the front edge of the ecological change resulting from global heating. Our fisheries in particular are in jeopardy from ocean acidification, low salmon high seas survival, and low hot water in salmon spawning streams and lakes. Wildlife has analogous deleterious effects.

I urge you to take testimony from Alaskans who know first hand what is happening in our lands and waters.

4. Finally, I urge the committee to have the courage to take a deep look at our fossil fuel extraction industry. Control of Methane releases would be a low hanging fruit to reduce Alaska's inexcusable contribution to global heating.

Much more bravery will be needed to recognize that most of Alaska's known fossil fuel reserves, not to mention what may yet be discovered, cannot ever be produced and burned if we are to have a livable world.

5. Thank you for the opportunity to testify, and I wish you success in this beach head effort.

Comments to Alaska House Resources Committee Re: HR-12, Friday Jan 31, 2020

Dick Farnell, Juneau REPRESENTING MYSELF

I SUPPORT HR-12

I went online and listened to last week's presentation to the Committee on Alaska's Climate Change by Climatologist Brian Brettschneider. There were a lot of scary things in there!

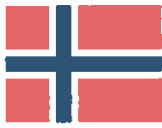
However, I was encouraged to hear and read about some of the actions being taken by Norway to meet climate challenges; some of the things I discovered in a review of this were:

- First, they have a big priority on electrifying road transportation - In the first half of 2019 Norway lead the world in electric vehicles sold at 56%; by the end of last March over 7.9% of all passenger cars in Norway were zero emission vehicles
- Second, they are capturing and storing CO2 emissions from cement production
- Third, they're ramping up the use of biofuels
- Fourth, since 1991 Norway has had a carbon tax on their offshore drilling production; and this was increased in 1999; By 2018 around 80% of their Greenhouse Gas emissions were taxed
- Fifth, the carbon sink by Norway's forests is extensive, and is approximately one-half of their annual emissions; They've been increasing their forest cover as well – the volume in growing wood increased between 2008 and 2017 by over 23%

Using Norway as a model seems like a good way to start addressing the climate challenges that Dr. Brettschneider outlined. It seems like HR-12 is a good starting point for this – therefore I encourage the Committee to pass out HR-12.

Norway information from: <https://climateactiontracker.org/countries/norway/>

From: climateactiontracker.org/countries/norway/



Norway

CHOOSE UPDATE TO VIEW

2 Dec 2019

SHARE

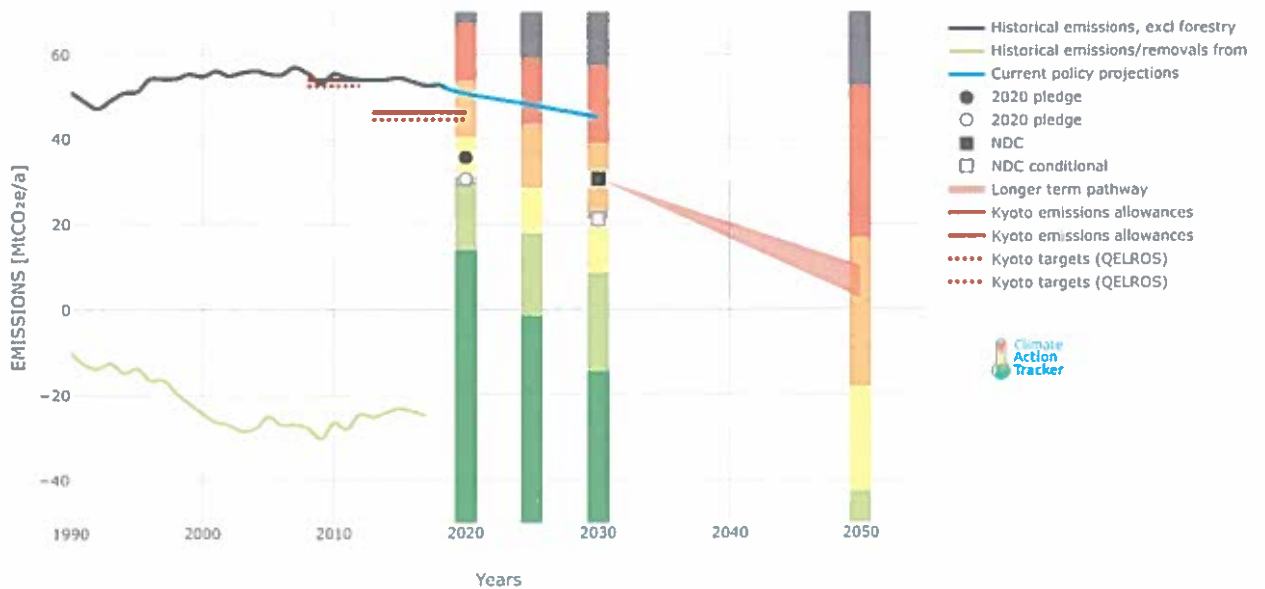
INSUFFICIENT
100% WORLD

Commitments with this rating are in the least stringent part of their fair share range and not consistent with holding warming below 2°C let alone with the Paris Agreement's stronger 1.5°C limit. If all government targets were in this range, warming would reach over 2°C and up to 3°C.

2°C COMPATIBLE
< 2°C WORLD

Country summary

COUNTRY SUMMARY PLEDGES AND TARGETS FAIR SHARE CURRENT POLICY PROJECTIONS ASSUMPTIONS SOURCES



Graph Footnotes

INSTRUCTIONS: Click each data series legend item above to deactivate or activate on the graph. To zoom in on the graph - click and drag to create a box - then release. To return to full scale, simply double click anywhere on the graph.

policies

The Norwegian government is taking some big steps on climate, but it still has a way to go.

In June, its Parliament voted to extend divestment policies that will see the huge Government Pension Fund not only phase out investments in companies dealing with oil & gas production, but also divest from 8 coal companies. The

include a ban on the Fund investing in any company generating more than 10GW of electricity from coal - or mining more than 20 million tonnes of coal annually. Some of the resources will instead be invested in unlisted renewable energy projects.

Norway also continues to lead the world with its record share of electric cars: in the first half of 2019 the share of electrically-charged vehicles sold in the country increased to 56%. However, the overall figure is still at around 8% of all cars.

Norway's long term, 2050 goal of becoming a "low carbon society" has been engrained in legislation in 2017, described as a 80-95% reduction below 1990 levels. In a January 2019 declaration, the government signalled its plans to increase this goal to a 90-95% emissions reduction, but failed to clarify how much of this it would achieve domestically.

However, Norway's ongoing tendency to "buy its way" out of the climate crisis can be clearly observed in its target of "emissions neutrality" by 2030. With emissions projected to decrease by only 12% under current policies, without further, concrete policy measures, Norway would have meet the rest of its target through forest sinks or climate action abroad.

As the Climate Action Tracker rates the impact of domestic action, we rate Norway's **currently implemented policies** as "Highly Insufficient." Norway's currently implemented policies are not consistent with the Paris Agreement, and are instead consistent with warming between 3°C and 4°C if all others followed a similar level of ambition.

We rate Norway's unconditional NDC "Insufficient," and not consistent with limiting warming below 2°C, let alone with the **Paris Agreement's stronger 1.5°C limit**, unless other countries make much deeper reductions and comparably greater effort. If unconditional, we would rate the climate neutrality goal by 2030 "2°C compatible."

NORWAY		Main pledges and targets
PARIS AGREEMENT	Ratified	Yes
	2030 unconditional target(s)	40% below 1990 by 2030 (44% below 2010 by 2030)
	2030 conditional target(s)	Carbon neutrality
LONG-TERM GOAL(S)	Long-term goal(s)	Low carbon society by 2050 (under discussion) Reduction in GHG emissions by 80-95% from 1990 reference

For full details see [pledges and targets section](#).

Current policy projections

Norway's electricity generation is almost exclusively renewable: in 2017 almost 96% of electricity was generated by hydro power plants and around 2% from wind farms. Only 2.3% of generation was from thermal power plants, mostly in industrial heat processes.

Norway is home to the biggest hydrocarbon reserves in Europe, making it the world's fifth largest exporter of crude oil, and its offshore drilling activities have been subject to a carbon tax since 1991. In 1999, these were increased, and in 2005 Norway joined the EU ETS. By 2018 around 80% of greenhouse gas emissions were taxed, with the highest tax charged on domestic aviation and mineral oil.

While the decarbonisation of Norway's transport system is one of the three main goals of its National Transport Plan 2018–2029, the majority of the NOK 67.5 billion (USD 8.1 billion) allocated

to the transport budget in 2018 still flowed into construction and improvement of roads and highways. However, there was a notable acceleration of investment into railways (5.7%) and a near doubling of investment into public transport projects.

In 2018 battery electric vehicles reached a 31% market share. Plug-in hybrids have a market share of almost 18%. The increasing share of electric cars in new sales has had an impact on the overall share of zero emissions vehicles: by the end of March over 7.9% of all passenger cars in Norway were zero emissions vehicles, an increase from 7.2% at the end of 2018. In the first half of 2019 the share of newly sold electric vehicles reached 56%, more than 80% of which were battery electric vehicles.

Norway has a substantial carbon sink in its forests - equal to around half of Norway's annual emissions. Forest cover has been increasing. The volume of growing wood stock increased between 2008-2017 by over 23%. According to the national forestry accounting plan, between 2021-2025 Norway's average removal from this sector will amount to slightly over 24 MtCO₂eq.

Norway has pledged up to NOK 3 billion (\$343 million) a year in the framework of the Norway International Climate and Forest Initiative (NICFI) to reduce deforestation in other countries.

FOR FULL DETAILS SEE CURRENT POLICY PROJECTIONS SECTION >

Further analysis



[Pledges And Targets](#)



[Fair Share](#)



[Current Policy Projections](#)



[Assumptions](#)



[Sources](#)

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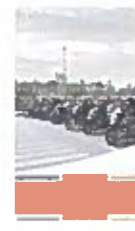
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From: [REDACTED]
To: [Rep. Grier Hopkins](#)
Cc: [House Resources](#)
Subject: Letter in Support House Resolution 12
Date: Friday, January 31, 2020 5:58:47 PM

January 31, 2020

Via Email

The Honorable Grier Hopkins
House of Representatives
Alaska State Capitol
120 4th Street Rm 3
Juneau, Alaska 99801-1182

Dear Representative Hopkins:

Please support adoption and implementation of House Resolution 12. HR 12 creates a Special House Committee addressing Climate Change.

As a fifty year resident of Alaska, I am astounded with the significant climate changes that are already impacting our wonderful state. While frost free growing seasons are much longer and may be welcome, not so for many other impacts, such as our wildland fire season being much longer and expensive, encroaching even more into our urban/rural interface, destroying property and threatening lives.

The natural ecosystems that sustain our fisheries, wildlife, and other renewable elements are at huge risk from climate trends already underway.

While it is imperative to adapt to changes, it is even more important to take real policy and action steps to put a brake on climate change by fully confronting this threat to our current well-being and our near future existence. Please set aggressive **greenhouse gas reduction goals** based on science. Renewable energy and storage is a practical solution using to fossil fuels, and is now the less expensive option.

Sincerely,

/S/

James Schwarber
[REDACTED]
Fairbanks, AK 99712

Cc: House Resources Committee