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Supreme Court of the United States

ALEC L., et al.,

Petitioners,

v.

GINA McCARTHY, et al.,

Respondents.

On Petition For A Writ Of Certiorari To The United States Court Of Appeals For The District Of Columbia Circuit

BRIEF OF THE SISTERS OF MERCY OF THE AMERICAS' INSTITUTE LEADERSHIP TEAM, JEFFREY D. SACHS, ET AL., AS AMICI CURIAE IN SUPPORT OF PETITIONERS

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November 6, 2014

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Massachusetts v. EPA, 549 U.S. 497 (2007)	2
Motor Vehicle Mfrs. Ass'n v. N.Y. State Dep't of Envtl. Conservation, 17 F.3d 521 (2d Cir. 1994)	
Utility Air Regulatory Grp. v. EPA et al., 134 S. Ct. 2427 (2014)	
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42 U.S.C. § 7543(a)	29
43 U.S.C. § 1701 et seq., Federal Land Policy and Management Act of 1976	
U.S. Const. art. I, § 10	13
OTHER AUTHORITIES	
A perfect desert storm: Political extremism, Libyan weapons and changing weather pat- terns are causing turmoil in the Sahel, Econ- omist (May 17, 2012)	

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Alan Parker, et al., Climate Change and Pacific Rim Indigenous Nations (2006)	23
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CNA Corporation, Military Advisory Board, National Security and the Threat of Climate Change (2007)25,	26, 27
Daniel Cordalis & Dean B. Suagee, The Effects of Climate Change on American Indian and Alaska Native Tribes, 22 Nat. Resources & Env't 45 (2008)	23, 24

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David Battisti & Rosamond Naylor, Historical Warnings of Future Food Insecurity with Un- precedented Seasonal Heat, 323 Science 240 (2009)	
Elizabeth Burakowski & Matthew Magnusson, Climate Impacts on the Winter Tourism Econ- omy in the United States (2012)	
Emily Pettus, Mississippi Approves \$17M for Tornado Recovery, Insurance Journal (May 12, 2014)	
Envtl. Prot. Agency, National Greenhouse Gas Emissions Data	
EPA Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Sec- tion 202(a) of the Clean Air Act, Final Rule, 74 Fed. Reg. 66496 (Dec. 15, 2009)	
Expert Decl. of Paul R. Epstein, Ph.D., No. C11-02203 (N.D. Cal., Sept. 28, 2011)	
Frank Pommersheim, The Reservation as Place: A South Dakota Essay, 34 S.D. L. Rev. 246 (1989)	
Gerald C. Nelson, et al., Int'l Food Policy Research Inst., Climate Change: Impacts on Agriculture and Costs of Adaptation (2009)	
Howard A. Learner, Restraining Federal Pre- emption When There is an "Emerging Con- sensus" of State Environmental Law and Policies, 102(2) Nw. U. L. Rev. 649 (2008)	

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Intergovernmental Panel on Climate Change, IPCC Fifth Assessment Report: Climate Change 2013 (2013)	14
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James Hansen, et al., Assessing "Dangerous Climate Change": Required Reduction of Car- bon Emissions to Protect Young People, Fu- ture Generations, and Nature, 8(12) PLoS ONE 1 (2013)	12
Jeff Goodell, <i>Goodbye Miami</i> , Rolling Stone (June 20, 2013)	28
Justin Gillis, Companies Take the Baton in Climate Change Efforts, N.Y. Times (Sept. 23, 2014)	20
Kevin J. Coyle & Lise Van Susteren, The Psy- chological Effects of Global Warming on the United States: And Why the U.S. Mental Health Care System is Not Adequately Pre- pared (Feb. 2012)	16, 17
Michael McElroy & D. James Baker, Climate Extremes: Recent Trends with Implications for National Security (2012)	27
National Drought Mitigation Center, U.S. Drought Monitor: California	21

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National Tribal Air Association, Impacts of Climate Change on Tribes in the United States (2009)	24
NOAA National Climatic Data Center, NCDC Releases 2012 Billion-Dollar Weather and Cli- mate Disasters Information	18
Pl. Decl. of Nelson Kanuk, No. C11-02203 (N.D. Cal., Sept. 28, 2011)	24
Reilly Morse, Environmental Justice Through the Eye of Hurricane Katrina (May/June 2008)	17
Risky Business Project, Risky Business: The Economic Risks of Climate Change in the United States (2014)	18, 19
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U.S. Dep't of Transp. & U.S. Dep't of Homeland Sec., Catastrophic Hurricane Evacuation Plan Evaluation: A Report to Congress (2006)	28
U.S. Global Change Research Program, Climate Change Impacts in the United States: Third National Climate Assessment (2014)14, 2	21, 22
U.S. Global Change Research Program, Native Peoples – Native Homelands Climate Change Workshop: Final Report (1998)	24

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U.S. Gov't Accountability Office, GAO-14-364T, Extreme Weather Events: Limiting Federal Fiscal Exposure and Increasing the Nation's Resilience (2014)	18
U.S. Navy, Climate Change Roadmap (2010)	26
United States Conference of Mayors Climate Protection Center, Mayors Leading the Way on Climate Protection	30
Washington State Blue Ribbon Panel on Ocean Acidification, Ocean Acidification: From Knowledge to Action (2012)	22
World Health Organization, Climate Change and Health	16

INTEREST OF THE AMICI CURIAE¹

Amici Curiae are individuals and organizations that represent a wide variety of interests, including economic, national security, government, faith, human rights, youth, conservation, labor, business, elder, and native. The constituents and members that these individuals and organizations represent include millions of Americans. Amici Curiae have a strong interest in this case and submit this brief in support of the petition for certiorari.

The Sisters of Mercy of the Americas' Institute Leadership Team represents nearly 3,500 vowed religious women with a commitment to persons who are poor, especially women and children. Advocating for carbon-emission reduction measures and reducing the carbon footprint of the congregation's institutions is an important step toward realizing sustainability of life. The following regional Sisters of Mercy leadership groups also join: The Sisters of Mercy of the Americas Northeast Community Leadership Team; The Sisters of Mercy Northeast Justice Council; The Sisters of Mercy West Midwest Community Leadership

¹ Pursuant to Rule 37.6, no counsel for any party authored this brief in whole or in part and no counsel or party made a monetary contribution to fund the preparation or submission of this brief. Pursuant to Rule 37.2(a), timely notice was provided to Petitioners and Intervenors, but Respondents inadvertently received late notice. All counsel of record, including Respondents, consented to the filing of this brief and consent letters have been filed with the Clerk.

Team; The Sisters of Mercy West Midwest Community Justice Team.

Professor Jeffrey D. Sachs, Director of The Earth Institute at Columbia University, is a world-renowned professor of economics, leader in sustainable development, senior UN advisor, bestselling author, and syndicated columnist.

Frank Ackerman, Ph.D., Senior Economist at Synapse Energy Economics and lecturer at Massachusetts Institute of Technology, is an environmental economist who has written widely on energy, climate change, and related issues.

Ernie Niemi, President of Natural Resource Economics, specializes in cost-benefit analysis, economic valuation, and economic-impact analysis to describe the economic importance of natural resources.

Vice Admiral Lee Gunn (Retired), President of CNA's Institute for Public Research, served in the U.S. Navy for thirty-five years in destroyers, frigates, and the amphibious forces before retiring from active duty in 2000.

Michael MacCracken, Ph.D., is Chief Scientist for Climate Change Programs with the Climate Institute in Washington, D.C. Dr. MacCracken served as senior global change scientist for the U.S. Global Change Research Program from 1993-2002, and his expert testimony was cited by this Court in Massachusetts v. EPA, 549 U.S. 497 (2007).

The following cities and government leaders have worked to address climate change locally and recognize the need for comprehensive federal action: City of Cambridge, Massachusetts; City of Olympia, Washington; Park City, Utah; Jim McDermott, U.S. Congressman for Washington District 7; Lon Burnam, State Representative for Texas House District 90; Gail Chasey, State Representative for New Mexico House District 18; Jamie Pedersen, Washington State Senator, District 43; Tom Bates, Mayor of Berkeley, California; Ralph Becker, Mayor of Salt Lake City, Utah; William Euille, Mayor of Alexandria, Virginia; John Hollar, Mayor of Montpelier, Vermont; Mark Kleinschmidt, Mayor of Chapel Hill, North Carolina; Lydia Lavelle, Mayor of Carborro, North Carolina; Kitty Piercy, Mayor of Eugene, Oregon; Zachary Vruwink, Mayor of Wisconsin Rapids, Wisconsin; Marc Elrich, Councilman of Montgomery County, Maryland; Michael McGinn, former Mayor of Seattle, Washington; Heidi Davison, former Mayor of Athens, Georgia; Pegeen Hanrahan, former Mayor of Gainesville, Florida; and Yoriko **Kishimoto**, former Mayor of Palo Alto, California.

The National Religious Coalition for Creation Care seeks to serve God and creation by bringing together the formal policy positions of religious institutions on environmental issues and communicating those positions to government leaders.

Franciscan Action Network is a collective Franciscan voice seeking to transform U.S. public policy related to peacemaking, care for creation, poverty, and human rights.

Interfaith Moral Action on Climate brings communities of faith together with the purpose of awakening our nation's leaders to their urgent moral obligation to act on climate change.

Interfaith Power and Light is a network of 15,000 congregations nationwide, engaging hundreds of religious leaders, educating people of faith about the moral and ethical mandate to address global warming, and advocating for laws to protect future generations.

Green Zionist Alliance is a New York-based nonprofit that works to protect the climate for current and future generations and advocates for those most negatively affected by climate change.

Interreligious Eco-Justice Network is a faithbased environmental organization that works to inspire and empower religious communities to be faithful stewards of Earth.

Mercy Ecology, Inc. is an educational nonprofit whose purpose is to inspire a love for the natural world.

Jewish Climate Action Network is a Bostonbased organization formed by Jewish community members who are passionate about the Earth and the need for action related to climate change. The Faith Alliance for Climate Solutions is an interfaith organization of individuals and congregations organized for climate change solutions as an urgent spiritual responsibility.

The Massachusetts Conference United Church of Christ is the largest Protestant denomination in Massachusetts (370 churches and 70,000 members) and is Massachusetts' oldest denomination, with roots going back to the Puritans and Pilgrims.

The Shalom Center is a nonprofit working to educate spiritual leaders and create a world of peace, justice, healing for the Earth, and respect for the interconnectedness of all life. The Shalom Center's highest priority is the global climate crisis and intergenerational responsibility.

Christians for the Mountains is a regional organization that advocates from a religious context for justice and ecological integrity in the face of serious extractive industry abuses in central Appalachia.

WITNESS is a nonprofit human rights organization and global pioneer in the use of video to promote human rights. WITNESS brings visibility to challenges youth already experience because of the changing climate and to the civil unrest and security threats caused by natural resource depletion.

Climate Silence Now was started by Itzcuauhtli Roske-Martinez, an eleven-year old boy from Colorado, who is turning his despair to action by taking a vow of silence until leaders act on climate change and protect his and future generations.

Earth Guardians is a Colorado-based nonprofit organization with youth chapters on five continents and multiple groups in the United States with thousands of youth members working together to protect the Earth, water, air, and atmosphere and to create healthy sustainable communities.

Global Kids, Inc., based in New York, works to ensure that urban youth have the knowledge, skills, experiences, and values they need to succeed in school, participate effectively in the democratic process, and achieve leadership in their communities.

Kids Against Fracking is a Colorado-based organization whose mission supports legal bans on industrial activity that contributes to global climate change.

Network works to empower youth to take action to address the problem of climate change and to promote education for sustainability.

350.org was founded by U.S. author Bill McKibben, who wrote one of the first books on climate change for the general public. 350.org is building a grassroots movement to solve the climate crisis.

Greenpeace is an independent organization working to protect the natural world and promote peace by championing environmentally responsible solutions

and advocating for the rights and well-being of all people.

Climate Solutions is a Northwest-based nonprofit leading initiatives to deliver climate and clean energy policies, models, and partnerships that accelerate the transition from fossil fuels to a clean energy economy.

Mothers Out Front is building a grassroots movement to convince government and business leaders to make a swift and complete transition away from fossil fuels and ensure that our children have a livable future.

United for Action is a grassroots group based in New York City working against fracking and climate change.

Bronx Climate Justice North is a climate justice organization based in New York.

Center for Sustainability Law works to secure sustainable land use, food systems, and property rights for all by ensuring that underrepresented peoples have their voices heard in negotiations over the world's limited natural resources.

Center for Food Safety is a nonprofit organization with over 500,000 members nationwide, whose mission is protecting public health and the environment from the adverse impacts of industrial agriculture and climate change. Food & Water Watch is a consumer advocacy organization with 84,000 members from fifty states that has a primary mission to ensure the food, water, and fish we consume are safe, accessible, and sustainably produced.

Center for Water Advocacy focuses on the sustainability of water resources throughout Alaska using the principles of democracy, environmental justice, and sound ecology.

Farm Sanctuary is the nation's largest farm animal protection organization educating millions of people about the effects of factory farming on human health and the environment.

Labor Network for Sustainability is a nonprofit organization dedicated to working with trade unions, workers, and allies to support economic, social, and environmental sustainability, and publishes studies showing the harmful impacts of climate change on workers and their jobs.

Protect Our Winters represents the snow sports community and works to reduce the effects of climate change on winter sports and local economies.

Aspen Skiing Company is a commercial enterprise based in Colorado. Its goals include solving climate change and operating in a manner that does not harm the environment.

Project for Public Spaces (PPS) is a nonprofit planning, design, and educational organization dedicated to helping people create and sustain public spaces that build stronger communities. PPS has completed projects in all 50 states and in more than 3000 communities around the world since 1975.

HelpAge USA works with a broad global network to implement programs and policies that improve the lives of older people in the world's poorest communities.

Gray Panthers is an intergenerational social justice organization that believes the Earth, air, and sea are precious natural resources that sustain life for all humankind.

The Granny Peace Brigade works to encourage political action in the struggle to make a safe and peaceful world for all children everywhere.

National Native American Law Student Association is an organization that promotes the study of Federal Indian Law, Tribal Law, and traditional forms of governance, and supports the interests and participation of Native People in law school and the legal community.

The Alaska Inter-Tribal Council (AITC) is a statewide, tribally-governed, nonprofit organization that advocates on behalf of Alaska's tribal governments. Living in the Arctic and sub-Arctic regions of Alaska, AITC members experience daily the effects of global warming, including thinning sea ice, increased coastal erosion, melting permafrost, and changes in plant and animal distributions, which deplete their

subsistence resources and threaten their health and safety.

Akiak Native Community is a group of Alaskan Natives that live together in Akiak, Alaska and primarily rely on subsistence and fishing activities to survive. Climate change impacts are threatening the Akiak's culture and lifestyle.

Forgotten People, Inc. is a nonprofit community-based organization dedicated to improving the well-being of the Diné people who live on the Navajo Nation in Arizona and experience daily the impacts of climate change.

International Council of Thirteen Indigenous Grandmothers represents a global alliance with a mission of prayer, education, and healing "for Mother Earth, all Her inhabitants, all the children, and for the next seven generations to come."

SUMMARY OF THE ARGUMENT

The questions presented in this case are of exceptional national importance and of great interest to these amici curiae. The D.C. Circuit held that the public trust doctrine does not apply to the federal government. Such a ruling disregards the federal government's trust obligation to protect essential national resources for present and future generations and prevents Article III courts from requiring the political branches to fulfill their trust obligations.

This outcome is alarming in any context but especially in the context of global climate change.

The federal government's violation of its obligation to protect the atmospheric resource under the public trust doctrine is endangering human health, harming the economy, undermining our Nation's food and water security, adversely impacting Native Nations and socioeconomically disadvantaged communities, threatening our national security, and creating challenges for state and local governments. When government fails to fulfill its trust obligations, citizens must be able to hold federal officials accountable to act in a manner consistent with their trust responsibilities. Because of what is at stake in this case, the questions presented deserve to be clearly addressed and resolved by this Court.

ARGUMENT

I. THE QUESTIONS PRESENTED ARE OF EXCEPTIONAL NATIONAL IMPORTANCE AND DESERVING OF THIS COURT'S REVIEW.

This case is fundamentally about whether the federal government has an obligation, under the public trust doctrine, to protect essential natural resources for its citizens from the irreparable impacts of climate change.

The core principle of the public trust doctrine is that every government holds essential natural

resources in trust for the benefit of present and future generations, free from substantial impairment and alienation.2 The scientific consensus is that anthropogenic emissions of greenhouse gases (GHG) have substantially impaired the atmosphere, resulting in climate disruption that significantly increases the risk of adverse impacts to other natural resources.3 The disruption of the Earth's climate poses a threat of unimaginable magnitude to Americans and all natural ecosystems;4 yet billions of tons of GHG emissions continue to be released into the atmosphere annually in the United States.5 Unless immediate steps are taken by the federal government to reduce GHG emissions and address climate change, the impacts will be catastrophic and irreversible to the fundamental ecosystems on which our nation's health and welfare depend.6

The existence of a *federal* public trust obligation, in addition to the public trust obligation that inheres

² Ill. Cent. R.R. v. Illinois, 146 U.S. 387, 452-56 (1892).

³ Safe levels of atmospheric CO₂ are less than 350 ppm. We are currently approaching 400 ppm. James Hansen, et al., Assessing "Dangerous Climate Change": Required Reduction of Carbon Emissions to Protect Young People, Future Generations, and Nature, 8(12) PLoS ONE 1, 5 (2013), http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0081648.

⁴ Id. at 6-9.

⁵ Envtl. Prot. Agency, *National Greenhouse Gas Emissions Data*, http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html (last updated Sept. 11, 2014).

⁶ Hansen, supra note 3, at 6-9, 13-14, 20.

in state and local governments and governments around the world, is critical because of the federal government's supremacy over the atmosphere and its significant contributions to climate change. The federal government is either directly or indirectly responsible for a large share of the nation's GHG emissions, as it is "the nation's largest energy consumer," and plays a key role in subsidizing and permitting the extraction and combustion of fossil fuels, allowing extraction on federally owned lands, and planning and implementing the nation's response to climate change.8 Furthermore, the ability of states and local governments to protect the national domain and to control GHG emissions and the extraction of fossil fuels is limited by the federal exercise of control and constitutional supremacy.9 As political subdivisions of our nation, states also cannot enter into treaties with other nation-states. 10 This Court's preclusion of the

⁷ U.S. Dep't of Energy, *About the Program*, http://energy.gov/eere/femp/about-program (last visited Oct. 20, 2014).

⁸ See U.S. Dep't of Energy, Fiscal Year 2012 Greenhouse Gas Inventory: Government Totals, http://energy.gov/eere/femp/downloads/fiscal-year-2012-greenhouse-gas-inventory-government-totals (last updated June 14, 2013); Bureau of Land Mgmt., Coal Operations, http://www.blm.gov/wo/st/en/prog/energy/coal_and_non-energy.html (last updated Aug. 22, 2014); Int'l Monetary Fund, Energy Subsidy Reform: Lessons and Implications 13 (Jan. 28, 2013), www.imf.org/external/np/pp/eng/2013/012813.pdf.

⁹ See, e.g., Howard A. Learner, Restraining Federal Preemption When There is an "Emerging Consensus" of State Environmental Law and Policies, 102(2) Nw. U. L. Rev. 649, 650 nn. 6-7 (2008).

¹⁰ U.S. Const. art. I, § 10.

attempt by several states to limit pollution from some of the nation's largest polluters is also emblematic of the limits on states' power to address global climate change. To these reasons, and given the substantial and irreversible threats to our atmospheric resource and climate system, whether there is a *federal* public trust obligation over the national domain is a question important to the entire country.

II. THE IMPLICATIONS OF THE QUESTIONS PRESENTED IN THIS CASE WILL IMPACT ALL SECTORS OF AMERICAN SOCIETY.

The Department of Defense Climate Change Adaptation Roadmap, the National Climate Assessment, and the Intergovernmental Panel on Climate Change Fifth Assessment Report, as well as many other scientific publications and governmental reports, describe the devastating impacts of climate change across all sectors of American society. Whether the federal government can continue to both

¹¹ Am. Elec. Power Co. v. Connecticut, 131 S. Ct. 2527 (2011).

¹² U.S. Dep't of Def., 2014 Climate Change Adaptation Roadmap (2014) [hereinafter DoD Climate Change Adaptation Roadmap], http://www.acq.osd.mil/ie/download/CCARprint.pdf; U.S. Global Change Research Program, Climate Change Impacts in the United States: Third National Climate Assessment (2014) [hereinafter National Climate Assessment], http://nca2014.global change.gov/downloads; Intergovernmental Panel on Climate Change, IPCC Fifth Assessment Report: Climate Change 2013 (2013), http://www.ipcc.ch/report/ar5/wg1/.

allow and facilitate these impacts, or whether there is a federal public trust obligation that compels the federal government to remedy this situation, is at stake in this case. Due to the threats climate change poses to our nation, few issues are of greater national importance or more deserving of this Court's review than the questions presented here.

A. CLIMATE CHANGE ADVERSELY AF-FECTS HUMAN HEALTH AND LIVES

Perhaps no other issue better highlights the national importance of the questions presented in this case than the effects of climate change on human health, life, and liberty. One Respondent, the Environmental Protection Agency, found "that the public health of current generations is endangered and that the threat to public health for both current and future generations will likely mount over time as greenhouse gases continue to accumulate in the atmosphere and result in ever greater rates of climate change." ¹³

The increasing risk of extreme weather and the escalating intensity of precipitation, hurricanes, and heat waves due to climate change are significant threats to Americans. Heat waves are becoming

¹³ EPA Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, Final Rule, 74 Fed. Reg. 66496, 66524 (Dec. 15, 2009) (to be codified at 40 C.F.R. Ch. 1).

more frequent, intense, and longer lasting, leading to thousands of deaths every year. In the Southeast, heat-related issues will result in as many as 36,000 additional deaths *annually* over the course of the next century. Climate change increases the risk of extreme weather events like hurricanes and floods that lead to immediate deaths and destruction, as well as lasting health impacts. Experts predict that extreme weather events and associated impacts of climate change will lead to steep rises in incidences of mental and social disorders and outbreaks of violence.

Threats to individual sanctity and health will continue to increase due to outbreaks of disease and respiratory illnesses.¹⁸ Children are particularly vulnerable to the impacts of climate change, including

¹⁴ Expert Decl. of Paul R. Epstein, Ph.D. at 2, No. C11-02203 (N.D. Cal., Sept. 28, 2011) [hereinafter Epstein Decl.].

¹⁵ Risky Business Project, Risky Business: The Economic Risks of Climate Change in the United States 26 (2014) [hereinafter Risky Business], http://riskybusiness.org/uploads/files/RiskyBusiness_Report_WEB_09_08_14.pdf.

¹⁶ Association for the Advancement of Science, What We Know: The Reality, Risks and Response to Climate Change 4 (2014), http://whatweknow.aaas.org/wp-content/uploads/2014/07/whatweknow_website.pdf.

¹⁷ See Kevin J. Coyle & Lise Van Susteren, The Psychological Effects of Global Warming on the United States: And Why the U.S. Mental Health Care System is Not Adequately Prepared (Feb. 2012).

World Health Organization, *Climate Change and Health*, http://www.who.int/mediacentre/factsheets/fs266/en/index.html (last visited Oct. 17, 2014); Epstein Decl., *supra* note 14, at 2-4.

their susceptibility to emotional trauma, stress, and depression following natural disasters. ¹⁹ Furthermore, today's children, as well as future generations, will be burdened with the worst impacts of climate change unless the federal government fulfills its trust obligations.

The impacts of climate change on human health also raise important environmental justice concerns and highlight racial, social, and economic disparities. For example, the percentage of victims from Hurricane Katrina who were African American, renters, low income, and/or unemployed was larger than the nationwide representation of these groups. Only the federal government can directly address all these impacts.

B. CLIMATE CHANGE THREATENS THE UNITED STATES ECONOMY

Threats to the U.S. economy from inaction or delayed action on climate change are enormous. Former U.S. Secretary of the Treasury, Henry Paulson, said, "I spent nearly my whole career managing risks and

¹⁹ Coyle & Van Susteren, supra note 17, at 17-19.

²⁰ Jacqui Patterson, Your Take: Climate Change Is a Civil Rights Issue, The Root (Apr. 23, 2010), http://www.theroot.com/articles/culture/2010/04/climate_change_is_a_civil_rights_issue.html; Reilly Morse, Environmental Justice Through the Eye of Hurricane Katrina (May/June 2008), http://jointcenter.org/sites/default/files/EnvironMorse_1.pdf.

²¹ *Id*.

dealing with financial crisis. Today I see another type of crisis looming: A climate crisis. And while not financial in nature, it threatens our economy just the same."²² While climate disruption is already impacting the U.S. economy, the impacts will get far worse in the coming years unless immediate federal action is taken to address the climate crisis.

In 2012, climate-related disasters from extreme weather events caused more than \$110 billion in damages; only 2005 was a more costly year. In 2013, there were nine natural disasters in the United States that caused damages of more than \$1 billion, costing taxpayers and insurance companies billions of dollars. Experts estimate that within the next 15 years the combination of higher sea levels and increasing hurricane activity could bring the annual price tag for hurricanes and other coastal storms to \$35 billion along the Eastern seaboard and the Gulf Coast. By 2050, as much as \$106 billion worth of our

²² Risky Business, supra note 15, at 9.

²³ NOAA National Climatic Data Center, NCDC Releases 2012 Billion-Dollar Weather and Climate Disasters Information, http://www.ncdc.noaa.gov/news/ncdc-releases-2012-billion-dollar-weather-and-climate-disasters-information (last visited Oct. 20, 2014).

²⁴ Aon Benfield, Annual Global Climate and Catastrophe Report: Impact Forecasting – 2013, 5 (2014), http://thoughtleadership. aonbenfield.com/Documents/20140113_ab_if_annual_climate_catastrophe_report.pdf; U.S. Gov't Accountability Office, GAO-14-364T, Extreme Weather Events: Limiting Federal Fiscal Exposure and Increasing the Nation's Resilience 1, 3-7 (2014).

²⁵ Risky Business, supra note 15, at 3.

nation's property could be below sea level.²⁶ In the Midwest, changing climate conditions are expected to lead to a decline in the value of agricultural outputs by as much as sixty-three percent by mid-century.²⁷

Climate change also disrupts businesses by increasing operational and capital costs, interrupting production capacity, and reducing demand for goods and services. For example: the clothing industry is impacted because climatic changes affect cotton harvests; the food and beverage industries are impacted by declining agricultural outputs; the health care and health insurance industries are impacted by a growing number of people developing illnesses associated with climate change; and utilities are affected by increased electricity demand, storm damage to infrastructure, and problems with supply of cooling water to sustain operations. The tourism and winter recreation industry are also adversely impacted by climate change. Climate change.

Many businesses recognized years ago that taking action on climate change is a sound economic

²⁶ Id. at 4.

²⁷ Id. at 28.

²⁸ CDP, Major Public Companies Describe Climate-Related Risks and Costs 3 (2014), https://www.cdp.net/cdpresults/review-2011-2013-usa-disclosures.pdf.

²⁹ See generally id. at 5-29.

³⁰ Elizabeth Burakowski & Matthew Magnusson, *Climate Impacts on the Winter Tourism Economy in the United States* 6-17 (2012).

investment, essential to protect the integrity of the U.S. economy, and would welcome a comprehensive plan from the federal government to address climate change. According to Businesses for Innovative Climate & Energy Policy, the U.S. must act boldly and swiftly to enact effective energy and climate policies to address the challenges and seize the opportunities we face. In September 2014, forty companies, including Kellogg and Walmart, signed the New York Declaration on Forests, which commits to halve deforestation by 2020 and end it by 2030.

Just as corporations are vested with fiduciary obligations to their shareholder beneficiaries, the federal government is vested with fiduciary obligations to present and future generations. The worst economic impacts of climate change can be avoided if the federal government takes appropriate actions to

³¹ CDP, State by State: The Business Response to Climate Change Across America (2014), https://www.cdp.net/CDPResults/CDP-state-by-state-report-2014.pdf.

³² Over 1000 companies have signed BICEP's Climate Declaration. See CERES, Who Has Signed, http://www.ceres.org/declaration/sign/who-has-signed (last visited Oct. 15, 2014).

³³ Businesses for Innovative Climate & Energy Policy, *BICEP's Principles*, http://www.ceres.org/bicep/principles (last visited Oct. 15, 2014).

³⁴ Justin Gillis, Companies Take the Baton in Climate Change Efforts, N.Y. Times (Sept. 23, 2014), http://www.nytimes.com/2014/09/24/business/energy-environment/passing-the-baton-in-climate-change-efforts.html.

address the climate crisis according to its trust obligations.

C. CLIMATE CHANGE AND OCEAN ACID-IFICATION THREATEN OUR NATION'S WATER AND FOOD SECURITY

One destructive impact of the changing climatic conditions is the disruption of the hydrological cycle.³⁵ Climate change is resulting in a higher frequency of extreme rainfall events that increase the risk of flooding. At the same time, drought is more severe and long-lasting in the United States due to greater intervals between rain events and faster evaporation rates from warming temperatures.³⁶ For example, as of October 2014, eighty-two percent of California was in an extreme or exceptional drought.³⁷

Higher temperatures and changes to the hydrological cycle significantly impact agricultural productivity.³⁸ In some parts of the country, droughts undermine agricultural crop and livestock production and contribute to an increasing frequency of pest

 $^{^{\}rm 35}$ See National Climate Assessment, supra note 12, at 69-112.

³⁶ Id. at 71-72, 75-76.

³⁷ National Drought Mitigation Center, *U.S. Drought Monitor: California*, http://droughtmonitor.unl.edu/data/pdfs/20141028/20141028_CA_trd.pdf (last updated Oct. 30, 2014).

³⁸ David Battisti & Rosamond Naylor, *Historical Warnings* of Future Food Insecurity with Unprecedented Seasonal Heat, 323 Science 240, 244 (2009).

outbreaks.³⁹ In other areas, fungal growth caused by wetter weather conditions is reducing crop production, and extreme precipitation events are leading to crop failures.⁴⁰

Another major climate threat to our nation's food security is ocean acidification. The excess concentration of carbon dioxide in the atmosphere is the leading cause of ocean acidification, which threatens coral reefs, marine fisheries, and subsistence harvests in the United States. 41 Ocean acidification threatens calcifers, such as oysters, clams, scallops, and crabs, which are an important food source and an important part of a healthy marine ecosystem. 42 In Washington State, ocean acidification is already dissolving oyster larvae in seawater due to increased ocean acidity.43 Without immediate science-based action to curb carbon dioxide emissions, the oceans will become the site of mass extinctions of marine animals, significantly altering the marine food web dynamics, and impacting the lives and sustenance of coastal citizens.

³⁹ Epstein Decl., supra note 14, at 4-6.

⁴⁰ *Id.* at 5; Gerald C. Nelson, et al., Int'l Food Policy Research Inst., *Climate Change: Impacts on Agriculture and Costs of Adaptation* vii (2009), http://www.ifpri.org/sites/default/files/publications/pr21.pdf.

 $^{^{41}}$ National Climate Assessment, supra note 12, at 48-49, 404, 538-40.

⁴² Washington State Blue Ribbon Panel on Ocean Acidification, *Ocean Acidification: From Knowledge to Action* 16 (2012), https://fortress.wa.gov/ecy/publications/publications/1201015.pdf.

⁴³ Id. at 3.

D. NATIVE NATIONS ARE UNIQUELY AND ADVERSELY IMPACTED BY CLIMATE CHANGE

Because of their unique histories and character, their close ties to specific land, water, and wildlife, and their virtual inability to relocate without risking the loss of legal rights, Native Nations⁴⁴ have been among the first to feel the profound impacts of climate change.⁴⁵ Climate change is having a distinct and imminent physical impact on the traditional lands, foods, and practices of many Native Nations, while exacerbating historic injustices to their lands, culture, spiritual connections, health, and economies.⁴⁶

In the Arctic, increasing temperatures are causing sea ice and permafrost to melt and coastlines to erode.⁴⁷ These climate-induced changes have caused indigenous peoples to lose infrastructure, land, and natural resources crucial to life in the Arctic. Alaska Native communities rely on the stability of sea ice and permafrost, making hunting, fishing, and travel

⁴⁴ The term "Native Nations" is deliberately selected in order to be inclusive of American Indians, Alaskan Natives, and Native Hawaiians.

⁴⁵ Daniel Cordalis & Dean B. Suagee, *The Effects of Climate Change on American Indian and Alaska Native Tribes*, 22 Nat. Resources & Env't 45 (2008).

⁴⁶ Alan Parker, et al., Climate Change and Pacific Rim Indigenous Nations, 1-2, 19 (2006).

⁴⁷ Cordalis & Suagee, supra note 45, at 45, 47.

in the Arctic now more limited, precarious, and often perilous.⁴⁸ One of Petitioners' declarants testified that his family's home in Kipnuk, a Yup'ik Eskimo village, was threatened by flooding and permafrost erosion.⁴⁹ As feared, his home has since been destroyed.

In 1998, Native Nations in the Pacific Coast and Rocky Mountain regions reported the following impacts from climactic changes: declining salmon runs; deformed fish; significant decreases in the life spans of individual Natives due to the unavailability of traditional foods; and erosion due to rising sea levels. More recently, in 2009, the National Tribal Air Association released a report detailing the significant impacts of climate change on Indian country and found that climate change will impact nearly every aspect of life for Native Nations. ⁵¹

Many Native peoples also possess a spiritual connection with their environment, which is a fundamental attribute of the sovereignty and customary laws of Native Nations and the personhood of individual

⁴⁸ *Id*.

 $^{^{\}rm 49}$ Pl. Decl. of Nelson Kanuk at 2-4, No. C11-02203 (N.D. Cal., Sept. 28, 2011).

⁵⁰ U.S. Global Change Research Program, Native Peoples – Native Homelands Climate Change Workshop: Final Report (1998).

⁵¹ National Tribal Air Association, *Impacts of Climate Change on Tribes in the United States*, 11 (2009), http://epa.gov/air/tribal/pdfs/ImpactsofClimateChangeonTribesintheUnitedStates.pdf.

Natives.⁵² Because of the severe impacts of climate change on Native Nations and because they cannot address the climate crisis on their own, it is of exceptional national importance to Native Nations that the Court take this case.

E. CLIMATE CHANGE IS A FORMIDABLE THREAT TO NATIONAL SECURITY

Climate change poses heightened risks to U.S. military operations, installations, and the lives of U.S. soldiers. In a 2007 report, eleven retired military generals and admirals explained there are "serious consequences to our national security that are likely from unmitigated climate change." In a 2014 update, sixteen retired military generals and admirals said:

[W]e validate the findings of our first report and find that in many cases the risks we identified are advancing noticeably faster than we anticipated... Today, the risks posed by predicted climate change, in our view, represent even graver potential than

⁵² See, e.g., Frank Pommersheim, The Reservation as Place: A South Dakota Essay, 34 S.D. L. Rev. 246, 250, 282-83 (1989).

⁵³ CNA Corporation, Military Advisory Board, National Security and the Threat of Climate Change 44 (2007) [hereinafter MAB Report], http://www.cna.org/reports/climate.

they did seven years ago and require action today to reduce risk tomorrow.⁵⁴

The U.S. Department of Defense 2014 Climate Change Adaptation Roadmap found that "[a]mong the future trends that will impact our national security is climate change." The Department of Defense's 2014 Quadrennial Defense Review noted that "[c]limate change poses another significant challenge for the United States and the world at large."

The ways in which climate change threatens U.S. national security are varied and complex, direct and indirect. One impact of climate change is its potential to stress components that contribute to military readiness. For example, there is increased demand for Guard, reserve, and active forces to respond to more frequent and intense extreme weather events, both at home and abroad. Climate change also affects U.S. military installations worldwide. In the United States, much of the essential infrastructure of military bases is located in coastal regions and thus is

⁵⁴ CNA Corporation, Military Advisory Board, *National Security and the Accelerating Risks of Climate Change* iii, 9 (2014) [hereinafter *MAB Update*], http://www.cna.org/sites/default/files/MAB_2014.pdf.

 $^{^{\}rm 55}$ DoD Climate Change Adaptation Roadmap, supra note 12, at Forward.

⁵⁶ MAB Update, supra note 54, at 21, 23.

⁵⁷ U.S. Navy, *Climate Change Roadmap* 5 (2010), http://green fleet.dodlive.mil/files/2010/08/US-Navy-Climate-Change-Roadmap-21-05-10.pdf; see also MAB Report, supra note 53, at 37.

particularly vulnerable to rising sea levels and storm surges. 58

The U.S. national security establishment considers climate change to be a "threat multiplier," *i.e.*, it creates conditions that exacerbate already existing instability in some of the most volatile regions of the world, providing fertile ground for terrorism and extremism. ⁵⁹ For example, a severe drought preceded the 2012 toppling of the Malian government by extremists and contributed to the breakdown in order. ⁶⁰ Research also indicates that climate change was a factor in the Syrian uprising as the conflict was preceded by five years of devastating droughts. ⁶¹

F. STATE AND LOCAL GOVERNMENTS NEED SUPPORT FROM THE FEDERAL GOVERNMENT TO ADEQUATELY AD-DRESS THE CLIMATE CRISIS

Due to our federalist system of government, this case is of great national importance to state and local

⁵⁸ MAB Update, supra note 54, at 23-25.

⁵⁹ MAB Report, supra note 53, at 6, 44-45.

⁶⁰ Michael McElroy & D. James Baker, Climate Extremes: Recent Trends with Implications for National Security 12 (2012), http://environment.harvard.edu/sites/default/files/climate_extremes_report_2012-12-04.pdf; A perfect desert storm: Political extremism, Libyan weapons and changing weather patterns are causing turmoil in the Sahel, Economist (May 17, 2012), http://www.economist.com/node/21550324/.

⁶¹ MAB Update, supra note 54, at 13.

governments. When states joined the United States they conveyed sovereign interest to the federal union and gave up certain rights, such as the ability to enter into treaties and defend the nation. State and local governments cannot address the climate crisis alone and need the federal government to act in its concurrent trust capacity over essential national resources.

Much of the burden of the federal government's failure to fulfill its trust obligations over essential national resources falls upon state and local governments, which must allocate significant resources to respond to the impacts of climate change. For example, coastal cities, like Miami, face threats to its drinking water supply and critical infrastructure from rising sea levels and storm surge inundation. Responding to and preparing for these changing conditions is already costing state and local governments millions of dollars annually. Furthermore, as climate change contributes to more extreme weather events, state and local officials are the first line of emergency response to storms. 64

⁶² Jeff Goodell, *Goodbye Miami*, Rolling Stone (June 20, 2013), http://www.rollingstone.com/politics/news/why-the-city-of-miami-is-doomed-to-drown-20130620.

⁶³ See, e.g., Emily Pettus, Mississippi Approves \$17M for Tornado Recovery, Insurance Journal (May 12, 2014), http://www.insurancejournal.com/news/southeast/2014/05/12/328799.htm.

⁶⁴ U.S. Dep't of Transp. & U.S. Dep't of Homeland Sec., Catastrophic Hurricane Evacuation Plan Evaluation: A Report to (Continued on following page)

While many state and local governments are implementing measures to reduce GHG emissions, other local governments are failing to take meaningful action on climate change. Because it is beyond the jurisdiction of state and local governments to compel reductions in emissions from other state and local governments, federal action is critical.

Federal action is also important because local governments' capacity to regulate certain areas, such as motor vehicles⁶⁶ and federal buildings,⁶⁷ is limited. Furthermore, the federal government manages a vast amount of federal public land within state borders, providing many sources of fossil fuels and carbon sequestering forests.⁶⁸ Local governments do not have

Congress 2-1 (2006), https://www.fhwa.dot.gov/reports/hurricanevacuation/chapter2.htm.

⁶⁵ For example, Texas is failing to implement any meaningful GHG reduction programs and sued the EPA to prevent the regulation of GHGs. See Utility Air Regulatory Grp. v. EPA et al., 134 S. Ct. 2427 (2014).

⁶⁶ Only California can adopt motor vehicle emissions standards, though these standards are subject to approval by the U.S. EPA. Other states can adopt standards identical to – but not stricter than – California's. See 42 U.S.C. § 7543(a); see also Motor Vehicle Mfrs. Ass'n v. N.Y. State Dep't of Envtl. Conservation, 17 F.3d 521, 525-26 (2d Cir. 1994).

⁶⁷ See, e.g., Air Conditioning, Heating & Refrigeration Inst. v. City of Albuquerque, 835 F. Supp. 2d 1133 (D. N.M. 2010) (The court voided local building efficiency codes based on federal preemption of appliance efficiency standards.).

⁶⁸ For example, the Federal Land Policy and Management Act of 1976 guides how energy is permitted on BLM Lands. 43 U.S.C. § 1701 *et seq*.

the full authority to regulate all GHG emissions within their jurisdictions, and thus, comprehensive planning by the federal government pursuant to its public trust obligation is critical.

Many state and local officials are already calling on the federal government to exercise its authority to take action on climate change. For example, 1,060 mayors have joined the U.S. Conference of Mayors Climate Protection Agreement and vowed to reduce local GHG emissions and urge the federal government to enact policies to reduce GHG emissions. 69

For all these reasons, a comprehensive federal plan to effectively address climate change is of upmost importance and significance to state and local governments who need the federal government to fulfill its trust obligations over essential national resources.

⁶⁹ The United States Conference of Mayors Climate Protection Center, *Mayors Leading the Way on Climate Protection*, http://www.usmayors.org/climateprotection/revised/ (last visited Oct. 16, 2014).

CONCLUSION

The Petition for Writ of Certiorari should be granted to resolve the nationally important questions presented in this case.

Respectfully submitted,

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