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11 **UNITED STATES DISTRICT COURT**
12 **NORTHERN DISTRICT OF CALIFORNIA**

13
14 ALEC L., by and through his Guardian Ad
15 Litem VICTORIA LOORZ;
16 MADELEINE W., by and through her Guardian
17 Ad Litem JANET WALLACE;
18 GARRETT S., by and through his Guardian Ad
19 Litem VALERIE SERRELS;
20 GRANT S., by and through his Guardian Ad
21 Litem VALERIE SERRELS;
22 ZOE J., by and through her Guardian Ad Litem
23 NINA GROVE;
24 KIDS vs GLOBAL WARMING, a project of
25 the nonprofit Earth Island Institute; and,
26 WILDEARTH GAURDIANS, a nonprofit,

27 Plaintiffs,

28 vs.

23 LISA P. JACKSON, in her official capacity as
24 Administrator of the UNITED STATES
25 ENVIRONMENTAL PROTECTION
26 AGENCY, a federal agency;
27 KENNETH L. SALAZAR, in his official
28 capacity as Secretary of the UNITED STATES
DEPARTMENT OF INTERIOR, a federal
agency;
THOMAS J. VILSACK, in his official capacity
as Secretary of the UNITED STATES
DEPARTMENT OF AGRICULTURE, a
federal agency;

Case No. C11-02203 DMR

**FIRST AMENDED COMPLAINT FOR
DECLARATORY AND INJUNCTIVE
RELIEF**

1 GARY F. LOCKE, in his official capacity as
Secretary of the UNITED STATES
2 DEPARTMENT OF COMMERCE, a federal
agency;
3 STEVEN CHU, in his official capacity as
Secretary of the UNITED STATES
4 DEPARTMENT OF ENERGY, a federal
agency;
5 LEON E. PANETTA, in his official capacity as
Secretary of the UNITED STATES
6 DEPARTMENT OF DEFENSE, a federal
agency;

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8 Defendants.
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1 “[T]he state has an interest independent of and behind the titles
2 of its citizens, in all the earth and air within its domain.”
 State of Georgia v. Tennessee Copper Co., 206 U.S. 230, 237 (1907)

3 “The state can no more abdicate its trust over property in which
4 the whole people are interested... than it can abdicate its police
 power in the administration of government.”
 Ill. Cent. R.R. Co. v. Illinois, 146 U.S. 387, 453

6 **I. INTRODUCTION**

7 1. There is growing consensus in the scientific community about human-induced
8 climate change. Shifts in temperatures are causing more extreme weather around the country and
9 shorter winter seasons, which have lead to unexpected illness from insect-borne disease and
10 shortages of summer water flows. While some areas of our Nation have suffered from extreme
11 flooding and storms, others have struggled to continue ranching and farming through times of
12 increasing water scarcity. In spite of the severity of these crises, our children and our children’s
13 children will surely face even more dire circumstances if the tipping point of climate change is
14 reached and our impact becomes irreversible.

15 2. From early in the United States’ development, the Public Trust Doctrine has
16 appointed the federal and state governments’ as trustees of the Nation’s shared resources. For
17 over a century, our federal government has had to exercise the highest duty of care when dealing
18 with natural resources that are necessarily held in common for all. It is increasingly evident that
19 the atmosphere is no different from any of the resources falling under the Public Trust Doctrine.
20 Therefore, basic trust principles apply and the United States government has an affirmative
21 fiduciary obligation to control atmospheric contamination that has caused catastrophic and
22 irreparable damage to our lands, businesses, national security, and health.

23 3. The public welfare of our citizens is directly affected by the failure of our federal
24 government to confront this human-induced global energy imbalance. This Court should
25 determine the Public Trust Doctrine applies to the current climate crisis and issue appropriate
26 equitable relief. This action does not request this Court issue an order telling Congress or any
27 federal agency *how* to protect our natural resources, but rather issue an order requiring our federal
28 government to do its job.

1 4. Plaintiffs include youth, representing the youngest living generation of
2 beneficiaries of the Public Trust. Plaintiffs have a profound interest in ensuring our climate
3 remains stable enough to ensure their rights to a livable future. A livable future includes the
4 opportunity to drink clean water, to grow food, to be free from imminent property damage caused
5 by extreme weather events, and to enjoy the abundant and rich biodiversity on this small planet.
6 These youth Plaintiffs are not scientists or public policymakers, or even voters. Plaintiffs bring
7 this action not to require this Court to force our federal government to adopt a particular treaty,
8 economic theory, or political platform. Plaintiffs ask this Court to declare there is a human-
9 induced global energy imbalance and require our federal government, as trustee, to present a plan
10 to steward probable negative effects of the climate crisis in the future.

11 5. The Public Trust Doctrine provides that our federal officials have a fiduciary duty
12 to protect the atmosphere from the effects of human-induced global energy imbalance and to hold
13 our country's vital natural resources in trust for present and future generations of citizens. Our
14 federal government may not manage the trust resource in a way that substantially impairs the
15 public interest in a healthy atmosphere. Our atmosphere contains a blanket of gases that have
16 naturally allowed Earth's climate to remain in balance so our planet is not too hot or too cold,
17 allowing human civilization and Earth's biodiversity to develop. Yet, when human activity
18 disrupts that atmospheric equilibrium, jeopardizing the safe climate-zone, human life is placed in
19 grave danger.

20 6. Today we are confronted with an atmospheric emergency. Our atmosphere's
21 necessary balance is close to a "tipping point" and increasingly getting worse, accelerated over
22 the last thirty years to a climate warmer than has likely been experienced on Earth for 800
23 thousand years. This acceleration has been caused primarily by human activity and, if continued,
24 will result in a changed world that threatens human existence as we know it. Americans and the
25 world as a whole face impending climate catastrophe. If our federal government, as the trustee of
26 the atmosphere, does not take immediate extraordinary action to protect, preserve, and restore the
27 atmosphere back into balance, our children and our children's children will continue to suffer
28 greater injury and damaging consequences.

1 7. Science, not politics, should define the fiduciary obligation that our federal
2 authorities must fulfill. Nature has its own laws and our atmosphere has its own energy balance.
3 That balance has been seriously disrupted by massive amounts of carbon dioxide and heat-
4 trapping greenhouse gases or “GHGs,” which trap the sun’s heat and prevent it from dissipating
5 into space. Determining how much carbon reduction is needed to timely return our atmosphere to
6 equilibrium is a matter of science, not politics.

7 8. Human lives are already being lost because our federal government has failed to
8 address destruction of our natural resources. Earth has already heated over pre-industrial
9 temperatures. Rapid reduction of greenhouse gas emissions is required to preserve our planet.
10 Our atmosphere must be returned to equilibrium of less than 350 parts per million (“ppm”) carbon
11 dioxide to prevent heating beyond 1° C (1.8° F) (which scientific analysis deems catastrophic).
12 Our atmosphere is now at a carbon dioxide level of approximately 390 ppm.

13 9. If our society wants to protect and keep the world safe for our children and our
14 children’s children, our federal government must immediately be ordered to accept its fiduciary
15 responsibility mandated by the Public Trust Doctrine. Plaintiffs, and each of them, are already
16 experiencing serious environmental, economic, physical, emotional, and aesthetic injuries as a
17 result of our federal government’s actions and inactions. If our federal government continues to
18 contribute to this atmospheric crisis, those injuries will intensify and expand. A failure to
19 immediately take bold action to protect and preserve Earth’s safe climate-zone will cause
20 irreparable harm to Plaintiffs and others. Immediate federal government action is imperative.
21 Once we pass certain tipping points of energy imbalance and planetary heating, we will not be
22 able to prevent the ensuing harm. A failure to act soon will ensure the collapse of Earth’s natural
23 systems resulting in a planet that is largely unfit for human life.

24 10. Defendants, and each of them, by their actions of causing, approving and allowing
25 too many carbon emissions into Earth’s atmosphere, cumulatively resulting in global heating,
26 ocean acidification, melting icecaps and ice sheets, biodiversity loss, and extreme weather events
27 have breached and are continuing to breach their duty as trustees. These and other catastrophes
28 are already underway throughout our country and the world, and are getting worse. Last year’s

1 extraordinary floods in Pakistan displaced one million people, with more than 150 thousand
2 people still unable to return home six months later.

3 11. Human-induced global energy imbalance is a humanitarian crisis, as well as a
4 military and national security concern. As the current Chairman of the Joint Chiefs of Staff,
5 Admiral Mike Mullen, stated: “Whatever the root cause, climate change’s potential impacts are
6 sobering and far-reaching.” Admiral Mullen went on to warn: “Scarcity of water, food and space
7 could create not only a humanitarian crisis, but create conditions that could lead to failed states,
8 instability and, potentially, radicalization.” Our federal government must not ignore our military
9 leaders’ concerns.

10 12. For over the past 200 years, the burning of fossil fuels, such as coal and oil,
11 together with massive deforestation have caused a substantial increase in the atmospheric
12 concentrations of heat-trapping greenhouse gases. These gases prevent heat from escaping to
13 space, like the glass panels of a greenhouse. The extent of these gases in the atmosphere have
14 changed and fluctuated over geologic time but have reached an equilibrium -- Earth’s safe
15 climate-zone -- which is necessary to life as we know it. However, as the concentrations of these
16 heat-trapping greenhouse gases continue to increase in the atmosphere, Earth's temperature is
17 climbing above Earth’s safe climate-zone.

18 13. According to data from the National Oceanic and Atmospheric Administration
19 (“NOAA”) and the National Aeronautics and Space Administration (“NASA”), Earth's average
20 surface temperature has increased by about .67° to .8°C (1.2° to 1.4°F) in the last 100 years. In
21 fact, the eight warmest years on record (since 1850) have all occurred since 1998. Coupled with
22 the increase in the Earth’s temperature, other aspects of the climate are also changing, such as
23 rainfall patterns, snow and ice cover, and sea levels.

24 14. Climate changes are currently occurring faster than even the most pessimistic
25 scenarios presented in the 2007 Intergovernmental Panel on Climate Change. A variety of studies
26 conclude a further increase of average annual temperatures of 2° C (3.6° F) above current levels
27 would cause severe, widespread, and irreversible impacts. The future is likely to bring increases
28 of 3 ° to 11° F above current levels, if our federal government does not accept its responsibility

1 and take immediate action.

2 15. To return Earth's energy balance and protect its natural systems, Defendants, and
3 each of them, must reduce the United States' fair share of annual carbon dioxide emissions in
4 order to draw down atmospheric carbon dioxide by at least 35 to 40 ppm by the end of this
5 century. To limit average surface heating to no more than 1° C (1.8° F) above pre-industrial
6 temperatures, concentrations of atmospheric carbon dioxide should be no more than 350 ppm.
7 Today, carbon dioxide concentrations have already reached approximately 390 ppm and are
8 projected to exceed 400 ppm within a matter of years. To prevent exceeding 400 ppm it is
9 essential that we draw down the carbon dioxide from the atmosphere by immediately reducing
10 GHG emissions and deforestation, and also undertaking significant reforestation.

11 16. This Complaint seeks to investigate the effectiveness of federal authorities in
12 planning and managing our nation's response to human-induced global energy imbalance. If
13 Defendants, and each of them, do not immediately account for and react to this crisis and act
14 swiftly to reduce carbon dioxide emissions into the atmosphere, our current environment will no
15 longer exist. If Defendants, and each of them, do not act immediately to reduce carbon emissions
16 into the atmosphere, Plaintiffs and future generations of children will face a planet that may be
17 largely uninhabitable. We have an intergenerational obligation to protect and preserve our planet
18 for them. The United States must lead the way to GHG emissions reductions. It not only is the
19 single largest contributor of any sovereign nation to this harming of the atmosphere, but it also
20 has the capacity and the technology to reduce emissions if required to do so. However, if the
21 United States government does not act now to reduce emissions and protect the atmosphere, the
22 catastrophic collapse of Earth's natural systems is inevitable.

23 17. To return Earth's energy balance, to protect its natural systems, and to fulfill its
24 responsibilities, Defendants, and each of them, must do their part to account for and reduce
25 annual carbon dioxide emissions and draw down atmospheric carbon dioxide to less than 350
26 ppm from its current level of 390 ppm to limit average surface heating to 1° C (1.8° F) above pre-
27 industrial temperatures.

28 18. Secretary Kenneth L. Salazar, Secretary Gary F. Locke, Secretary Steven Chu,

1 Secretary Thomas J. Vilsack, Secretary Robert M. Gates, and Administrator Lisa P. Jackson,
2 through their respective offices, departments, and agencies, the Department of Interior, the
3 Department of Commerce, the Department of Energy, the Department of Agriculture, the
4 Department of Defense, and the Environmental Protection Agency, have the primary duties to
5 ensure that our atmosphere is protected for present and future citizens. These Defendants, and
6 their predecessors, have violated and continue to violate their fiduciary duties to protect the
7 atmosphere for these Plaintiffs, as well as for all children across our country.

8 19. Defendants, and each of them, have failed to implement our nation's laws for the
9 benefit of the people of the United States, including these Plaintiffs, as well as for all children
10 across the country, and to affirmatively protect our vital public resources. It is our nation's
11 judiciary that can and must enforce the Public Trust's fiduciary responsibility and mandate the
12 preservation of our natural resources and protection of our children throughout our country by
13 requiring prompt mitigating or preventative action. Significant delays in addressing the human-
14 induced global energy imbalance will compound the crisis and make future remedies more
15 difficult, painful, and costly. Ordering prudent actions now will improve the situation, avoiding
16 more sweeping action in the future.

17 20. It has been more than eighteen years since the United States ratified the United
18 Nations Framework Convention on Climate Change ("UNFCCC") on October 15, 1992.
19 Children born on that day have now entered adulthood. Yet the United States government has
20 failed to address this problem in any meaningful way to reverse the human-induced global energy
21 imbalance. This emergency situation demands immediate judicial attention.

22 21. As soon as practicable, representatives of Defendants should be ordered to begin
23 working jointly and in good faith to develop a satisfactory remedial plan that addresses the public
24 trust violations described in this First Amended Complaint, including:

- 25 a. Taking action consistent with the United States government's equitable share
26 of the global effort, corresponding to its share of the responsibility for causing
27 an increase in greenhouse gas concentrations and its financial and
28 technological capability to reduce global emissions, and thereby enable global

- 1 CO₂ emissions to peak by December 2012 and decline by at least six percent a
2 year thereafter;
- 3 b. Taking all necessary actions to reduce CO₂ emissions in the United States by at
4 least six percent per year beginning in 2013;
- 5 c. Preparing an annual GHG accounting or inventory of all GHG emissions
6 originated by the United States and its citizens and corporations and submit it
7 for approval by this Court by December 31, 2011;
- 8 d. Preparing an annual carbon budget consistent with the reductions in
9 subparagraphs (a) and (b) above and submit it for approval by this Court by
10 December 31, 2011; and
- 11 e. Preparing a climate recovery plan, consistent with the best available science
12 and calibrated to achieve the requirements imposed by subparagraphs (a) and
13 (b) and submit it to this Court for approval by December 31, 2011.

14 22. Representatives of Defendants should be ordered to submit their proposed
15 remedial plan to this Court within 120 days from the date of this Court's order. Lead counsel for
16 Defendants should be ordered to provide a progress report to this Court every thirty days and may
17 recommend, for good cause, an extension of time beyond the 120-day deadline. If an order issues
18 from this Court, an appropriate remedial plan can be fashioned through the above process. In the
19 event, however, that representatives of Defendants are unable to develop a mutually acceptable
20 remedial plan within the 120-day deadline (or such later deadline as the Court may allow by way
21 of extension), representatives of Defendants shall, no later than seven days after such deadline,
22 jointly submit to the Court any parts of such a plan that have been agreed to, or a statement that
23 representatives of Defendants were unable to agree on any aspect of a remedial plan.
24 Representatives of Plaintiff shall then make recommendations to the Court with respect to any
25 remaining areas of disagreement, after giving consideration to the input and concerns of all
26 parties. Any such recommendations shall be filed and served no later than thirty days after
27 representatives of Defendants have submitted any parts of the plan that have been agreed to (or a
28 statement that no such agreement was possible). This Court should retain jurisdiction over this

1 action until such time as the Court is satisfied that all public trust violations have been fully and
2 effectively remedied.

3 **II. JURISDICTION AND VENUE**

4 23. This action is brought pursuant to the Federal Public Trust Doctrine and the United
5 States Constitution. This Court has jurisdiction pursuant to 28 U.S.C. § 1331, as this action arises
6 under the laws of the United States.

7 24. Venue lies in this judicial district by virtue of 28 U.S.C. § 1391(e). Defendants
8 have offices in this district, one Plaintiff resides in this district, and the events or omissions giving
9 rise to the claims arise in this district.

10 25. Defendants, and each of them, reside in this judicial district. This civil action is
11 brought against officers of the United States acting in their official capacities and a substantial
12 part of the events or omissions giving rise to the claims in this case occurred in the Northern
13 District of California. One of the claims in this Complaint concerns EPA's failure to perform
14 fiduciary duties with regard to California. EPA Region Nine, whose jurisdiction includes
15 California, is headquartered in San Francisco. Thus several of the events and omissions at issue
16 in this action occurred at EPA's Region Nine headquarters in San Francisco. In addition, Plaintiff
17 Madeleine W. and Zoe J. reside in San Francisco, California and Plaintiffs' counsel is located in
18 Burlingame, California. Therefore, venue is proper in this Court pursuant to 28 U.S.C. Section
19 1391(e).

20 **III. INTRADISTRICT ASSIGNMENT**

21 26. A substantial part of the events and omission giving rise to the claims in this case
22 occurred in the County of San Francisco. Accordingly, assignment to the San Francisco Division
23 or the Oakland Division is proper pursuant to Civil L.R. 3-2(c) and (d).

24 **IV. PARTIES**

25 **A. ALEC L.**

26 27. Plaintiff ALEC L. is a sixteen-year-old citizen of the United States who resides in
27 Ventura, California. Alec is a beneficiary of the Public Trust in our atmosphere and is owed a
28 fiduciary duty by the United States government. In 2006, when Alec was twelve, he started a

1 non-profit organization, Plaintiff Kids vs Global Warming, to educate youth of the world about
2 the imminence of the human-made climate change crisis. Alec hoped to organize his generation
3 and their parents to take urgent action to protect Earth from the dire consequences that are already
4 occurring and will only get worse if drastic action is not taken soon. Since then, he has been
5 working to teach his peers about these problems and convince our federal government to protect
6 the atmosphere for present and future generations. In 2050, when the worst effects of human-
7 made climate change are expected to be seen, Alec will be fifty-six years old. Alec, a minor,
8 brings this action on his own behalf and is also represented by his mother, Victoria Loorz, who
9 also resides in Ventura, California.

10 28. Alec has spent his entire teenaged life focused on researching, writing, and
11 speaking to his peers about the reality that the burning of fossil fuels has led to an imbalance of
12 Earth's natural systems. Alec is keenly aware that the future effects are only part of the story
13 because human-made climate change is already affecting millions of people around the world,
14 and the youngest generations will be hurt the most.

15 29. Human-made climate change is adversely affecting Alec now. For example, he
16 has lived in Breckenridge, Colorado, where he enjoyed hiking and walking in forests that are now
17 being destroyed by pine beetles, as a result of human-made climate change. These forests are on
18 public lands. Alec has experienced immense aesthetic enjoyment from these forests in his past
19 and would like to continue to enjoy the forests in the future, but is impaired in his ability to do so
20 because of the devastation that is caused by human-made climate change. Winter temperatures in
21 recent years are not cold enough to kill off the beetles and, as a result, Alec has seen ninety
22 percent of the trees destroyed over the past five years.

23 30. Alec is experiencing other devastating effects of the climate crisis. For example,
24 he traveled to Iceland in the summer of 2010 to hike on glacial tongues running off of the third
25 largest ice sheet in the world. He wept when he saw that new trails need to be marked almost
26 every day because the glacier is receding up to three thousand feet per year, as a result of the
27 aberrational warming of our planet. Unless immediate action is taken to ameliorate the effects of
28 human-made climate change, he will never see glaciers of that magnitude again.

1 31. In his home town of Ventura, California, Alec and fifty other middle school
2 students erected poles that show where the future sea level rise will be if nothing is done to
3 change our current rate of emissions. The poles show how, within Alec’s lifetime, the sea level
4 will rise enough to lose the wastewater treatment center in his community, the power generating
5 station for the entire county, the freeway, all of the beaches, and hundreds of homes – all of which
6 will negatively impact Alec personally.

7 32. Alec also suffers from asthma. Fossil fuel burning contributes to his asthmatic
8 condition and as temperatures warm and air quality worsens, Alec’s asthma will also worsen.

9 33. Alec is passionately driven to “stop global warming” within his lifetime because
10 he has seen how the burning of fossil fuels and increased emission of greenhouse gases melt
11 snowpacks and glaciers, cause droughts and reduce water supplies, and compromise food
12 production, putting his future and the lives of hundreds of millions of people in danger.

13 **B. MADELEINE W.**

14 34. Plaintiff Madeleine W. is fifteen years old and lives in San Francisco, California.
15 Madeleine is a beneficiary of the Public Trust in our atmosphere and is owed a fiduciary duty by
16 the United States government. In sixth grade, Madeleine was concerned about how much water
17 and energy her school was using, so she co-founded her school’s Environmental Action
18 Committee with her science teacher.

19 35. When Madeleine was nine, she started a nonprofit called “Superheroes Needed”
20 after she saw a photograph of an African mother holding her child who had died from starvation
21 caused by drought in their homeland. What she first mistook for a baby was a child her same
22 age—nine years old. The size of the child was due to malnourishment. Superheroes Needed sold
23 handmade necklaces for building wells in Africa because water issues there are so urgent.
24 Madeleine knows this story will become exponentially common without addressing human-made
25 climate change: poor countries will only become poorer, those who have little to eat will have
26 even less as drought and food shortages worsen, not just in Africa but globally.

27 36. Through the fundraising efforts of Superheroes Needed, Madeleine and others
28 built wells in Africa, addressing water shortages exacerbated by human-made climate change.

1 37. Madeleine's firsthand experiences solidified her passion, desire, and need to
2 advocate for those people and natural resources without a voice. Madeleine traveled with her
3 mother, a social justice attorney, and her godfather, Robert Kennedy, Jr., to Patagonia, Chile, to
4 fight against the damming of the Futaleufu River.

5 38. Madeleine, a minor, brings this action on her own behalf and is also represented by
6 her mother, Janet Wallace, who also resides in San Francisco, California.

7 **C. GARRETT AND GRANT S.**

8 39. Plaintiffs Garrett and Grant S. are both fifteen years old and live in Timberville,
9 Virginia. Garrett and Grant are beneficiaries of the Public Trust in our atmosphere and are owed
10 a fiduciary duty by the United States government. Garrett and Grant have experienced
11 consequences of global warming in the various geographic locations they have lived. They
12 resided in Pine Mountain Club, California for seven years, a beautiful community at 6,500 ft. in
13 the Los Padres National Forest. While they lived in Pine Mountain Club, they witnessed the
14 destruction of hundreds of pine trees from pine beetles, extreme weather patterns that left them
15 without electricity or water for several days, and drought and fire hazard in the forests.

16 40. Upon moving to Timberville, Virginia almost six years ago, Garrett and Grant
17 were fortunate enough to live in a house located on the North Fork of the Shenandoah River.
18 Their excitement of being able to play, fish, and swim in the river was quickly thwarted. As new
19 residents, they soon learned the river had become polluted as a result of lax standards of factory
20 discharge into the river. The Shenandoah River had become unsafe for swimming. Also, "fish
21 kill" became a common vocabulary word for the die off of trout, bass, and sunfish (sometimes in
22 large numbers). Garrett and Grant would often fish in the Shenandoah River to examine the fish
23 for potential lesions, and found several. The reason for these lesions and fish kill is related to the
24 increased temperature of the river waters over the past decade.

25 41. Garrett and Grant greatly enjoy hiking, camping swimming in the rivers and
26 creeks, and fishing. They care deeply about the environment, and personally take responsibility
27 for keeping it clean, picking up trash, and expect others also to take responsibility for the
28 environment. In addition, Garrett and Grant have been involved with using the arts, drama, and

1 music to communicate the need for social change in public places, at rallies, in malls, parks, and
2 homeless shelters.

3 42. Garrett and Grant, both minors, bring this action on their own behalf and are also
4 represented by their mother, Valerie Serrels, who also resides in Timberville, Virginia.

5 **D. ZOE J.**

6 43. Zoe J. is sixteen years old and resides in San Francisco, California. Zoe is a
7 beneficiary of the Public Trust in our atmosphere and is owed a fiduciary duty by the United
8 States government. Since childhood, Zoe has actively been involved in protecting both the safety
9 of her environment, and the safety of those who inhabit it. In Junior High School, she worked
10 closely with the organization “Teens Turning Green” on an initiative called “Lips Against Lead,”
11 in which Zoe helped to gather signatures to petition for a law that banned lead in lipstick. She
12 also served as a class representative in her elementary school Eco-Council.

13 44. Zoe resides in the San Francisco Bay Area. San Francisco Bay is a large estuary
14 that will be dramatically impacted by rising sea levels that will accompany drastic climate
15 change, including global warming. Water treatment facilities and other essential infrastructure
16 located near sea level around the Bay will require extremely expensive repair, or even relocation,
17 in the event that sea levels continue to rise. While visiting friends and family Zoe has become
18 familiar with the Sacramento-San Joaquin River Delta. The Delta forms the east boundary of San
19 Francisco Bay and is the hub of the State’s water system. The entire ecosystem and water
20 capacity of the Delta is likely to be severely impacted as a result of these rising sea levels. A
21 huge part of California’s population and economy depends on water transported through the
22 Delta.

23 45. Zoe has had the opportunity to visit East Africa and is concerned about the
24 expansion of malaria in highland areas as temperature increases in this region. In 2004, the
25 United States government invested almost \$200 million in the research and development of
26 malaria treatments and additional aid to fund malaria prevention and control. Zoe believes that
27 investment in curbing global warming will also pay benefits by limiting the expansion of malaria.

28 46. Zoe has also had the opportunity to visit her uncle in the Florida Panhandle. Her

1 uncle sells fishing boats and supplies and she has a deep appreciation for the sensitive habitat of
2 Apalachicola Bay and the fisheries and oyster production that occurs there. She has spent many
3 hours fishing and learning about the livelihood of this part of our country. Global warming
4 related sea level rise also would have a devastating impact on Apalachicola Bay, and her uncle's
5 business.

6 47. Zoe, a minor, brings this action on her own behalf and is also represented by her
7 mother, Nina Grove, who also resides in San Francisco, California.

8 **E. KIDS vs GLOBAL WARMING**

9 48. Plaintiff KIDS vs GLOBAL WARMING ("KvGW") is a project of Earth Island
10 Institute, a non-profit organization, and is committed to creating opportunities for youth to learn
11 about the science and solutions of human-made climate change, and then to take action that will
12 reduce dependence on fossil fuels and influence governments throughout the world to make good
13 decisions now that impact the future of youth and generations to come. KvGW is a membership
14 organization of thousands of youth over ten thousand youth from all over the country who are
15 concerned about how human-made climate change is affecting and will continue to affect them
16 and their future. KvGW brings this action on behalf of its members. The members of KvGW are
17 beneficiaries of the Public Trust in our atmosphere and are owed a fiduciary duty by the United
18 States government. The actions of Defendants, and each of them, are injuring KvGW's members
19 in ways that are germane to the organization's mission. Namely, Defendants, and each of them,
20 are causing harm to and failing to protect the atmosphere on which KvGW's members rely for
21 their health, well-being and survival. KvGW brings this action on behalf of its members.

22 **F. WILDEARTH GAURDIANS**

23 49. Plaintiff WILDEARTH GUARDIANS ("Guardians") is a non-profit conservation
24 organization. Guardians is dedicated to protecting and restoring wildlife, wild rivers, and wild
25 places in the American West, and to safeguarding Earth's climate and air quality. Towards this
26 end, Guardians and its members work to replace fossil fuels with clean, renewable energy in order
27 to safeguard public health, the environment, and Earth's climate for future generations. Guardians
28 brings this action on its own behalf and on behalf of its adversely affected members. Guardians

1 has approximately 4,500 members, many of whom live, work, or recreate in Colorado. The
2 members of Guardians are beneficiaries of the Public Trust in our atmosphere and are owed a
3 fiduciary duty by the United States government.

4 50. The failure of Defendants, and each of them, to perform their fiduciary duties as
5 described herein affects each Plaintiff, as well as the staff and members of Plaintiffs KvGW and
6 Guardians, by depriving them of protection and opportunities. The failure of Defendants, and
7 each of them, to perform their fiduciary duties also creates uncertainty each Plaintiff, as well as
8 the staff and members of Plaintiffs KvGW and Guardians, as to whether they are improperly and
9 unnecessarily exposed to human-made climate change.

10 51. The survival, health, recreational, scientific, cultural, inspirational, spiritual,
11 educational, aesthetic, emotional well-being and other rights and interests of Plaintiffs, and each
12 of them, are and will be increasingly adversely and irreparably injured by the failure of
13 Defendants, and each of them, to stop the injurious use of natural resources unless the relief
14 requested here is granted. Likewise, the ongoing breach of the duty to preserve and protect the
15 atmosphere for present and future beneficiaries, which has not been abated or properly mitigated,
16 will continue to adversely and irreparably injure Plaintiffs, and each of them, unless the relief
17 requested here is granted. These are actual, concrete injuries to Plaintiffs, and each of them, that
18 would be redressed by the relief sought here.

19 52. The above injuries will continue until this Court grants the relief requested herein.

20 **G. DEFENDANTS**

21 53. Defendant United States Environmental Protection Agency (“EPA”) is a federal
22 agency. Its mission is to protect human health and the natural environment, on which life
23 depends, including air, water and the land. As part of this duty, it must ensure that federal laws
24 protecting human health and the environment are implemented and enforced effectively and
25 fairly. EPA can fulfill its public trust duty by exercising its authority to regulate CO₂ emissions
26 from third-party polluters. EPA has failed to preserve and protect the atmosphere and has failed
27 to effectively implement and enforce the laws under its jurisdiction for this purpose, for present
28 and future generations.

1 54. Defendant Lisa P. Jackson is the Administrator of EPA, and is responsible for all
2 actions of the EPA.

3 55. Defendant United States Department of Interior (“DOI”) manages one-fifth of the
4 country’s land, including forests and grazing lands, thirty-five thousand miles of coastline and
5 1.76 billion acres of the Outer Continental Shelf. DOI’s mission is to protect America’s natural
6 resources and heritage, honor cultures and tribal communities, and supply the energy to power the
7 future of America. It has a duty to uphold the United States government’s trust responsibilities.
8 DOI has failed to preserve and protect the atmosphere and has failed to provide climate-safe
9 energy to power not just today’s America, but America for future generations without wasting the
10 atmospheric trust. DOI has contributed to and continues to contribute to the climate catastrophe
11 by permitting logging, livestock grazing, off-road vehicle use, the extraction of coal, coal-bed
12 methane, oil, oil shale and natural gas, and oil, coal and electric infrastructure and transmission
13 facilities on public land. DOI continues to fail to preserve and protect the Public Trust in our
14 atmosphere from greenhouse gases from all of the aforementioned activities under its jurisdiction.

15 56. Defendant Kenneth L. Salazar is the Secretary of DOI, and is responsible for all
16 actions of DOI.

17 57. Defendant United States Department of Agriculture (“USDA”) has authority over
18 our nation’s food, agriculture, and many natural resources, including national forests, which serve
19 the vital role of absorbing carbon dioxide from our atmosphere – commonly referred to as
20 “carbon sequestering.” USDA has contributed to and continues to contribute to the climate
21 catastrophe by permitting large-scale logging in national forests, and it continues to fail to
22 preserve and protect the atmospheric trust from greenhouse gases from farming, agricultural
23 practices, and fossil fuel extraction and use under its jurisdiction.

24 58. Defendant Thomas J. Vilsack is the Secretary of USDA and responsible for all
25 actions of that agency.

26 59. Defendant United States Department of Commerce (“Commerce”) is a federal
27 agency whose mission is to help make American businesses more innovative at home and more
28 competitive abroad. Through its bureau, NOAA, it is also responsible for preserving and

1 protecting natural resources, including fisheries, coastal areas, marine life, and our atmosphere.
2 Commerce has failed to preserve and protect the atmosphere and other natural resources under its
3 jurisdiction and has failed to prevent the waste of the Public Trust in the atmosphere in its efforts
4 to make American industry competitive.

5 60. Defendant Gary F. Locke is the Secretary of Commerce, and is responsible for all
6 actions of that agency.

7 61. Defendant United States Department of Energy (“DOE”) is a federal agency
8 whose mission is to advance the national, economic, and energy security of the United States
9 through clean, reliable, and affordable energy, to protect the environment, and to encourage
10 innovations in science and technology that improve the quality of life. DOE has failed to
11 preserve and protect the atmosphere by advancing clean, reliable, and affordable energy to
12 replace fossil fuel sources of energy, which are wasting the trust asset.

13 62. Secretary Steven Chu, in his official capacity, is responsible for all actions of the
14 Department of Energy.

15 63. Defendant United States Department of Defense (“DOD”) is a federal agency
16 whose mission includes protecting the security of our country. DOD is the oldest and largest
17 government agency. It is the nation’s largest employer and is responsible for enormous
18 greenhouse gas emissions from its vehicle fleet, electricity for buildings, and its weapons
19 infrastructure. DOD has contributed and continues to contribute to the climate warming situation
20 and the waste of the Public Trust in the atmosphere DOD is also failing to preserve and protect
21 the atmosphere, which threatens the security of life on Earth and the security of our nation due to
22 the instability the climate crisis is creating and will continue to create around the world. For
23 example, the number of human-made climate change refugees will continue to increase as
24 weather events and lack of steady supplies of food and water increase across the world. Also as
25 climate security diminishes, largely as a result of the United States government’s historic
26 emissions and failure to protect the atmosphere, animosity towards the United States will
27 continue to increase.

28 64. Defendant Leon E. Panetta is the Secretary of DOD, and is responsible for all

1 actions of DOD.

2 65. Collectively, these Federal agencies are charged with protecting citizens and the
 3 nation; encompassed within this duty is the preservation of a habitable planet. According to the
 4 White House, “[t]he Federal Government occupies nearly 500 thousand buildings, operates more
 5 than 600 thousand vehicles, employs more than 1.8 million civilians, and purchases more than
 6 \$500 billion per year in goods and services. As the single-largest energy consumer in the U.S.
 7 economy, the Federal Government spent more than \$24.5 billion on electricity and fuel in 2008
 8 alone.” Despite clearly stated responsibilities to protect and improve the quality of life for all
 9 Americans, Defendants, and each of them, are actually contributing, actively and passively, to a
 10 serious threat to individual and national security.

11 **V. FACTS GIVING RISE TO PLAINTIFFS’ CLAIMS**

12 “We do not inherit the earth from our ancestors.
 13 We borrow it from our children.”
 14 Native American Proverb

14 “The environment should be put in the category of our national security.
 15 Defense of our resources is just as important as defense abroad.
 16 Otherwise, what is there to defend?”
 17 Robert Redford, Yosemite National Park dedication, 1985

17 **A. THE PUBLIC TRUST DOCTRINE**

18 66. Plaintiffs bring this action to enforce the mandatory duty of Defendants, and each
 19 of them, under the Public Trust Doctrine. The Public Trust Doctrine requires Defendants, and
 20 each of them, to hold vital natural resources in “trust” for present and future generations of its
 21 citizens. These resources are so vital to the well-being of our people that they must be protected
 22 by distinctive, long-standing judicial principles. As the Supreme Court has stated on numerous
 23 occasions, “the police power embraces regulations designed to promote public convenience or the
 24 general welfare, and not merely those in the interest of public health, safety, and morals.”
 25 *Nashville, Chattanooga & St. Louis Railway v. Walters*, 294 U.S. 405, 429 (1935).

26 67. The atmosphere, including the air, is one of the crucial assets protected by the
 27 Public Trust Doctrine. The Public Doctrine Trust imposes a duty on Defendants, and each of
 28 them, to affirmatively preserve and protect our nation’s trust assets from damage or loss, and not

1 to use our nation's trust assets in a manner that causes injury to the trust beneficiaries, present and
2 future. The sovereign trustee has an affirmative fiduciary duty to prevent waste, to use reasonable
3 skill and care to preserve the trust property, and to maintain trust assets.

4 68. The sovereign's fiduciary duty in this instance is defined by scientists' concrete
5 prescriptions for carbon reductions. Scientists have clearly expressed the minimum carbon
6 dioxide reductions needed to restore Earth's climate equilibrium, and the requisite timelines for
7 implementation of those reductions. All of the Defendants have an affirmative duty under the
8 Public Trust Doctrine to restore Earth's climate equilibrium in the time frame scientific analysis
9 deems necessary to avoid catastrophic climate change. Defendants, and each of them, may not
10 disclaim their fiduciary duty and are subject to an ongoing mandatory duty to preserve and protect
11 these resources.

12 69. As our Supreme Court recently observed in *Connecticut, et al. v. American*
13 *Electric Power, et al.*, No. 10-174 (2011): "Environmental protection is undoubtedly an area
14 'within national legislative power,' one in which federal courts may fill in 'statutory interstices,'
15 and, if necessary, even 'fashion federal law.'" The Supreme Court also reaffirmed the 1972
16 decision in *Illinois v. Milwaukee*: "When we deal with air and water in their ambient or interstate
17 aspects, there is a federal common law." 406 U.S. 91, 103 (recognizing right of Illinois to sue in
18 federal district court to abate discharge of sewage into Lake Michigan).

19 70. The Public Trust Doctrine imposes a fiduciary duty on all branches of the Federal
20 Government to preserve and protect our nation's trust assets. Plaintiffs' Public Trust Doctrine
21 claims are justiciable and can be resolved on the basis of judicially manageable standards, without
22 requiring nonjudicial policy determinations or implicating constitutional separation-of-powers
23 concerns.

24 **B. EARTH'S ATMOSPHERIC CLIMATE EMERGENCY**

25 71. Global heating is significantly and adversely impacting Earth's climate. Although
26 some degree of global heating is a normal natural phenomenon, the trend of global heating in the
27 past several decades has occurred largely as a result of human activities that release heat-trapping
28 greenhouse gases and intensify Earth's natural greenhouse effect, at an accelerated rate, thereby

1 changing Earth's climate. This abnormal climate change is unequivocally human-induced, is
2 occurring now, and will continue to occur unless drastic measures are taken to curtail it. Human-
3 made climate change is damaging natural and human systems, and, if unrestrained, will threaten
4 our planet's habitability for humans as well as countless other species. According to Defendant
5 DOI, "climate change is affecting every corner of the American continent."

6 72. According to Defendant EPA, "greenhouse gases in the atmosphere may
7 reasonably be anticipated both to endanger public health and to endanger public welfare." In
8 April 2009, the EPA further stated "[t]he evidence points ineluctably to the conclusion that
9 *climate change is upon us* as a result of greenhouse gas emissions, that *climate changes are*
10 *already occurring that harm our health and welfare, and that the effects will only worsen over*
11 *time in the absence of regulatory action.*"

12 C. HOW HUMANITY HAS CHANGED EARTH'S CLIMATE SYSTEM

13 73. Human beings have lived on Earth for the last twelve thousand years, during
14 which time human civilization has developed – *i.e.*, Earth's atmospheric amounts of GHGs,
15 including CO₂ and water vapor, were "just right" to maintain the climate we have enjoyed for
16 thousands of years. Earth's atmosphere has far lower GHG levels than those of Venus, which is
17 too hot, and more than those of Mars, which is too cold, for life that has developed on this planet.
18 Moreover, during these twelve thousand years, coastlines, sea levels, and global average
19 temperatures have remained relatively constant, allowing the development of ports and
20 commerce, as well as large-scale agriculture.

21 74. GHGs in the atmosphere act somewhat like a blanket over Earth in preventing
22 some of the heat emitted by the surface from escaping to space. More GHGs in the atmosphere
23 mean more heat being retained on Earth, with less radiating out to space. Without this
24 greenhouse effect, the global average surface temperature of our planet would be about 0°F (-
25 8°C) instead of 59°F (15°C). Scientists have understood this basic mechanism of global energy
26 balance since the mid-nineteenth century.

27 75. Since the pre-industrial period, human beings have significantly altered the
28 chemical composition of Earth's atmosphere and its climate system. We have changed the

1 atmosphere and its climate system by engaging in activities that produce or release GHGs into the
2 atmosphere –burning fossil fuels, driving cars, raising livestock on an industrial scale, and cutting
3 down forests. Although much excess CO₂ is absorbed by the oceans and by plants (chiefly
4 forests), the increase of GHG concentrations resulting from historic and current human activities
5 has altered Earth’s ability to maintain the delicate balance of the energy it receives from the sun
6 and radiates back into space. This human-induced global energy imbalance has caused most of
7 the global warming over the last approximately fifty years.

8 76. Current CO₂ concentration in our atmosphere is 390 ppm (compared to the pre-
9 industrial concentration of 280 ppm). Current atmospheric CO₂ concentrations are likely the
10 highest in at least 800 thousand years.

11 77. Concentrations of other GHGs in the atmosphere have also increased from human
12 activities. Atmospheric concentrations of methane (CH₄), for example, have increased nearly 150
13 percent since the pre-industrial period, and they too are higher than at any time in at least the last
14 800 thousand years. Concentrations of nitrous oxide (N₂O) have also increased.

15 78. We not only continue to add GHGs into the atmosphere at a rate that outpaces their
16 removal through natural processes, but the current and projected CO₂ increase, for example, is
17 about 100 times faster than has occurred over the past 800 thousand years.

18 79. This increase must be considered in light of the lifetime of GHGs in the
19 atmosphere. In particular, a substantial portion of every ton of CO₂ emitted by humans persists in
20 the atmosphere for as long as a millennium or more. The concentrations of GHGs in the
21 atmosphere therefore are the cumulative result of historic and current emissions.

22 **D. EARTH IS GETTING TOO HOT TOO FAST DUE TO HUMAN**
23 **ACTIVITIES**

24 80. Climate refers, among other things, to temperature, precipitation, and wind
25 patterns that occur over multiple years, decades, centuries, or longer. Climate is different from
26 weather and does not typically vary in a short time (e.g., under a year) unless something abruptly
27 forces such a change – such as unusually large volcanic eruptions that darken the sky and block
28 out the sun’s heat. Humans have become the “primary driver” of climate change. These changes

1 are observable. Climate change we are experiencing now is unique because it not only is due to
2 human causes but is occurring much faster than was ever anticipated.

3 81. Human-made climate change is a unique problem because it now threatens the
4 integrity of the biosphere in which human life and civilization has developed. Left unchecked,
5 human-made climate change is putting our human civilization at risk. Observations over recent
6 years, evidence of Earth's past climate, well-established scientific principles, and the results of
7 sophisticated models of climate all point to changes caused by the warming of our planet that will
8 detrimentally impact all aspects of our life, including not just the environment and human health
9 and welfare, but commerce and the world economy, military security and the stability of
10 governments everywhere. Warming will further make many problems, such as global and
11 societal inequality, worse, because its impacts will fall unequally both geographically and
12 socioeconomically.

13 82. One key observable change is the rapid increase in recorded global surface
14 temperatures over the past several decades. As a result of increased atmospheric GHGs from
15 human activities, based on fundamental scientific principles, Earth has been warming at an
16 accelerated rate. Those increased concentrations of GHGs in our atmosphere, primarily CO₂,
17 have raised global surface temperature by 1.4°F (0.8°C) over the industrial era (the last 100 to
18 150 years). In the last thirty years, the acceleration of change has intensified as Earth has been
19 warming at a rate about three times faster than that over the last 100 years. This is a known fact
20 based on thermometer readings from around the globe that date from the 1800s, as well as data
21 recently gathered by satellites.

22 83. Because of year-to-year variations in these thermometer readings, as with daily
23 readings, scientists compare temperature differences over multiple decades to determine patterns.
24 Using this decadal scale, the surface of the planet has warmed at a rate of roughly 0.3° to 0.4°F
25 (0.15° to 0.2°C) per decade since the late 1970s. As a result of this accelerated global warming,
26 Earth is now within 1.8°F (1°C) of its highest temperature in the past million years.

27 84. The dramatic increase of 1.4°F (0.8°C) in the average global surface temperature
28 over the industrial era is alarming. By comparison, the global surface temperature during the last

1 ice age was about 9°F (5°C) cooler than today. In contrast to daily *ambient* temperatures, which
2 can easily vary as much as 15°F, the average global surface temperature had remained relatively
3 stable for the last twelve thousand years, during which period human civilization developed, until
4 it began a sudden climb.

5 85. The IPCC has observed that “[w]arming of the climate system is unequivocal.”
6 The NAS, the Science Academies of eleven nations, and the first Synthesis and Assessment
7 Product of the U.S. Climate Change Science Plan corroborate the IPCC’s fundamental
8 conclusion, as does every relevant professional scientific society both in the United States and
9 throughout the world.

10 86. Consistent with this expected warming, two of the last ten years (2005 and 2010)
11 rank as the warmest years since 1850, when continuous temperature measurements began to be
12 recorded (which is called the period of instrumental records). A small rise in global average
13 ambient temperature, like the rise in a baseball team’s batting average, can be the result of many
14 small changes (all 25 players lift their average by .002 percentage points), or some small changes
15 and a few very large changes (ten players increase by .0025 and one player gets hot and raises his
16 average by .025 points.) Similar scenarios are happening to our Earth. More than a dozen
17 nations experienced record high temperatures the summer of 2010. For the first time in the period
18 of instrumental records, Moscow, Russia, experienced temperatures in excess of 100°F. Several
19 regions of our nation also experienced unusual summertime heat waves last year. Notably, these
20 record-breaking temperatures occurred during a period of minimum solar heating. In addition to
21 higher extreme temperatures, spring is coming earlier to many regions and winter is coming later.
22 Eight of the ten warmest years during the period of instrumental records occurred since 2001.
23 Warming has been greatest in the Polar Regions and at higher altitudes.

24 E. **OTHER SIGNS VERIFY THE ATMOSPHERE’S CLIMATE SYSTEM IS**
25 **WARMING ALARMINGLY FAST**

26 87. Direct temperature readings are not the only signs of this abnormal interdecadal
27 global warming trend. Changes in many different aspects of Earth’s climate system over the past
28 century are consistent with this warming: based on straightforward scientific principles, human-

1 induced GHG increases lead not only to land surfaces warming, but also to warming oceans,
2 warming subsurface (i.e., Earth's upper crust), increased atmospheric moisture levels, rises in the
3 global sea level, and changes in rainfall and atmospheric air circulation patterns that affect water
4 and heat distribution.

5 **1. WARMING OCEANS**

6 88. As expected, consistent with the temperature increases in land surfaces, global
7 average ocean temperatures have increased. The mean global sea surface temperature is about
8 0.6°F (0.35°C) higher than the base line for the period 1961 to 1990. In addition, the most
9 efficient indicator of our planet's energy imbalance due to human-induced GHG increases is the
10 long-term increase in global average ocean heat content over the last fifty years, extending down
11 to several thousand meters below the ocean surface.

12 **2. CHANGING PRECIPITATION PATTERNS**

13 89. As expected, precipitation patterns have changed due to increases in atmospheric
14 moisture levels and changes in atmospheric air circulation patterns, yet another indicator that
15 Earth is warming. With further global warming, moisture levels are expected to increase further
16 because warmer air generally holds more moisture. In more arid regions, however, higher
17 temperatures generally lead to greater net evaporation, i.e., exacerbation of the aridity.

18 90. These changes in Earth's water cycle increase the potential for, and severity of,
19 severe storms, flooding and droughts. Storm-prone areas are already experiencing a greater
20 chance of severe storms, and this will continue. Even in arid areas precipitation may fall all at
21 once and cause flash flooding, followed by drought.

22 91. We have seen such changes already. Droughts in parts of the Western and
23 Southwestern United States have increased in frequency and severity within the last fifty years,
24 coincident with rising temperatures. In 2009, more than half of the United States received above
25 normal precipitation; yet the Southwestern United States, Arizona in particular, had one of its
26 driest periods. In addition, the frequency and intensity of the heaviest rainfall has increased
27 substantially in our nation over the last fifty years, most strikingly in the Northeast.
28

1 92. Based on the laws of physics and the past climate record, scientists have concluded
2 that precipitation events will increase globally, particularly in tropical and high latitude regions,
3 while decreasing in subtropical and mid-latitude regions, with longer periods between normal
4 heavy rainfalls.

5 93. Other changes consistent with climate modeling resulting from human-induced
6 global warming have been observed, not just in the intensity and frequency of precipitation, but
7 also in the type of precipitation. In higher altitude and latitude regions, including in mountainous
8 areas, more precipitation is falling as rain rather than snow. With early snow melt occurring
9 because of human-made climate change, the reduction in snowpack has already resulted in water
10 shortages in some areas. In other areas, the reverse is true. In Northern Europe and the
11 Northeastern United States, a change in air currents caused by the warming Arctic brought severe
12 snowstorms both in 2009-2010 and in 2010-2011.

13 **3. RISING SEA LEVELS**

14 94. As expected, global sea levels have also risen. Sea levels have been rising at an
15 average rate of 3.26 millimeters per year based on measurements from 1993 to present. Global
16 average sea level rose about 17 centimeters (6.7 inches) in the last century; within the last decade,
17 however, that rate nearly doubled. Rising seas, brought about by melting of polar icecaps,
18 glaciers, and ice sheets, as well as by thermal expansion of the warming oceans, have already
19 caused flooding in low-lying areas. The combination of rising sea levels and more severe storms
20 greatly increases the odds of severe storm surges at high tides in coastal communities that can
21 overwhelm coastal defenses such as levees and sea walls, as happened with Hurricane Katrina.

22 95. Sea level is not uniform across the globe, but depends on such things as ocean
23 temperature and currents and land movements. Ocean currents and differences in sea surface
24 temperatures will also result in different sea level impacts in different parts of the world because
25 of the lay of the land. Most vulnerable are low-lying islands, river deltas, and areas that already
26 lie below sea level because of land subsidence. Based upon these factors, scientists have
27 concluded that the threats to the United States from rising seas are the most severe on the Gulf
28 and Atlantic Coasts. Worldwide hundreds of millions of people live in river deltas and vulnerable

1 coastlines along the southern and western coasts of Asia where rivers draining the Himalaya flow
2 into the Indian and Pacific Oceans. Although sea level rise projections are still fairly uncertain, in
3 a comprehensive review of studies on sea level rise in the twenty-first century published by the
4 British Royal Society, researchers estimated the probable sea level rise in this century at between
5 .5 and 2 meters (1 ½ to 6 ½ feet), continuing to rise for several centuries after that, depending on
6 future CO₂ levels and the behavior of polar ice sheets.

7 96. In past periods of Earth's history, global warming led to major losses of ice in
8 Greenland and Antarctica. This knowledge provides a basis for scientists to estimate the amount
9 of sea level rise under similar surface temperature and CO₂ conditions.

10 **4. MELTING GLACIERS, ICE SHEETS, AND SEA ICE**

11 97. As expected, mountain glaciers, which are the source of freshwater for hundreds of
12 millions of people, are receding worldwide because of warming temperatures. Today, Glacier
13 National Park in Montana has only twenty-five glaciers larger than twenty-five acres, down from
14 150 in 1850. The year 2009 marked the nineteenth consecutive year in which glaciers lost mass in
15 both hemispheres. Mountain glaciers are in retreat all over the world, from Mount Kilimanjaro
16 in Africa to the Himalaya to the Alps (ninety-nine percent in retreat) to the glaciers of Peru and
17 Chile (ninety-two percent in retreat) to the United States. In the Brooks Range of northern Alaska
18 all of the glaciers are in retreat and in Southeastern Alaska ninety-eight percent are in retreat.

19 98. Though a minor contribution to sea level rise so far, the melting of mountain
20 glaciers is particularly serious in areas that rely on snow melt for irrigation and drinking water
21 supplies. In effect, a large snow pack or glacier acts as a supplemental reservoir or water tower,
22 holding a great deal of water in the form of ice and snow through the winter and spring and
23 releasing it in summer when rainfall is lower or absent. The water systems of the Western United
24 States (particularly California) and the Andean nations of Peru and Chile, among other places,
25 rely heavily on such natural forms of water storage. In addition to providing a more reliable
26 water supply, the storing of precipitation as ice and snow helps moderate potential flooding. By
27 contrast, as temperatures warm not only will such areas lose this supplemental storage, but rain
28 falling on snow accelerates the melting of glaciers and snow packs, often causing severe flooding.

1 Ice is melting most dramatically at the poles. Temperatures in both the Arctic and Antarctica
2 have risen substantially faster than the global average in recent decades, and this temperature rise
3 has caused massive melting of glaciers and sea ice. Beginning in late 2000, the Jakobshavn
4 Isbrae Glacier, which has a major influence over the mass of the Greenland ice sheet, lost
5 significant amounts of ice. In August 2010, an enormous iceberg roughly ninety-seven square
6 miles in size, broke off from Greenland. Nine Antarctic ice shelves have also collapsed into
7 icebergs in the last fifty years, six of them since 1996. An ice shelf roughly the size of Rhode
8 Island collapsed in 2002, and an ice bridge collapsed in 2009, leaving an ice shelf the size of
9 Jamaica on the brink of breaking apart. The 2002 collapse of the Larsen B Ice Shelf, which had
10 existed for at least eleven thousand years, was “unprecedented in respect to both area and time.”
11 The “sudden and complete disintegration” of the Larsen B Ice Shelf took a mere thirty-five days.

12 99. During the peak of the 2007 melt season (September), the extent of Arctic sea ice
13 (frozen ocean water) declined precipitously to its lowest level since satellite measurements began
14 in 1979. Although the extent of Arctic sea ice was higher in September 2010 than in September
15 2007, in November 2010 new ice stopped forming as the Arctic underwent a warming period. By
16 the end of 2010, Arctic sea ice was at the lowest level in the satellite record for December.

17 100. Arctic sea ice plays an important role in stabilizing the global climate, because it
18 reflects back to space much of the solar radiation that the region receives. (In contrast, open
19 ocean water absorbs much more heat from the sun, thus amplifying human-induced warming. As
20 sea ice melts and is replaced by ocean water during the 24-hour Arctic summer, warming will
21 further increase.)

22 101. Scientists have also documented an overall trend of sea-ice thinning and
23 replacement of older ice with less resilient, younger ice. The year 2010 also marked a record low
24 spring snow cover in the Arctic since satellite observations began in 1966.

25 102. Similarly, there has been a general increase in permafrost (frozen ground)
26 temperatures and permafrost melting in Alaska and other parts of the Arctic, particularly in the
27 last five years. Scientists working in Siberia have documented substantial methane releases as
28 the permafrost melts. Because the Arctic permafrost region contains about twice as much carbon

1 as in the atmosphere, scientists believe and are concerned that melting of the permafrost may
2 release methane that will further increase global warming to even more dangerous levels.
3 Changes in these different aspects of Earth's climate system over the last century tell a coherent
4 story: the impacts we see today are consistent with scientific understanding of how the climate
5 system should respond to GHG increases from human activities and how Earth has responded in
6 the past as reflected in such evidence as ice cores that have trapped air from hundreds of
7 thousands years ago, tree rings and seabed sediments that show where sea level was thousands
8 and even millions of years ago. Collectively, these changes cannot be explained as the product of
9 natural climate variability or a tilt in Earth's axis alone. A large human contribution provides the
10 best explanation of observed human-made climate changes.

11 103. These well-documented and observable impacts from the changes in our climate
12 system show us that the current level of atmospheric GHGs (predominately CO₂) has already
13 taken the planet into a danger zone.

14 **5. HUMAN-MADE CLIMATE CHANGE HURTS PUBLIC WELFARE AND WILL RESULT IN**
15 **UNIMAGINABLE CONSEQUENCES IF OUR GOVERNMENT DOES LITTLE OR NOTHING**

16 104. Earth will continue to warm in reaction to concentrations of CO₂ from past
17 emissions as well as future emissions. Warming already in the pipeline is mostly attributable to
18 climate mechanisms that slowly heat the climate system in response to atmospheric CO₂. We are
19 already committed to more warming, which is why we need to quickly reduce CO₂ emissions to
20 slow the rate of warming and draw down CO₂ concentrations from the atmosphere by protecting
21 carbon sinks and reforesting the planet. This lag between GHG increases and climate warming,
22 along with the very long lifetime of CO₂ in the atmosphere, demands that emissions reductions
23 begin immediately in order to minimize future human-induced warming.

24 105. Our oceans play a significant role in keeping our atmospheric climate in the safe-
25 zone. Oceans constantly absorb CO₂ and release it to the atmosphere, maintaining a balance.
26 Because we now release so much CO₂, oceans have absorbed about one-third of the CO₂ emitted
27 from human activity over the past two centuries. This capacity has slowed global warming, but at
28 a cost: the added CO₂ has changed the chemistry of the oceans, causing the oceans' average

1 surface pH (a measurement of hydrogen ions) to drop by an average of .11 units. Although this
2 drop may seem relatively small, the pH scale is logarithmic, so that a reduction of only 1 unit
3 means the solution has in fact become ten times more acidic. A drop of .1 pH units means that
4 the concentration of hydrogen ions in sea water has gone up by thirty percent in the past two
5 centuries. If CO₂ levels continue to rise to 500 ppm, we could see a further drop of .3 pH units by
6 2100.

7 106. Ocean acidification harms animals that use calcium to build their shells, as well as
8 single-celled organisms that are an essential part of the marine food chain. Harm occurs because
9 the acidified waters affect the structural integrity and survival of shell-building marine organisms
10 such as corals and shellfish by effectively robbing them of the key chemical (carbonate ion)
11 needed to build their skeletons. It also adversely impacts some kinds of algae and single-celled
12 organisms that use calcification processes for survival. Some of these organisms make up
13 features such as the White Cliffs of Dover. Coral reefs are major habitats for ocean fauna, and
14 calcifying algae and plankton are key components of the marine food chain. “The availability of
15 carbonate is particularly important because it controls the maximum amount of CO₂ that the
16 ocean is able to absorb.” IPCC, IPCC FOURTH ASSESSMENT REPORT: CLIMATE CHANGE 2007, §
17 5.4.3.2 (2007).

18 107. About fifty-five million years ago, the oceans absorbed a large amount of CO₂,
19 likely due to a release of methane from the ocean floor (which eventually was chemically
20 converted to CO₂ in the atmosphere) that caused Earth’s temperatures to rise several degrees and
21 led to the extinction of many species worldwide. The absorption of so much CO₂ also led to the
22 death of calcifying organisms at the seafloor. It took over 100 thousand years for the ocean to
23 regain its normal alkalinity. The current of level of CO₂ (which is far lower than it was fifty-five
24 million years ago) being taken in by the oceans already decreases the ability of coral and other
25 calcium-based marine life to produce their skeletons, affecting the growing of coral and thus coral
26 reefs. Other marine life, such as algae, also exhibits a reduced growing ability. “Many of these
27 organisms are important components of the marine food web.” Ocean acidification can thus
28 massively disrupt the food chain, give non-calcium based creatures a competitive advantage, and

1 limit the geographic reach of calcium based creatures. In experiments, coral reef organisms have
2 not demonstrated an ability to adapt to decreasing carbonate saturation state. Finally, this
3 disruption to the food web could substantially alter the biodiversity and productivity of the ocean.

4 108. Another effect of warming of the oceans is the bleaching of corals. Corals contain
5 tiny algae that provide them with food and that accounts for their color. When the oceans warm,
6 the algae give off a toxin, and the corals, in order to survive the toxin, expel the algae, bleaching
7 the coral. If the water temperature does not fall enough to permit algae to survive within the coral
8 without releasing the toxin, the corals will eventually die. There have been several severe
9 episodes of coral bleaching in recent years. With continued warming, the coral may not be able
10 to survive.

11 109. Changes in water supply and water quality will also impact agriculture in the
12 United States. All crops have upper and lower limits beyond which seeds will not germinate.
13 Additionally, increased heat and associated issues such as increased pests, crop diseases, and
14 weather extremes (including drought) will impact crop and livestock production and quality. For
15 example, human-made climate change in the nation has produced warmer summers, enabling the
16 mountain pine beetle to produce two generations of beetles in a summer, where it had previously
17 only been able to produce one; in Alaska, the spruce beetle is maturing in one year where it had
18 previously taken two years. The expansion of the forest beetle population has killed millions of
19 hectares of trees across the United States and Canada and caused millions of dollars in loss from
20 lost timber and tourism revenue.

21 110. Glacial and ice cap melting is a major cause of global sea level change. When
22 glaciers and ice caps melt, this melting adds water to the oceans. The other main cause is that as
23 ocean water warms, it expands and therefore takes up more space; ocean warming “has been
24 observed in each of the world’s major ocean basins, and has been directly linked to human
25 influences.”

26 111. Quantifying future sea level rise remains highly uncertain, although there is
27 overwhelming scientific consensus that the rise per se will continue and will be significant. The
28 IPCC estimates a 0.6-meter rise in sea level by 2100 under a worst-case scenario that does not

1 include contributions from the accelerated flow of major ice sheets. Some scientists predict a 2-
2 meter rise in sea level by 2100 if present trends continue. Today, rising sea levels are submerging
3 low-lying lands, eroding beaches, converting wetlands to open water, exacerbating coastal
4 flooding, and increasing the salinity of estuaries and freshwater aquifers. The impacts of rising
5 sea levels can be seen in many coastal locations across the nation. Along the Florida coast for
6 instance, sea level is rising about 2.5 centimeters (1 inch) every eleven to fourteen years. This
7 seemingly small rise in ocean levels is contributing to massive erosion, causing many
8 homeowners to remove beach front property, and causing a decline in the recreational value of
9 beaches. The Florida Everglades are also being impacted; as sea levels rise, salt water advances
10 inland and kills many Everglade plant species, which also destroys the habitat value of
11 swamplands for many species. Other states such as Maryland and Louisiana are also
12 experiencing wetland loss due to rising sea levels. Scientists have predicted that wetlands in the
13 Mid-Atlantic region of the United States cannot withstand a 7-millimeter per year rise in sea
14 levels.

15 112. Human-caused climate change has multiple, severe implications for human health.
16 Fossil fuel burning and the resulting climate change are already contributing to an increase in
17 asthma; allergies; cancer; cardiovascular disease and stroke; heat-related morbidity and mortality;
18 insect-borne, food-borne and water-borne diseases; and neurological diseases and disorders.
19 Some of the climate change impacts on health are direct, e.g., via heatwaves, and some are
20 indirect, via disease vectors. The most profound implications for human health however, lie with
21 the impacts of climate change on the ecological systems—our life support systems—that underlie
22 our health and well-being.

23 113. As the 2010 Russian summer heat wave graphically demonstrated, excessive and
24 sustained heat destroys crops, triggers wildfires, exacerbates air pollution, and causes increased
25 illness and death. Similar impacts are occurring across the United States: the number and
26 frequency of forest fires and insect outbreaks are increasing in the interior West, the Southwest,
27 and Alaska. Precipitation, streamflow, and stream temperatures are increasing in most of the
28 continental United States. The Western United States is experiencing reduced snowpack and

1 earlier peaks in spring runoff. The growth of many crops and weeds is being stimulated.
2 Migration of plant and animal species is changing the composition and structure of arid, polar,
3 aquatic, coastal, and other ecosystems. Wildfires in the Western United States have quadrupled in
4 recent years, a result of hotter temperatures and earlier snowmelt that contributes to dryer soils
5 and vegetation.

6 114. Similarly, human-made climate change is already causing and will continue to
7 cause more frequent extreme and costly weather events such as hurricanes. The annual number
8 of major tropical storms and hurricanes has increased over the past 100 years in North America,
9 coinciding with increasing temperatures in the Atlantic sea surface.

10 115. Human-induced climate change also raises national security concerns, as climate
11 change will add to tensions even in stable regions of the world. Our nation may experience an
12 additional need to accept immigrant and refugee populations as droughts increase and food
13 production declines in other countries. Increased extreme weather events such as hurricanes will
14 also present an increased strain on foreign aid and call for military forces. For instance, by 2025,
15 forty percent of the world's population will be living in countries experiencing significant water
16 shortages, while sea-level rise could cause displacement of tens or even hundreds of millions of
17 people.

18 116. Paleoclimate (Earth history) data provide sobering evidence that major human-
19 made climate change can occur in decades, and the consequences would be much more severe,
20 and even disastrous, if a 2°C (3.6°F) change above pre-industrial levels occurs over decades
21 rather than hundreds of years.

22 117. There are at least three reasons the present, human-induced global warming is
23 particularly significant.

24 118. *First*, past global warming/cooling of a similar magnitude occurred before human
25 civilization.

26 119. *Second*, global warming is happening far more rapidly than in many past times,
27 giving both humans and other forms of life only short (and therefore infeasible) time to adapt to
28 the changes. Human civilization, and the crops and foods on which it depends, have developed

1 within a very narrow set of climatic conditions. With human population so large, with
2 civilization so complex, centered around coastal cities and dependent on water supplies fed by
3 distant ice and snow melt, and with the great disparities in wealth between and within countries
4 and regions, we will find it nearly impossible to adapt to all of the human-made climate change
5 impacts in the quick time-frame in which they will occur.

6 120. *Third*, and perhaps most important, the climate change we are now experiencing is
7 caused largely by human activity. This means that unlike with respect to past climate change
8 events, by changing our activities humans can mitigate or even reverse this warming before it
9 causes catastrophic and irreversible effects. Stopping, or at least greatly curtailing, the activities
10 that discharge greenhouse gases into the air, primarily burning of fossil fuels and deforestation,
11 and encouraging activities such as reforestation that remove CO₂ from the atmosphere, can
12 greatly reduce and even end global warming and its accompanying consequences within the
13 lifetimes of today's children.

14 **6. REMEDYING PLAINTIFFS' INJURIES BY RESTORING THE ATMOSPHERE AND EARTH'S**
15 **NATURAL SYSTEMS**

16 121. Our climate system continues to be harmed at an alarming rate, all to the detriment
17 of Earth as we know it. The atmosphere already contains excessive concentrations of CO₂.
18 Continued greenhouse gas pollution by any nation on Earth, including the United States, will
19 continue to waste this commonly held asset.

20 122. To protect Earth's climate for future generations, we must restore Earth's energy
21 balance. The best available science shows if the planet once again sends as much energy into
22 space as it absorbs from the sun, this will restore the planet's climate equilibrium. Scientists have
23 accurately calculated how Earth's energy balance will change if we reduce long-lived greenhouse
24 gases such as carbon dioxide. Humans are currently causing a planetary energy imbalance of
25 approximately one-half watt per square meter. We would need to reduce atmospheric
26 concentrations of carbon dioxide by about a 40 ppm to increase Earth's heat radiation to space
27 and return its energy balance, if other long-lived gases stay the same as today. That reduction
28 would make atmospheric carbon dioxide amount to about 350 ppm.

1 123. The best available science also shows that to protect Earth's natural systems,
2 average global peak surface heating must not exceed 1° C this century. To prevent global heating
3 greater than 1° C, concentrations of atmospheric CO₂ must decline to less than 350 ppm within
4 this century. However, today's atmospheric CO₂ levels exceed 389 ppm and are rising.

5 124. The best available science also concludes that to protect Earth's oceans -- an
6 essential harbor of countless life forms and absorber of GHGs, or "GHG sink" -- atmospheric
7 CO₂ levels must be reduced to 350 ppm or lower.

8 125. Atmospheric CO₂ levels are currently on a path to reach over 400 ppm by 2020.
9 Absent immediate action to reduce CO₂ emissions, atmospheric CO₂ could reach levels as high as
10 about 1000 ppm and a temperature increase of up to 5° F by 2100. Life as we know it is
11 unsustainable at these levels.

12 126. Even if CO₂ emissions were instantaneously halted -- i.e., if fossil fuel emissions
13 and deforestation were abruptly terminated in 2011 -- it would still take until around 2060 before
14 CO₂ levels would decline to below 350 ppm. If global fossil fuel CO₂ emissions continue to grow
15 at the rate of the past decade (about two percent per year) up until the time that emissions are
16 terminated, and termination does not occur until 2030, when CO₂ levels have reached over 450
17 ppm, CO₂ would not return to 350 ppm until about 2250. With a forty-year delay (to 2040), CO₂
18 levels would surpass 500 ppm, and would not return to 350 ppm until after year 3000.

19 127. Even restoring the planet's energy balance will not immediately stop sea level rise
20 that is in the pipeline, but it would help keep that rise relatively under control. It would also
21 prevent human-made climate change from becoming a huge force for species extinction and
22 ecosystem collapse. Up to thirty percent of the millions of species on our planet could go extinct
23 following just a few tenths of a degree warming above present.

24 128. Defendants have the present ability to curtail the environmental harms detailed
25 above. Atmospheric CO₂ will decrease if people stop or greatly reduce the burning of fossil fuels.
26 CO₂ emitted into the atmosphere by burning fossil fuels is slowly distributed among other surface
27 reservoirs, especially the ocean. Carbon cycle models can simulate how rapidly the fossil fuel
28 CO₂ injection is removed from the atmosphere and distributed among the other carbon reservoirs

1 such as the oceans and forests. Although most of the CO₂ is removed by natural processes, after
2 500 years almost one-fifth of the fossil fuel increment to atmospheric CO₂ will still be in the air.
3 Because of this persistence, it is imperative to reduce CO₂ emissions immediately, with
4 substantial reductions at the earliest possible time. Any more delay risks irreversible and
5 unacceptable consequences for generations to come.

6 129. Fossil fuel emissions must decrease rapidly if atmospheric CO₂ is to be returned to
7 a safe level in this century. Improved forestry and agricultural practices can provide a net
8 drawdown of atmospheric CO₂, primarily via reforestation of degraded lands that are of little or
9 no value for agricultural purposes, returning us to 350 ppm somewhat sooner. However, the
10 potential of such measures is limited. Drawdown of atmospheric CO₂ via reforestation is
11 essential for the purpose of getting atmospheric CO₂ down to a safe level. However, reforestation
12 alone will not be sufficient, and must be accompanied by a phase down of fossil fuel emissions.

13 130. The failure to act promptly to reduce CO₂ emissions will not only increase the
14 costs of future reductions, it will have irreversible adverse effects on Plaintiffs and all future
15 generations, as detailed above.

16 131. To have the best chance of reducing the concentration of CO₂ in the atmosphere to
17 350 ppm by the end of the century and avoid heating over 1° C over pre-industrial temperatures,
18 the best available science concludes that atmospheric carbon dioxide emissions need to peak in
19 2012 and then begin to decline at a global average of six percent per year through 2050 and five
20 percent per year through 2100. In addition, carbon sequestering forests and soils must be
21 preserved and replanted to sequester an additional 100 gigatons of carbon through the end of the
22 century. However, if CO₂ emissions continue to rise until 2020, CO₂ emissions must decline by
23 twelve percent per year to reach 350 ppm by the end of the century. The sooner Defendants take
24 the necessary action to draw down the excessive CO₂ from the atmosphere and to fulfill their
25 Public Trust responsibilities, the easier these reductions will be.

26 132. According to the principle of common but differentiated responsibilities of nations,
27 the United States bears a significant share of carbon reductions. To prevent the environmental,
28

1 economic, societal, health, and aesthetic injuries detailed herein, the United States must reduce its
2 emissions by the greatest extent feasible and at least the global average of six percent per year.

3 133. Even if the United States eliminated all of its GHG emissions, it would not be able
4 to reduce its fair share of GHGs resulting from its historic emissions. In order to take on its fair
5 share of emissions reductions, the United States would also need to help other sovereign nations,
6 with limited economic and technological resources, to reduce their GHG emissions and protect
7 and restore their carbon sequestering forests.

8 134. A zero-CO₂ U.S. energy system can be achieved within the next thirty to fifty
9 years without acquiring carbon credits from other countries. In other words, actual physical
10 emissions of CO₂ from fossil fuels can be eliminated with technologies that are now available or
11 reasonably foreseeable. This can be done at reasonable cost by eliminating fossil fuel subsidies
12 and creating annual and long-term CO₂ reduction targets. Net U.S. oil imports can be eliminated
13 in about twenty-five years, possibly less. The result will also include large ancillary health
14 benefits from the significant reduction of most regional and local air pollution, such as high ozone
15 and particulate levels in cities, which is mainly due to fossil fuel combustion.

16 135. The approaches to transition to a renewable energy system and to phase out fossil
17 fuels by about 2050 include: A single national cap on fossil fuel use that declines to zero by
18 2050 or a gradually rising carbon tax with revenues used to promote a zero-CO₂ emissions energy
19 system and to mitigate adverse income-distribution effects; increasingly stringent efficiency
20 standards for buildings, appliances, and motor vehicles; elimination of subsidies for fossil fuels,
21 nuclear energy, and biofuels from food crops coupled with investment in a vigorous and diverse
22 research, development and demonstration program (including smart grid and storage
23 technologies, electrification of transportation, stationary fuel cells for combined heat and power,
24 biofuels from aquatic weeds like microalgae, use of aquatic weeds like microalgae in integrated
25 gasification combined cycle plants, and use of hydrogen-fueled passenger aircraft); banning new
26 coal-fired power plants; adoption of a policy that would aim to have essentially carbon-free state,
27 local, and federal governments, including almost all of their buildings and vehicles by 2030; and
28

1 adoption of a gradually increasing renewable portfolio standard for electricity until it reaches 100
2 percent by about 2050.

3 **VI. PLAINTIFFS' CLAIMS FOR RELIEF**

4 **CLAIM I: VIOLATIONS OF THE PUBLIC TRUST DOCTRINE**

5 136. Plaintiffs hereby reallege and incorporate all of the preceding paragraphs.

6 137. The United States, as a sovereign nation, has a duty as trustee to protect natural
7 resources under the Public Trust Doctrine. The Public Trust Doctrine is an attribute of
8 sovereignty that cannot be abrogated. As long as the sovereign exists, so do the sovereign's
9 duties under the Public Trust Doctrine.

10 138. Defendants, and each of them, as agencies and officers of the federal government,
11 are subject to fiduciary duties under the Public Trust Doctrine as trustee of the natural resources
12 of the United States, including our atmosphere in its ambient or interstate aspects.

13 139. Defendants, and each of them, are trustees of Public Trust resources including the
14 atmosphere pursuant to the Due Process Clauses of the 5th and 14th Amendments to the
15 Constitution of the United States.

16 140. Defendants, and each of them, are trustees of the Public Trust resources including
17 the atmosphere pursuant to Equal Protection principles of the 14th Amendment to the
18 Constitution of the United States.

19 141. Defendants, and each of them, are trustees of Public Trust resources including the
20 atmosphere pursuant to the Commerce Clause of the Constitution of the United States.

21 142. Defendants, and each of them, are trustees of Public Trust resources pursuant to
22 statutory provisions committing to the people of the United States that the United States
23 government will hold natural resources in trust for the benefit of the people.

24 143. The United States government is a co-tenant sovereign trustee of the atmosphere
25 and shares a duty with other co-tenant sovereigns, including Tribal Nations, to protect the
26 atmosphere as the trust asset and prevent its waste or harm for the benefit of the people, including
27 Plaintiffs and future generations of citizens.
28

1 144. As a co-tenant sovereign trustee, the federal government has an interest
2 independent of and behind the titles of its citizens, in all the earth and air within its domain,
3 particularly as necessary to maintain its affirmative and ongoing duty to protect Public Trust
4 assets.

5 145. Defendants, and each of them, have allowed, facilitated, and contributed to the
6 waste of trust assets and otherwise failed to preserve and protect these assets, including the
7 atmosphere, by allowing it to become polluted with high levels of human-caused CO₂.

8 146. Defendants, and each of them, have wasted and failed to preserve and protect the
9 atmosphere Public Trust asset, and have caused and will continue to cause imminent injuries as
10 described above, from increased greenhouse gas emissions, global heating, and adverse impacts
11 to natural and other resources.

12 147. Defendants, and each of them, have injured Plaintiffs by failing to protect the
13 atmosphere as a Public Trust asset.

14 148. By allowing or facilitating the waste of the atmosphere as a commonly shared
15 Public Trust asset, Defendants, and each of them, have caused injuries that are irreparable and
16 monetary damages alone are inadequate to remedy these injuries.

17 149. The failure by Defendants, and each of them, to reduce United States' carbon
18 emissions by the amount necessary to prevent global heating more than 1° C over pre-industrial
19 levels and lower atmospheric carbon concentrations to below 350 ppm, will continue to
20 contribute to global warming, ocean acidification, and the other harms enumerated above, to the
21 detriment of Plaintiffs, and their environment, health, safety, and welfare.

22 150. The failure of Defendants, and each of them, to preserve and protect carbon sinks,
23 such as forests, tar sands, permafrost and ocean ecosystems, has contributed and will continue to
24 contribute to global warming and ocean acidification to the detriment of Plaintiffs and their
25 environment, health, safety, and welfare.

26 151. Co-tenant sovereign trustees each have an independent duty to prevent waste and
27 recover the trust asset. Defendants, and each of them, are required by the Public Trust to take all
28 actions necessary to reduce the United States government's fair and equitable share of carbon

1 emissions. Due to the actual size and apportionment of United States government's carbon
2 emissions, if the United States does not take immediate action to reduce its fair share of carbon
3 emissions, the climate catastrophes are inevitable.

4 152. The atmosphere must be protected as central to the survival and well-being of
5 Plaintiffs and others similarly situated.

6 153. The check and balance of judicial review provides a level of protection against
7 improvident disposition or waste of an irreplaceable trust asset.

8 **PRAYER FOR RELIEF**

9 WHEREFORE, Plaintiffs, and each of them, respectfully request that the court:

10 1. Declare that:

11 a. The atmosphere is a Public Trust resource.

12 b. The United States government has a fiduciary duty, as a trustee, to preserve
13 and protect the atmosphere as a commonly shared Public Trust asset, and to refrain from taking
14 actions that waste or damage this asset;

15 c. The fiduciary obligation is enforceable by Plaintiffs, and each of them, as
16 citizen beneficiaries of the Public Trust who represent present and future generations;

17 d. The fiduciary obligation is dictated by the best available science on
18 protecting a sustainable atmosphere and climate for present and future generations.

19 e. Defendants, and each of them, have violated their fiduciary duties as
20 trustees of the atmosphere by contributing to and allowing unsafe amounts of greenhouse gas
21 emissions into the atmosphere, which has led to human-made global warming, ocean
22 acidification, and all of the ramifications associated with the alteration of the atmosphere and
23 Earth's natural systems;

24 f. Defendants, and each of them, bear liability for reducing greenhouse gas
25 pollution into the atmosphere and altering the atmosphere and Earth's natural systems;

26 g. Rapid reduction of greenhouse gas emissions is required to preserve
27 Earth's atmosphere and natural systems;

28 h. Atmospheric concentrations of carbon dioxide higher than 350ppm, if

1 sustained beyond this century, are likely to cause global warming substantially greater than 1°C
2 above preindustrial temperatures, ocean acidification, massive deglaciation, and disintegration of
3 ice sheets, in addition to widespread harm to Earth's natural systems;

4 i. The United States government's duty as fiduciary is to prevent waste of
5 and to restore the trust asset by taking immediate measures consistent with the goal of restoring
6 global atmospheric carbon dioxide levels to less than 350 ppm this century;

7 j. In order to draw down carbon dioxide levels to achieve the scientific
8 prescription for meeting the fiduciary duty of preserving and protecting the atmosphere,
9 Defendants, and each of them, as trustees must collaboratively take action to: (i) enable global
10 fossil fuel CO₂ emissions to peak by 2012 and reduce global fossil fuel CO₂ emissions by at least
11 six percent per year through at least 2050; and (ii) cease deforestation and reforest degraded forest
12 lands and improve soil conditions on agricultural lands that will sequester an additional 100
13 gigatons of carbon this century; and

14 k. To support effective global collaboration to preserve and protect the
15 atmosphere and Earth's natural systems, the United States government has an obligation, as
16 agreed under the UNFCCC, to take action pursuant to its common but differentiated
17 responsibility and respective capabilities. Based on this principle, the United States government
18 must both reduce its own emissions and provide financial and technological assistance to
19 developing countries to support them in reducing their own emissions, at an aggregate rate
20 consistent with a rate of global emissions decline of six percent per year.

21 2. Issue an injunction:

22 a. Requiring Defendants, and each of them, take action consistent with the
23 United States government's equitable share of the global effort, corresponding to its share of the
24 responsibility for causing an increase in greenhouse gas concentrations and its financial and
25 technological capability to reduce global emissions, and thereby enable global CO₂ emissions to
26 peak by December 2012 and decline by at least six percent a year thereafter;

27 b. Requiring that Defendants, and each of them, take all necessary actions to
28 reduce CO₂ emissions in the United States by at least six percent per year beginning in 2013;

