

**Testimony of Dave Jones
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**Hearing on Climate Change, Part IV:
Current Economic Effects of Climate Change and the Costs of Inaction
Environment Subcommittee of the House Reform and Oversight Committee
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Chairman Rouda, Ranking Member Comer, and Members of the Committee, thank you for inviting me to testify about the impact of climate change on insurance markets, with a focus on the impact of wildfires in California. My name is Dave Jones and I am the Senior Director for Environmental Risk with The Nature Conservancy.

The Nature Conservancy is a global conservation organization dedicated to conserving the lands and waters on which all life depends. Guided by science, we create innovative, on-the-ground solutions to the world's toughest challenges so that nature and people can thrive together. We are tackling climate change, conserving lands, waters and oceans at unprecedented scale, providing food and water sustainably and helping make cities more sustainable. Working in all 50 states and 79 countries and territories, we use a collaborative approach that engages local communities, governments, the private sector and other partners, including farmers, ranchers and landowners.

I also hold an appointment at the University of California, Berkeley School of Law, as Director of the Climate Risk Initiative at the Center for Law, Energy and the Environment. I served for eight years as California's Insurance Commissioner, from 2011 through 2018. I led the California Department of Insurance and was responsible for regulating the largest insurance market in the United States, a market in which insurers collect over \$300 billion in premiums annually and hold \$6.5 trillion in reserves to pay claims.

Climate scientists tell us that global temperatures already have risen .8° Celsius since the pre-industrial period. According to the Intergovernmental Panel on Climate Change (IPCC), even if all countries meet their commitments under the Paris Agreement global temperatures are on track to rise 3° Celsius by 2100.¹ Global temperatures are rising principally because of the volume of global greenhouse gas emissions in the atmosphere. In order to limit global temperature rise to no more than 1.5° Celsius, CO2 emissions globally have to be reduced by 45% by 2030 (relative to 2010 emissions). The nations of the world are not doing enough, fast enough to reduce greenhouse gas emissions, so global temperatures will continue to rise.

Climate scientists have concluded that global temperature rise is contributing to catastrophic weather-related events. Sea-level rise, hurricanes, heavy precipitation, coastal and river flooding, urban heat islands, drought and

¹ IPCC, Special Report on Global Warming of 1.5 ° Celsius, October 2018.

wildfires are all made more severe and frequent by global temperature rise. These events result in loss of life, injury and destruction.

These events also produce both economic and insurance losses. Both of these losses are rising over time, globally and in the United States. From 1980 to 2019, damages associated with extreme weather events causing \$1 billion or more in damages have cost the U.S. economy \$1.7 trillion.

In 2017, total global economic losses from natural catastrophes were \$330 billion and total global insured losses were nearly \$138 billion, the highest losses ever according to the Swiss Re Institute. While economic and insured losses were lower in 2018, the overall trend in economic and insured losses from natural catastrophes globally and in the United States is on the rise.

Insurance companies face two categories of risks related to climate change.

First, there are the physical impacts related to climate change. These are the direct impacts from more severe and frequent catastrophic weather events.

Second, there is what is called the “transition risk” associated with climate change. As consumers, businesses, markets and governments transition away from an economy that produces greenhouse gas emissions, there is a risk there will be a decline in the value of investments in those sectors of the economy. As nations enact policies to reduce greenhouse gas emissions in response to climate change, investments in sectors of the economy that are responsible for greenhouse gas emissions will likely decline substantially in value, which poses financial risks to investors in those assets.

Insurance companies likewise face transition risk as major investors. There is a risk that certain assets insurance companies hold will decline in value or become stranded assets on their books as the economy moves away from greenhouse gas emissions. The G-20 Financial Stability Board (FSB) identified climate change as a potential systemic risk to the financial system. The FSB established a private sector led Task Force on Climate-Related Financial Disclosures (TCFD) to make recommendations as to what companies in the real economy and the financial sector should do to identify and disclose both physical and transition risks associated with climate change. Financial regulators in Europe and in other parts of the world are increasingly focusing on the transition and physical risks faced by insurers, banks and the financial sector overall, and following the recommendations of the TCFD to undertake climate risk stress testing and climate risk scenario analysis. Financial regulators in the United States have been lagging in this regard. Financial regulators in the United States should implement the recommendations of the TCFD, require disclosure of climate related financial risks, and undertake climate risk stress testing and scenario analysis.

My testimony today focuses on risks and costs to insurance companies associated with the first category I described, physical impacts of climate change, and the climate change-related physical risks to property and casualty insurance companies. However, it is important to note that most insurance market segments are or will be impacted directly or indirectly by climate change.

Physical impacts or risks driven by climate change include the damage or loss caused by sea level rise, coastal and river flooding, hurricanes and storms, urban heat islands, droughts and wildfires.

To the extent that property, businesses, individuals or families have insurance, then these physical impacts associated with climate change can result in insurance claims by policyholders and insurance payments by insurers. From the insurance company perspective these payments are losses. As temperatures rise and there

are more severe weather-related catastrophic events, then insurance losses will likely increase. Climate change is contributing to insurance company losses globally and in the United States.

Insurance companies can respond to these losses in two principal ways, by raising prices and by reducing their exposure to climate change-driven physical risks by excluding or limiting those risks from coverage. In the United States, insurance companies are responding both ways, which has resulted in raising premium prices and excluding or limiting coverage for certain risks when the risk of loss is too high.

FLOOD RISK AND INSURANCE

Flood insurance in the United States provides an important example of how private insurance companies respond when they conclude the risk of loss is too high, even with price increases for the insurance. Decades ago, home insurance companies in the United States concluded the risk of flooding to many homes was too high. Home insurance companies then excluded coverage for flood risk in their home insurance policies. Today, standard home insurance policies do not cover flooding.

Over the last 50 years, Americans have seen a 20% increase in the heaviest downpours. In addition, published research demonstrates that the proportion of Category 4 to 5 hurricanes has doubled from 20% to 40% in 35 years² Coastal storm surge and storm impacts will intensify as sea levels continue to rise the predicted 0.6 and 2 feet globally in the next century³. In 2019 alone, there have been 30 declared flood-related disasters that affected 21 states, ranging from California to North Carolina and from Minnesota to Louisiana.

Flooding is the most costly and common natural disaster in the nation, and recent years have produced even more damaging floods, caused by both rising rivers and coastal storms. The Congressional Budget Office estimates that, on average, hurricane damage is \$28 billion a year, and most of that is related to flooding.

When the private insurance companies in the United States decided to stop covering flood risk, the federal government stepped in to provide flood insurance through the National Flood Insurance Program, or NFIP, which is administered by FEMA. There has been recently a re-emergence of some private flood insurance for homes in some states, but private flood insurance for homes is very limited and most homes in the United States with any flood insurance have flood insurance from the NFIP.

The history of home flood risk in the United States is one where insurers concluded the risk of flooding was too high, which led insurance companies to exclude flood insurance coverage and resulted in government having to step-in to offer a government-supported flood insurance product.

WILDFIRE RISK AND INSURANCE

As wildfires emerge as another climate-related peril, insurers are increasingly facing similar decisions of whether to raise prices and/or exclude coverage with wildfire risk.

Over the past decade, extreme wildfire events have been increasing in frequency and severity in the western United States. Longer fire seasons due to changing climate, increased development in the Wildland Urban Interface (WUI), and millions of acres of forests with fuel loads exceeding the historic range of variability are among the many factors contributing to increased costs of wildfire response and increased impacts to communities and their water supplies. The Fourth National Climate Assessment stresses that fires are already

² Holland and Bruyere, 2012

³ International Panel on Climate Change, 2007

increasing in intensity, duration and frequency, and by mid-century, the western United States is expected to have two to six times more damaging wildfires.

California is steadily marching toward an uninsurable future regarding insurance coverage for wildfires.

In 2017 and 2018, California suffered the most deadly, destructive and largest wildfires in its history. In 2017, 47 lives were lost due to wildfires. In 2018, over 100 lives were lost due to wildfires. Tens of thousands of homes and other structures were damaged or destroyed. In California alone, insurers suffered \$12 billion in losses in 2017 and \$13 billion in losses in 2018 – the highest insured losses from wildfires in California history. Total economic losses from California wildfires in 2018 have been estimated at \$24 billion.

Home insurers have responded to the higher losses and greater risk of wildfire by raising prices for insurance and by declining to renew their existing insurance policies or write new policies for homes the insurer concludes face too high a risk of wildfire.

In 2018, the California Department of Insurance (CDI) reported that on average the price of insurance for homes in the WUI is 50% higher than for a similar home outside those high-risk fire areas. That average includes homes for whom insurance may be 200% or 300% higher than for homes outside the area of high wildfire risk.

Home insurers are filing and will continue to file for rate increases with the CDI. Given the magnitude of losses they have suffered and are likely to continue to suffer from wildfires with increasing global temperatures, CDI is expected to approve those rate increases. The price of home insurance in California WUI areas is and will continue to increase, as it will for business property insurance. These rate increases can be a serious financial burden for families, businesses and public agencies.

In addition to price increases, home insurers are declining to renew insurance or write new insurance for homes they believe face too much wildfire risk. According to the California Department of Fire and Forestry, or CALFIRE, there are 3.5 million homes in the “State Responsibility Area” (SRA) where the state fire and forestry agency has responsibility to help fight wildfires. CALFIRE estimates one million California homes in the SRA face high or very high risk of fire.

The CDI reports that insurance company non-renewals of homes in the SRA increased 6% from 2017 to 2018. In those zip codes where there were wildfires in 2015 and 2017, insurance company non-renewals increased 10% from 2017 to 2018. The CDI also reports that from 2015 to 2018 in the 10 counties of California facing the highest wildfire risk, the number of new and renewed home insurance policies decreased by 4%. The CDI also reported that from 2015 to 2018, nearly 350,000 Californians experienced the non-renewal of their home insurance policy.

When traditional private home insurers decline to write or renew insurance in California, home owners have two options. First, they can seek insurance on the “non-admitted” or “surplus lines market,” which is a less regulated insurance market. Lloyds is an example of a surplus lines market insurance source. The California Department of Insurance reported that from 2015 to 2018, there was a 49% increase in surplus lines home insurance policies for homes in the SRA.

The second option for Californians is the FAIR Plan, which is a last-resort fire insurer for home owners. Established by California law, the FAIR Plan is a non-profit insurer that is required to write fire insurance for any homeowner in California. It is a consortium of the private home insurers writing insurance in the state. It is

operated and regulated as an insurer and issues its own FAIR Plan fire insurance policies, sets rates actuarially, has to hold reserves sufficient to pay claims, and is not subsidized by the government.

The CDI has reported a 25% increase in FAIR Plan policies written for homes in the SRA of California from 2017 to 2018. These are homeowners who could not find traditional private insurance or surplus lines insurance.

The trends here are not good. More homes in areas facing a high risk of wildfire are facing non-renewal. As temperatures continue to rise and the risk of wildfires grows, we can expect to see not only more price increases but less insurance being written for homes. Like flood insurance, where the home insurers decided the risk was too great and so they exited the market, in those regions of states facing rising wildfire risk, the same may occur.

Last month, the California Insurance Commissioner invoked a statute passed last year in California that allows him to ban for one year the non-renewal of home insurance in areas adjacent to those struck by wildfires. The CDI estimates that this moratorium will help 850,000 homeowners avoid non-renewal for one year.

Insurers are the climate change canary in the coal mine, so to speak. It should be no surprise they are raising prices based on their losses and that they may conclude the risk is too high to continue writing insurance in some areas and for some risks.

SOLUTIONS

It's no mystery what needs to be done to reduce the underlying cause of climate change. Greenhouse gas emissions need to be reduced dramatically. The policies to accomplish this are well understood and documented. The Nature Conservancy has set forth an extensive discussion of policy changes needed in its submission to the House Select Committee on the Climate Crisis.

One important and oftentimes overlooked way to reduce greenhouse gases is natural climate solutions, which can provide up to 37% of the carbon reductions needed to meet the goals of the Paris Agreement. In different regions of the world, this could include capturing and sequestering carbon by restoring forests, stopping the injudicious burning and degradation of forests, planting new forests, planting more mangroves, converting to sustainable agriculture practices that improve soil health and allow the soil to capture and hold more carbon. The Nature Conservancy has been a global leader in developing the science and practice behind natural climate solutions. What is needed is more public and private investment in these approaches, as part of a broad effort to meet the Paris Agreement targets.

To reduce the risk of wildfires, and in turn increase the likelihood that insurers will write insurance for homes and businesses facing wildfire risk, the best approach is to address the needs of communities and ecosystems in an integrated fashion. Supporting communities by helping them to live with fire while proactively managing nearby fire-prone ecosystems creates conditions that will, over time, allow both communities and nature to thrive. The National Cohesive Wildland Fire Management Strategy (Cohesive Strategy) establishes a helpful framework for a more balanced approach to fire, forests and communities towards three goals: 1) Resilient Landscapes, 2) Fire Adapted Communities, and 3) Safe and Effective Wildfire Response.

Collaboration, strategic hazardous fuels reduction, innovation and funding are the means to resilient landscapes. Collaboration is a key foundation for reducing wildfire risk. Collaboration has become an essential tool for reducing wildfire risks, increasing forest restoration and contributing to the sustainability of local economies. By bringing together county commissioners, local mill owners, water and utility managers, fire protection officials,

conservation groups, scientists and others, collaborative groups can identify mutually beneficial solutions to forest health challenges and pave the way for smooth and successful projects on the ground.

Strategic, proactive hazardous fuels treatments have proven to be a safe and cost-effective way to reduce risks to communities and forests by removing overgrown brush and trees, leaving forests in a more natural condition resilient to wildfires. A 2013 meta-analysis of 32 fuels treatment effectiveness studies, conducted on behalf of the Joint Fire Science Program, confirmed that when implemented strategically fuels treatments can make a crucial difference in the size, spread and severity of wildfires.⁴ These treatments can improve the safety and effectiveness of firefighters and provide protection for a community or essential watershed that might otherwise see extensive loss.

Facilitating this accelerated rate of treatment must be tied to effective use of all available management tools and exploring opportunities to increase the efficiency of planning and implementation processes. Stewardship contracting, for example, is an innovative and critical tool that allows the USDA Forest Service (USFS) and Bureau of Land Management to implement projects that restore and maintain healthy forest ecosystems, foster collaboration and provide business opportunities and local employment. The beneficial use of fire as a tool for resource management is another area in which greater forest restoration efficiency and effectiveness could be achieved. By increasing the use of both controlled burns and naturally ignited wildland fires to accomplish resource benefit, land managers can accomplish both ecological and community protection goals on a larger scale and at reduced cost. In fact, some states annually reduce fuels on more than 100,000 acres in wildlands with fire treatments. The Nature Conservancy recommends that both Congress and the Administration make it clear that the safe and effective use of fire is a priority for land management agencies, and provide the necessary funding, training and leadership support needed to foster increased fire use where appropriate.

Federal agencies alone cannot prevent the loss of homes, infrastructure and other values in the WUI. Individuals and communities living in the WUI must meaningfully invest in preparing for and reducing their own risk from fire. Post-fire studies repeatedly show that using fire resistant building materials and reducing flammable fuels in and around the home ignition zone are the most effective ways to reduce the likelihood that a home will burn.⁵ Similarly, community investments in improved ingress and egress routes, clear evacuation strategies, strategic fuel breaks and increased firefighting capacity can go a long way toward enabling the community to survive a wildfire event.

Many communities across the nation are already deeply engaged in trying to proactively address their role within fire-driven forest ecosystems, but this engagement must be both sustained and increased. Actions that support communities include resident and community mitigation strategies such as home hardening; planning, including business resilience planning; and community-building actions that increase connectivity and resilience.

For more than 15 years, the Nature Conservancy has worked cooperatively with the USFS and Department of the Interior to foster the Fire Learning Network (FLN) that brings communities together and helps them build collaborative, science-based strategies that protect both people and ecosystems. The FLN supports public-private landscape partnerships that engage in collaborative planning and implementation and provides a means for sharing tools and innovations. Locally, the FLN helps federal land managers to: convene collaborative

⁴ Martinson, E.J.; Omi, P.N. 2013. Fuel treatments and fire severity: A meta-analysis. Res. Pap. RMRS-RP-103WWW. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

⁵ See, for example, Four Mile Canyon Fire Findings. Graham, et al. Pages 64-69.
http://www.fs.fed.us/rm/pubs/rmrs_gtr289.pdf.

planning efforts; build trust and understanding among stakeholders; improve community capacity to live with fire; access training that helps fire professionals work with local communities; and address climate change and other emerging threats.

None of these recommendations can happen without financial support. Funding for these and other programs to reduce wildfire risk is a continued challenge. The 2018 “Fire Fix” helped stabilize the USDA Forest Service and Department of the Interior budgets, however, that effort must be coupled with federal reinvestments in restoration and risk reduction programs. The Nature Conservancy urges a balanced allocation of funding between treatments in wildland and developed areas. The Nature Conservancy additionally recommends this Committee work with the Appropriations Committee, the Administration and others to foster funding that facilitates proactive management and hazardous fuels reduction, including the use of fire as a safe and cost-effective management tool, and community risk reduction, all at a meaningful scale. During this time of tight federal budgets and pressing forest restoration needs, it is essential that we invest the limited resources we have both strategically and proactively in order to reduce exposure to catastrophic wildfire and to maximize both current and future benefits for people, water and wildlife.

States are also helping to contribute to the wildfire and restoration challenge. California, as an example, includes a number of CALFIRE-administered grant programs, the Department of Conservation’s Regional Forest and Fire Capacity program, and others as part of a \$1 billion (\$250 million per year) investment over the next four years. Such programs are complementary to national efforts such as the Fire Adapted Communities Learning Network. The Conservancy recommends supporting efforts that encourage states that invest in wildfire risk reduction activities.

Insurers can also play an important role by designing and offering insurance products that take into account the risk reduction benefits of nature in their pricing and underwriting. One example outside the wildfire context is the innovative coral reef insurance developed by The Nature Conservancy in partnership with the reinsurer Swiss Re that is based on the storm damage risk reduction benefits of coral reefs. Another example outside the wildfire context is the coastal resilience insurance The Nature Conservancy has developed in partnership with reinsurer Munich Re that also takes into account in its pricing and underwriting the risk reduction benefits of coral reefs and mangroves, which reduce the impact of storms on coastal property. With regard to wildfire risk, insurers could design and offer insurance products in areas at risk of wildfires which take into account the risk reduction benefits of ecological management of forests. And insurers can also invest in natural climate solutions. For example, insurance companies could invest in forest funds, which involve the acquisition and reforestation of degraded private forest lands, and the sale of carbon credits and other revenues streams to pay back that investment while at the same time using the restored forest as a carbon sink to sequester carbon.

Home insurance pricing and availability in the face of increasing wildfire risk is but one example of how insurers respond to increased risks associated with climate change. Hurricane risk, river and coastal flood risk, risk of prolonged droughts, urban heat islands, are all climate-driven risks that have consequences for the pricing and availability of insurance.

While insurance and the insurance sector can play a role in helping to manage these risks, more fundamentally it is the underlying drivers of these risks that need to be addressed. That means reducing greenhouse gas emissions dramatically, including using natural climate solutions. It also means, in the case of wildfires, using a nature-based approach to manage forests and reduce wildfire risk.

Otherwise, we will find ourselves increasingly in an uninsurable world.

Thank you for your attention to these important issues. We appreciate the opportunity to offer The Nature Conservancy's perspective to this Committee. Please let us know if we can provide any additional information or assistance to the Committee as you move forward to address the climate crisis.