



Climate Change: What Should We All Do Now?

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Washington DC
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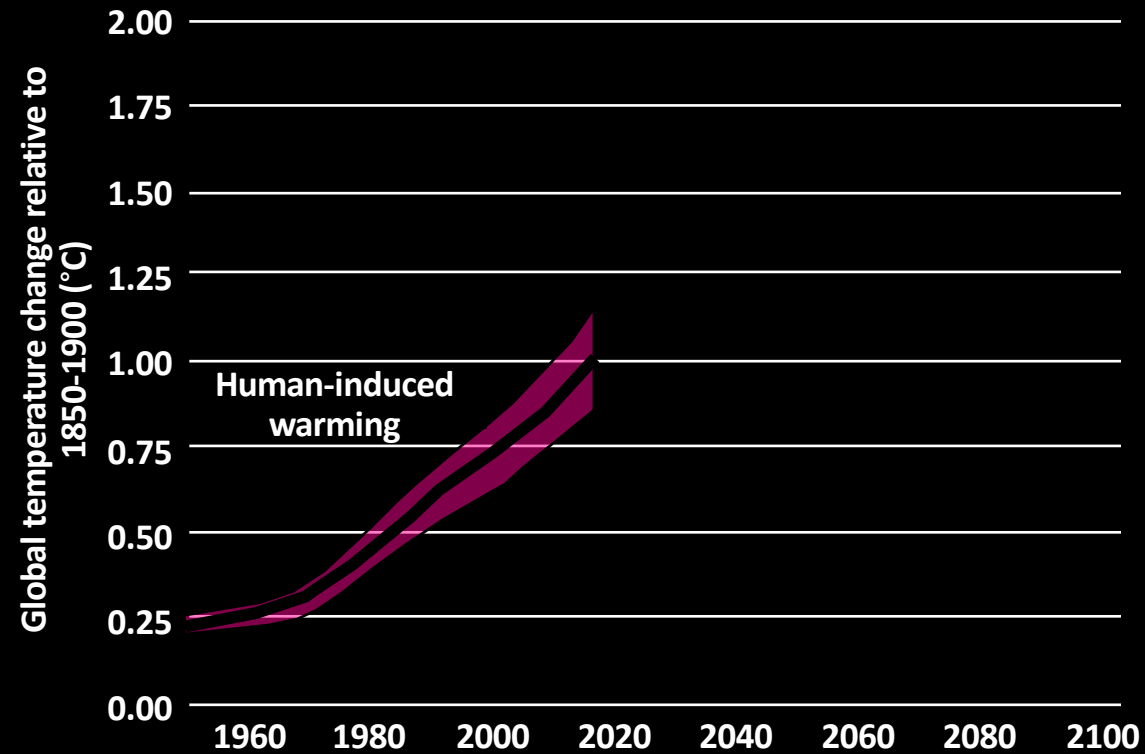
www.ucsusa.org/underwater

Photo by Maureen Drennan



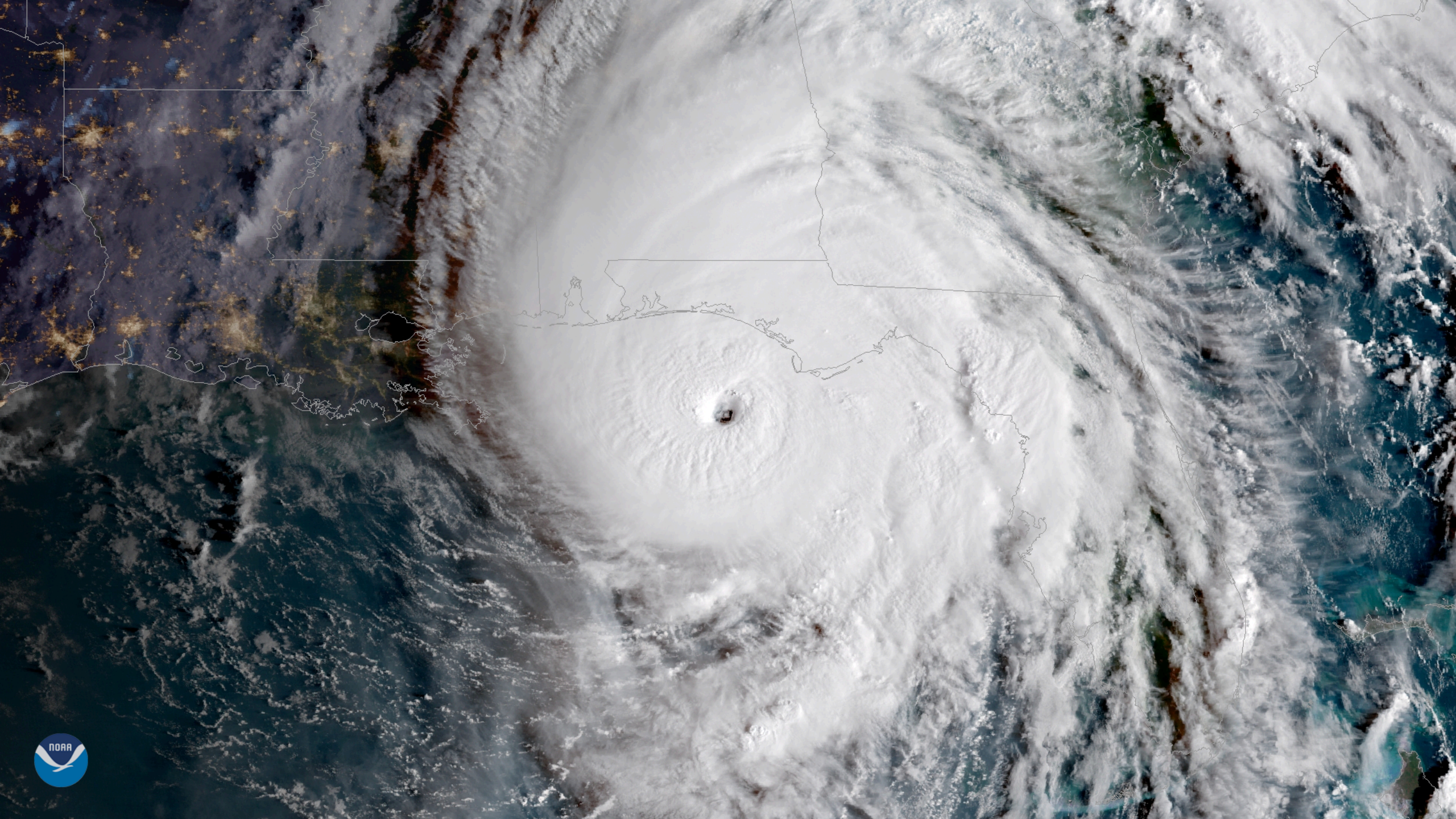
1 June 1907 Photograph by Frank H Nowell

1 °C (1.8 °F) World



IPCC 2018 SR15 Fig FAQ 1.2



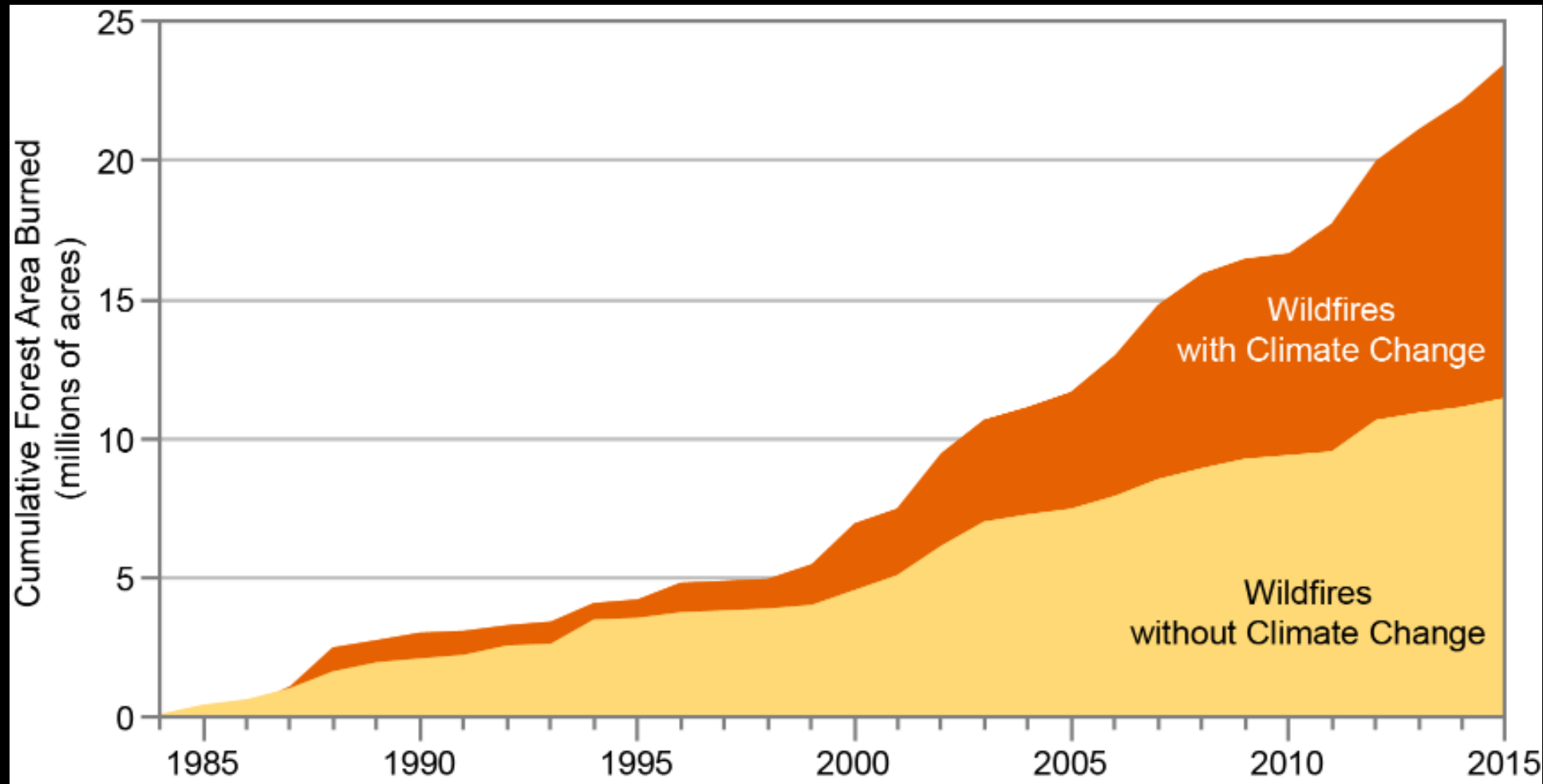


Waldo Canyon Fire 2012



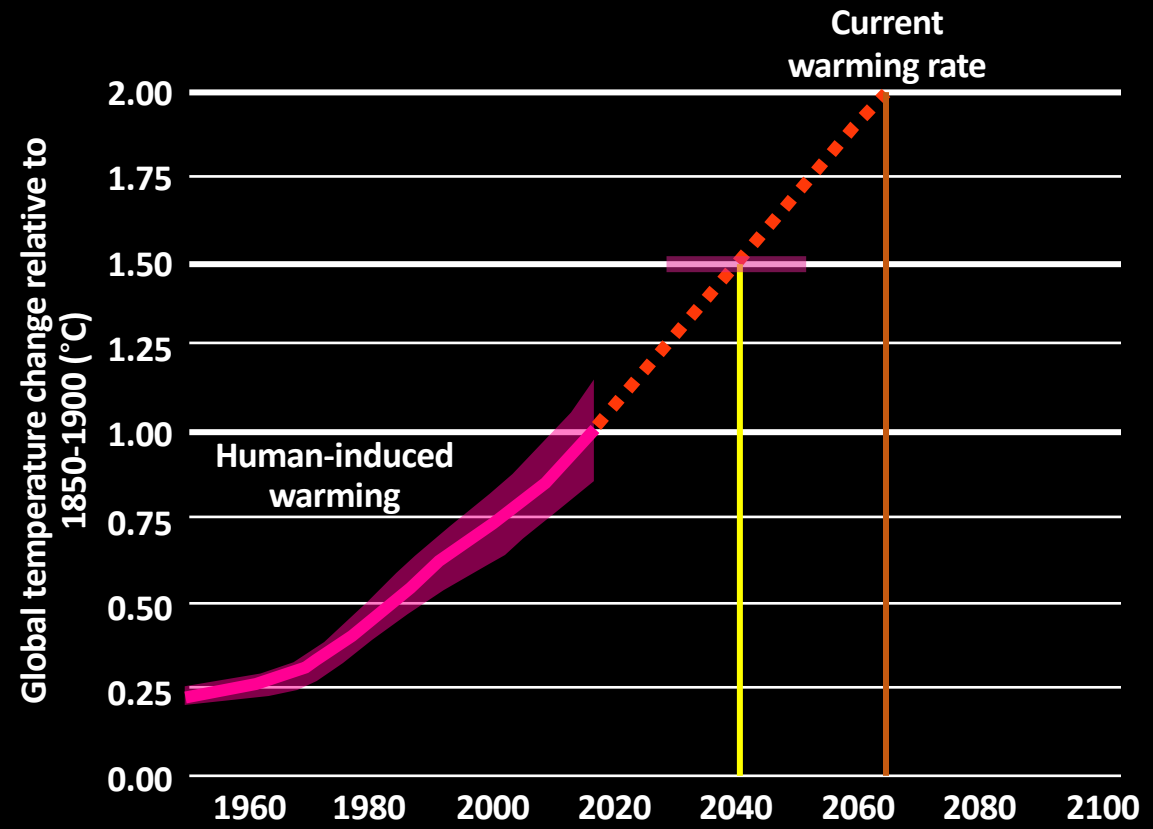
U.S. Air Force photo by Master Sgt. Jeremy Lock, 28 June 2012, Mt. St Francis Colorado Springs

Fig. 25.4: Climate Change Has Increased Wildfire





1.5 °C or 2 °C World
(2.7 °F or 3.6 °F)



IPCC 2018 SR15 Fig FAQ 1.2



U.S. Global Change
Research Program

Fourth National Climate Assessment

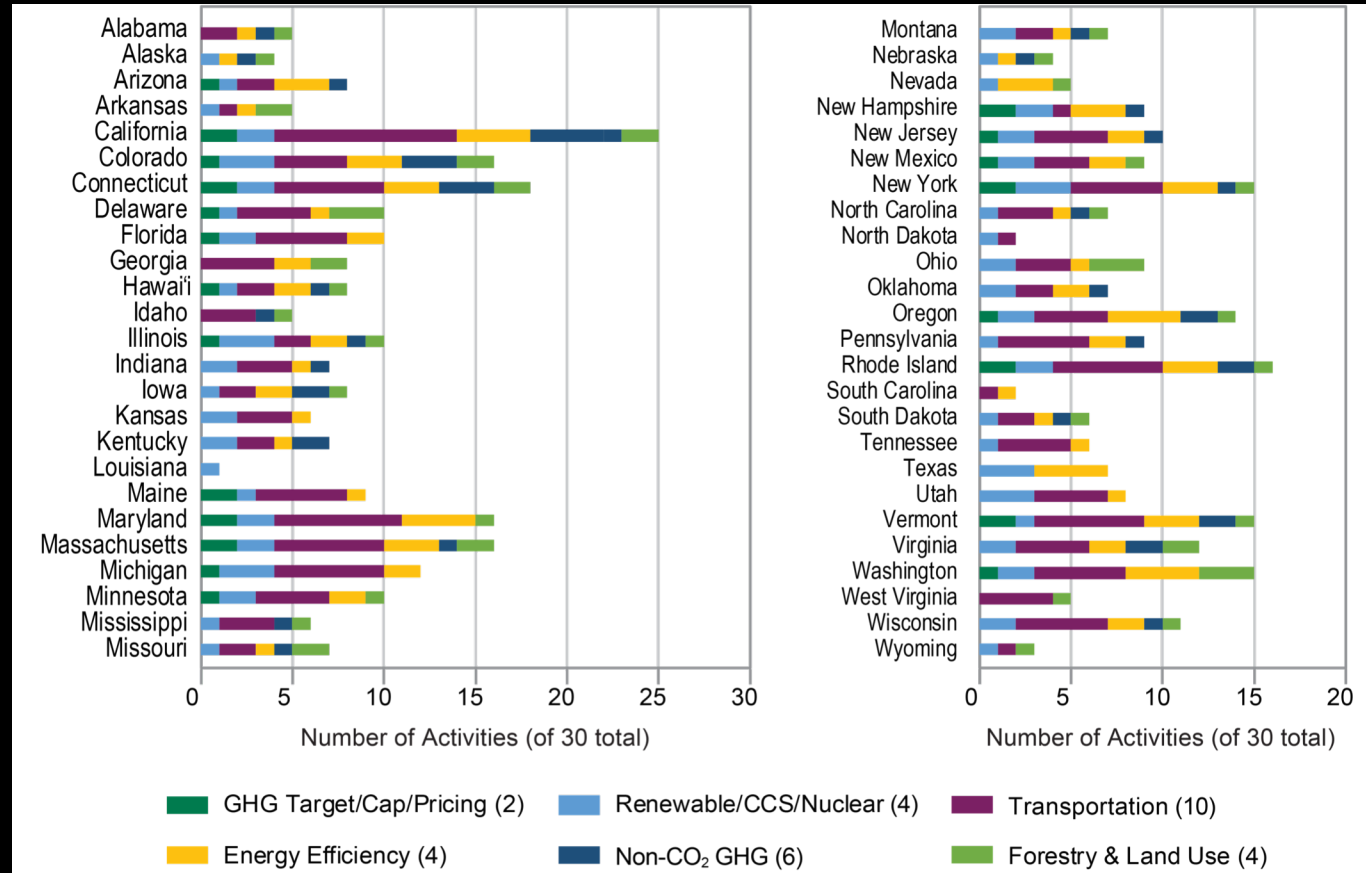


Volume II

Impacts, Risks, and Adaptation in the United States

Key Message #1

Since the Third National Climate Assessment, a growing number of states, cities, and businesses have pursued or deepened initiatives aimed at reducing emissions.



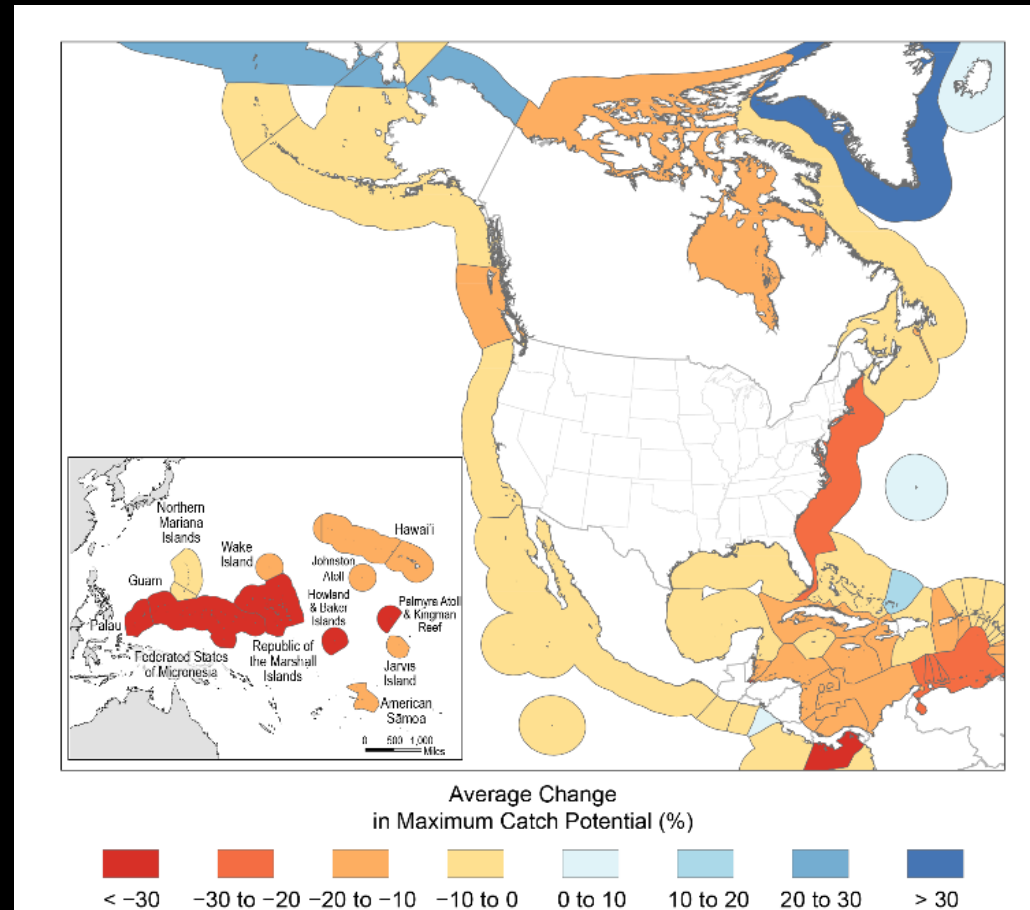
*Sources:
adapted
from
America's
Pledge
2017*

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Key Message #2

In the absence of more significant global mitigation efforts, climate change is projected to impose substantial damages on the U.S. economy, human health, and the environment.

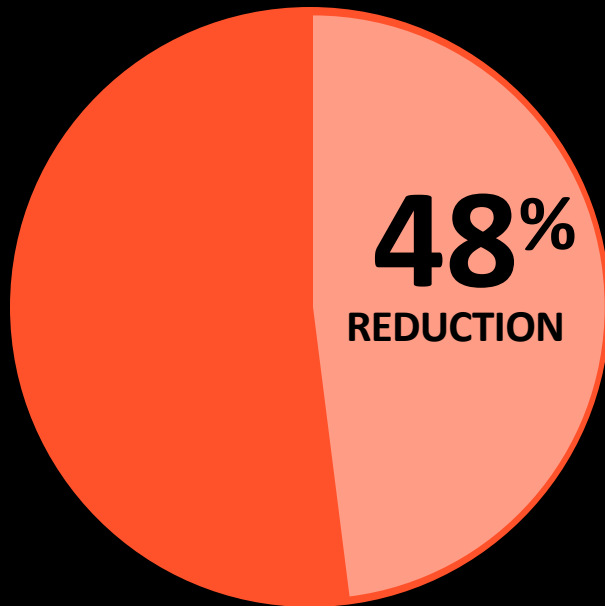
Average projected changes in fishery catches within large marine ecosystems for 2041–2060 relative to 1991–2010 under a higher scenario (RCP8.5).



*NCA4 Fig 9.2
adapted from
Lam et al.
2016*

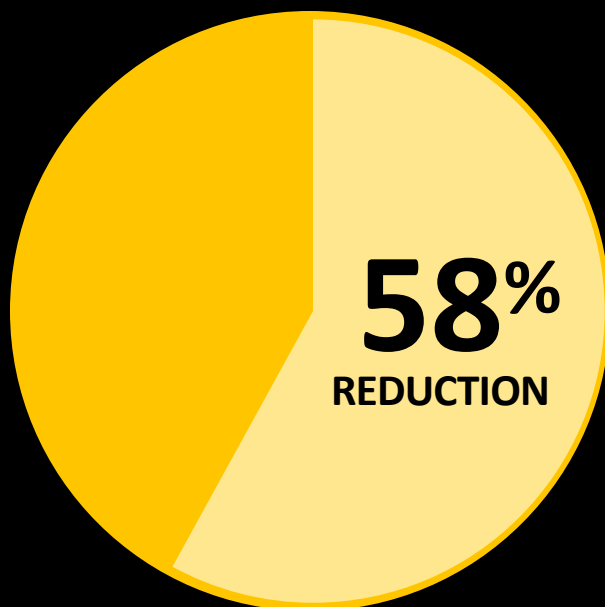
LABOR

Annual damages
\$155 billion



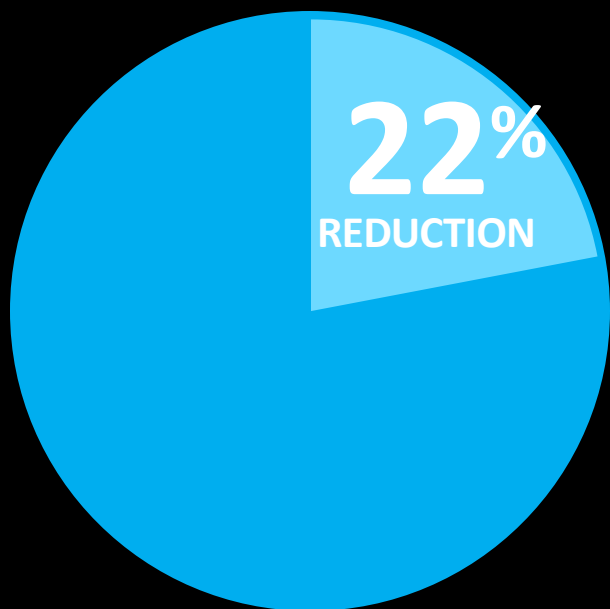
EXTREME TEMPERATURE MORTALITY

Annual damages
\$141 billion

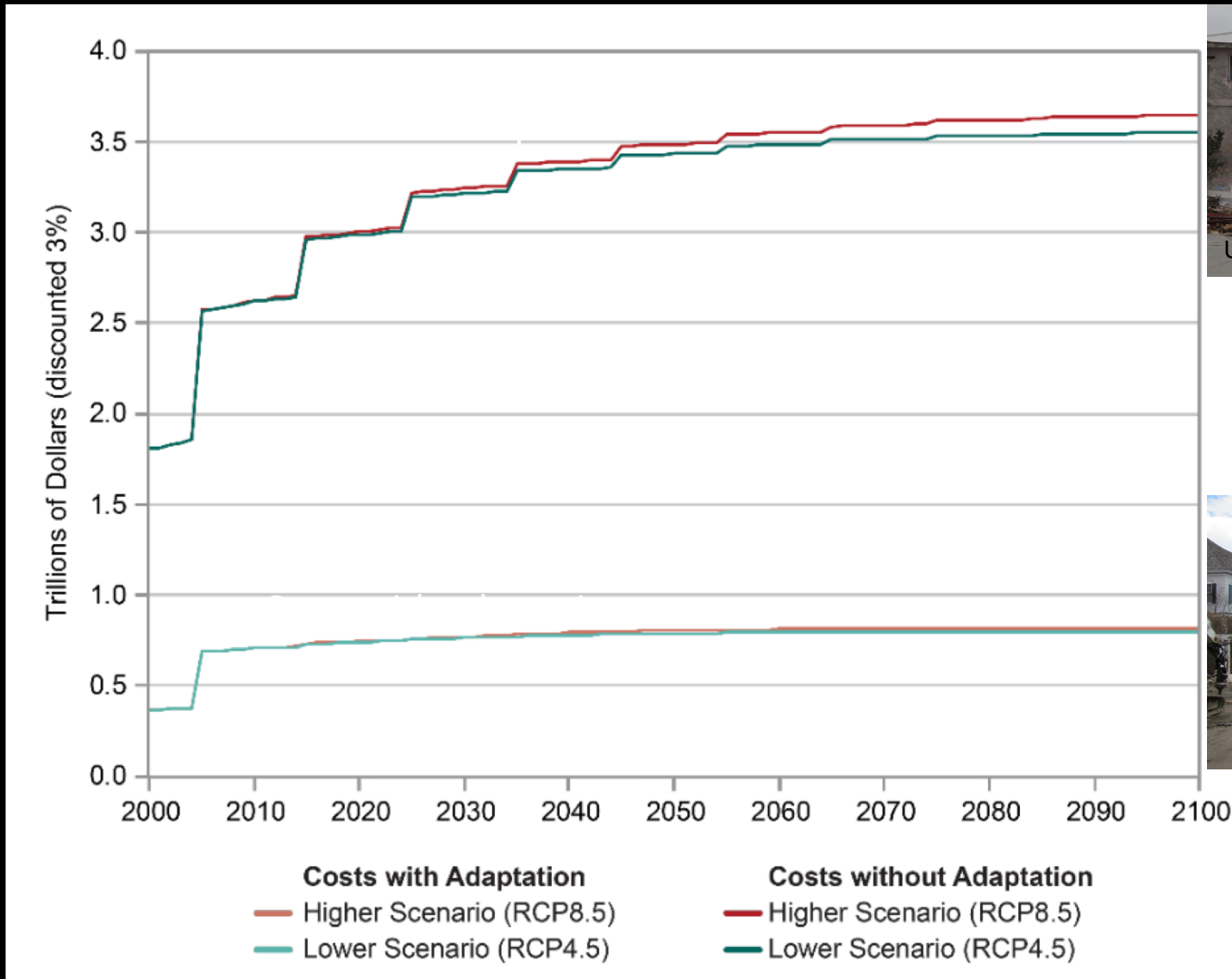


COASTAL PROPERTY

Annual damages
\$118 billion



Cumulative costs of sea level rise and storm surge



NCA4; Volume II, Ch. 8

The Risks of Inaction

29 Key Message #2

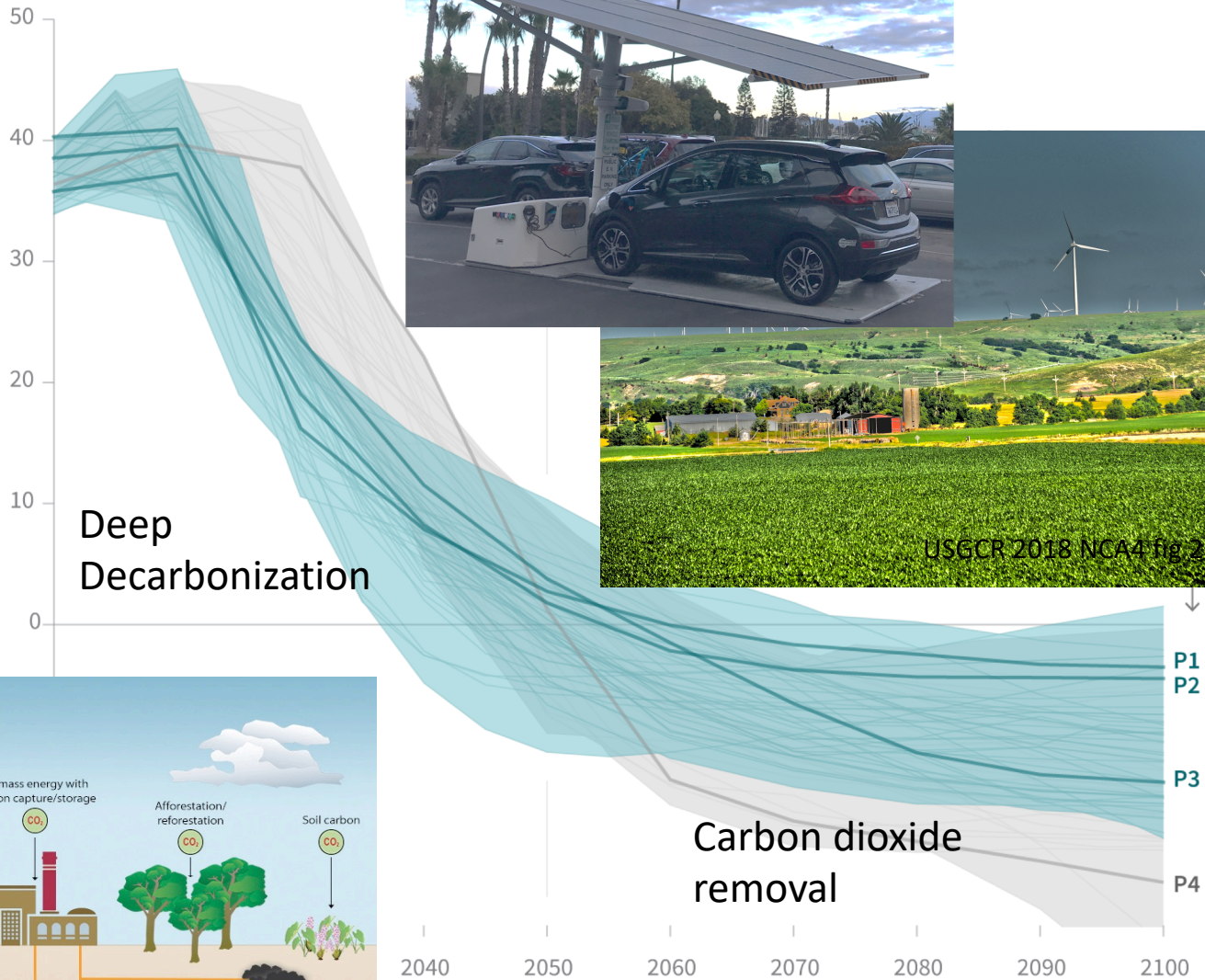
Under scenarios with high emissions and limited or no adaptation, annual losses in some sectors are estimated to grow to hundreds of billions of dollars by the end of the century.

Annual Economic Damages in 2090		
Sector	Annual damages under RCP8.5	Damages avoided under RCP4.5
Labor	\$155B	48%
Extreme Temperature Mortality Δ	\$141B	58%
Coastal Property Δ	\$118B	22%
Air Quality	\$26B	31%
Roads Δ	\$20B	59%
Electricity Supply and Demand	\$9B	63%
Inland Flooding	\$8B	47%
Urban Drainage	\$6B	26%
Rail Δ	\$6B	36%
Water Quality	\$5B	35%
Coral Reefs	\$4B	12%
West Nile Virus	\$3B	47%
Freshwater Fish	\$3B	44%
Winter Recreation	\$2B	107%
Bridges	\$1B	48%
Munic. and Industrial Water Supply	\$316M	33%
Harmful Algal Blooms	\$199M	45%
Alaska Infrastructure Δ	\$174M	53%
Shellfish*	\$23M	57%
Agriculture*	\$12M	11%
Aeroallergens*	\$1M	57%
Wildfire	-\$106M	-134%

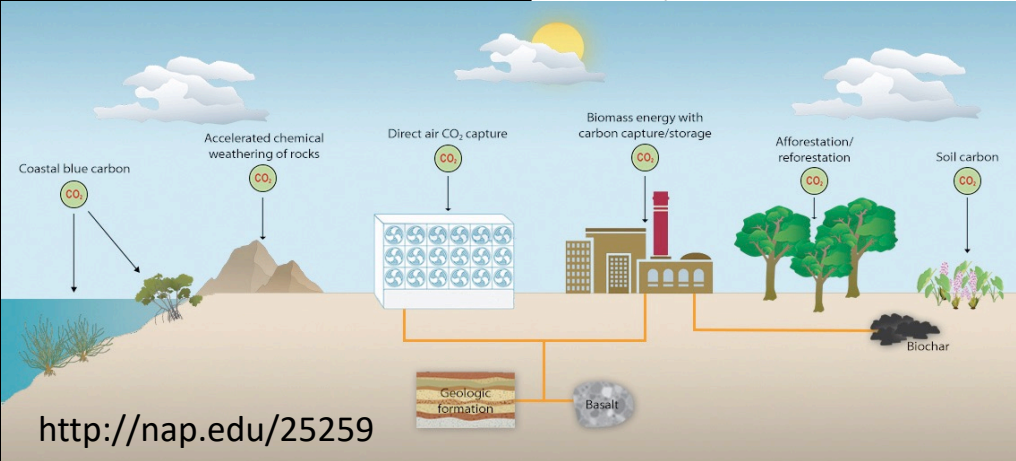
*Source:
adapted from
EPA 2017*

Global total net CO₂ emissions

Billion tonnes of CO₂/yr



USGCR 2018 NCA4 fig. 23-12



<http://nap.edu/25259>

IPCC Special Report 1.5C Fig SPM 3a



Reducing Risks for our future