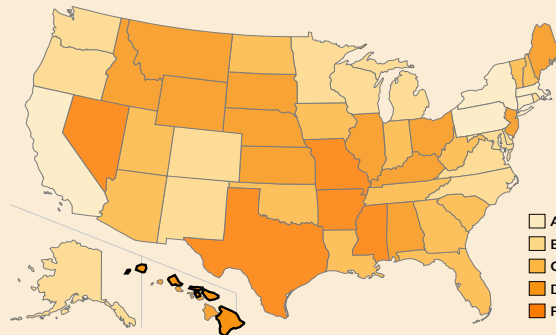


OVERALL GRADE: D-



OVERALL: D-

EXTREME HEAT: F

DROUGHT: -

WILDFIRE: -

INLAND FLOODING: -

COASTAL FLOODING: D-

Note: The climate threat analysis and grading methodology for Alaska and Hawaii differ from those for the lower 48 states due to the use of a different climate dataset. For details, see the methodology.

Hawaii faces considerable and increasing threat levels from extreme heat and coastal flooding; wildfire was not assessed due to a lack of data on vulnerable population, and inland flooding and drought were not assessed due to a lack of appropriate hydrology data. Hawaii earns a D- on the Report Card, with an F for extreme heat and a D- for coastal flooding. The state has taken only *limited action* to address current extreme heat risk. Neither the state hazard mitigation plan nor the emergency operations plan explicitly cover extreme heat as a hazard. Although Hawaii has taken *strong action* to address current coastal flooding risks, most states facing this threat have done more. While Hawaii has begun to address projected impacts from climate change, few of the state's efforts are completed. Hawaii does have a law, Act 286, which amends the state planning act to require state entities to consider potential climate change impacts in its activities. However, the law only includes a series of broad "priority guidelines," and not specific adaptation measures.

ACTION TAKEN:

Extensive				
Strong				
Fair				
Limited	☀️			
None			☀️	
	Addressing Current Risks	Conducting Vulnerability Assessments	Planning for Adaptation	Implementing Resilience Actions

- ☀️ Extreme Heat
- 🌵 Drought
- 🔥 Wildfire
- 💧 Inland Flooding
- 🌊 Coastal Flooding

SOME ACTIONS ALREADY TAKEN

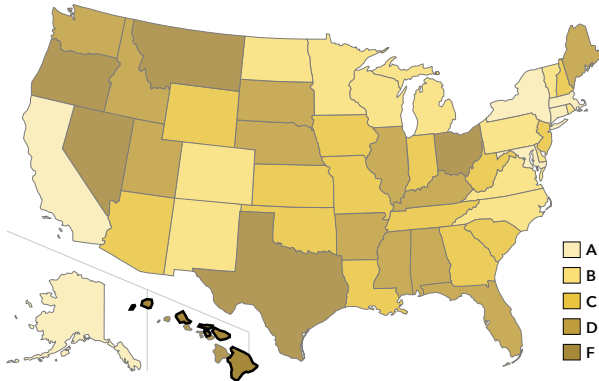
- Hawaii's *Hazard Mitigation Plan*, technical assistance programs, the *Hawaii Catastrophic All-Hazards Concept Plan*, and emergency communications materials are helping the state prepare for its current coastal flooding risks across sectors.
- A Framework for Climate Change Adaptation in Hawaii*, a document by the Ocean Resources Management Plan Working Group, recognizes various impacts of climate change and proposes necessary response actions, including conducting vulnerability assessments and developing an adaptation plan.
- Act 286 incorporates broad and conceptual climate change adaptation priority guidelines into the state planning act.
- The *Hawaii Climate Adaptation Initiative Act* calls for the state to complete a sea level rise vulnerability analysis and a planning report by December 31, 2017.

WEAKNESSES

- No evidence of detailed climate change vulnerability assessments at the state level, although Hawaii law mandates a sea level rise vulnerability assessment be completed by the end of 2017.
- No evidence that a statewide climate change adaptation plan has been completed.
- No evidence of official state funding for adaptation. In 2010, Hawaii instituted a barrel tax on petroleum. Part of the revenue from this tax was intended to support adaptation efforts, however no funds have been allocated for such purposes.
- Limited evidence of completed action to incorporate future climate change projections of extreme heat, or coastal flooding into state-level programs, investments, and activities. Although Act 286 was passed, it does not provide specific adaptation measures.
- A Framework for Climate Change Adaptation in Hawaii* does not qualify as an adaptation plan because it does not recommend specific actions that would directly increase Hawaii's climate change resilience.



EXTREME HEAT: F

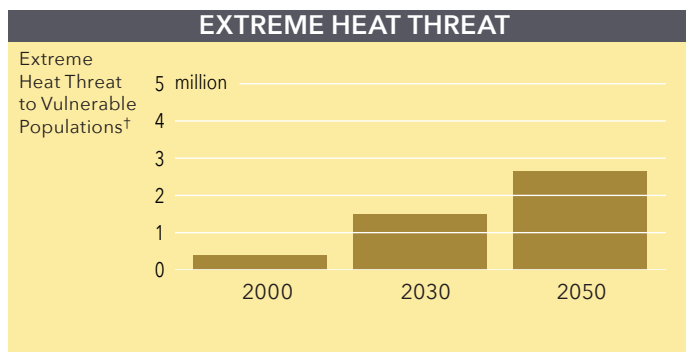


OVERALL:	D-
EXTREME HEAT:	F
DROUGHT:	—
WILDFIRE:	—
INLAND FLOODING:	—
COASTAL FLOODING:	D-

Hawaii earns an F for its low level of preparedness in the face of a high threat level from extreme heat. Although Hawaii's temperatures are generally moderated by the proximity of the ocean and onshore winds, days above 90 degrees Fahrenheit are not uncommon, and humidity is typically high. Unlike most states, which have taken *strong action*, Hawaii has taken only *limited action* to address current extreme heat risks. The *State Hazard Mitigation Plan* does not include extreme heat events as a current threat to Hawaii, although it does discuss potential impacts of increased temperature in the future due to climate change.

Looking forward, there are projected to be seven times as many heat wave days in Hawaii by 2050 as there are today, and Hawaii has taken only *limited action* to understand and prepare for future increases in extreme heat risks. While the state has recognized extreme heat and increasing temperatures as a potential result of climate change, the focus of adaptation legislation in Hawaii is on coastal flooding and sea level rise. Individual agencies have not published material on future extreme heat impacts and climate change planning efforts that are underway do not appear to address heat. Hawaii could increase its preparedness score for extreme heat by ensuring that climate change adaptation measures for increases in extreme heat events are included in forthcoming adaptation materials called for by the *Hawaii Climate Adaptation Initiative Act*.

KEY FINDINGS:



† Average number of heat wave days per year times total vulnerable population. A score of 1 represents 1 vulnerable person exposed to 1 heat wave day.

► Average annual number of heat wave days: Average number of days each year on which the maximum temperature exceeds the 95th percentile of daily maximum temperature in the baseline period (1991-2010) for at least three consecutive days.

DID YOU KNOW?

- Hawaii currently experiences nearly 15 heat wave days a year on average. By 2050, this figure is expected to jump to about 95 days per year.
- Nearly 30,000 people in Hawaii are under age 5 or 65 and over, and living in poverty, according to 2010 Census data. This group is considered especially vulnerable to extreme heat.
- Currently, Hawaii averages around 2 days over 90 degrees Fahrenheit per year; by 2050, the state is expected to face an average of 14 such days per year.

EXTREME HEAT: F

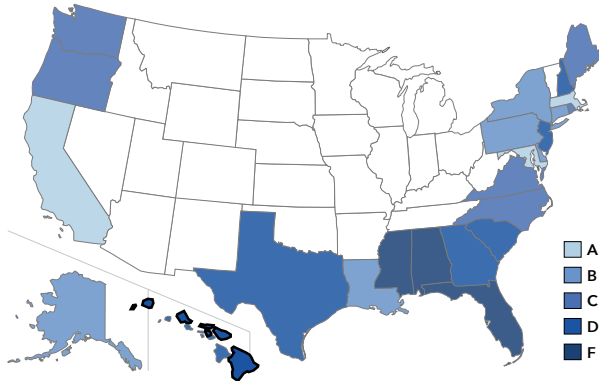
EXAMPLE CRITERIA

A subset of the criteria used to develop Hawaii's extreme heat preparedness grade.

	Transportation	Energy	Water	Health	Communities
ADDRESSING CURRENT RISKS					
Does the State Hazard Mitigation Plan cover extreme heat?	n/a	NO	NO	NO	n/a
Does the state have an extreme heat emergency response plan that is updated routinely?	NO	NO	NO	NO	n/a
Does the state provide extreme heat emergency communication materials for citizens?	✓	✓	✓	✓	n/a
CONDUCTING VULNERABILITY ASSESSMENTS					
Has the state published information on how the frequency or severity of extreme heat events may change in the future?	✓	✓	✓	✓	n/a
Has the state conducted extreme heat vulnerability assessments for each sector?	NO	NO	NO	NO	n/a
Is the state tracking extreme heat impacts?	NO	n/a	NO	NO	n/a
PLANNING FOR ADAPTATION					
Is there a statewide climate change adaptation plan covering extreme heat?	NO	NO	NO	NO	n/a
Is there a statewide implementation plan for climate change adaptation?	NO	NO	NO	NO	n/a
Does the state have sector-specific extreme heat adaptation plans?	NO	NO	NO	NO	n/a
IMPLEMENTING RESILIENCE ACTIONS					
Are there optional state guidelines for resilient activities (e.g., construction)?	NO	NO	NO	NO	n/a
Are there state requirements for resilient activities (e.g., construction)?	✓	✓	✓	✓	n/a
Is there evidence that the state is implementing extreme heat adaptation policy/guidelines?	NO	✓	NO	NO	n/a

"n/a" indicates that the sector is either insensitive to the threat or the state does not have a significant role.

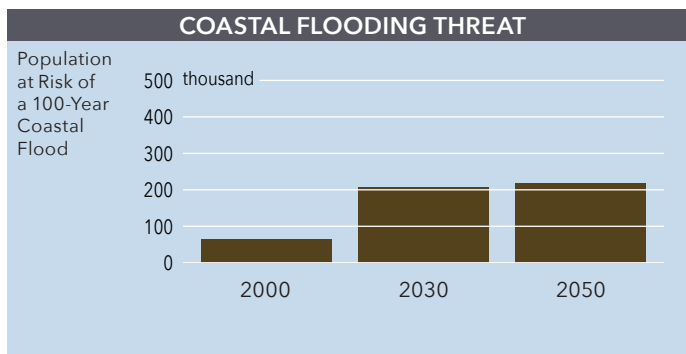
COASTAL FLOODING: D-



OVERALL:	D-
EXTREME HEAT:	F
DROUGHT:	-
WILDFIRE:	-
INLAND FLOODING:	-
COASTAL FLOODING:	D-

Hawaii earns a D- for its low level of preparedness for a high threat level from coastal flooding. Currently, Hawaii's risks from coastal flooding are moderate, and like most states, it is taking *strong action* to address its current risks from coastal flooding with its *State Hazard Mitigation Plan* and associated activities. But Hawaii faces the greatest increase in coastal flooding threat in percentage terms of any state in the country: the number of people at risk of a 100-year coastal flood is projected to more than triple by 2050 from 65,000 to 220,000 people, and Hawaii has taken only *limited action* to understand and prepare for future changes in coastal flooding risks. Through a series of laws passed by the state legislature, Hawaii has recognized coastal flooding and sea level rise to be one of the primary threats to the state from climate change. In 2014, Hawaii's governor signed the *Hawaii Climate Adaptation Initiative Act*, which calls for a sea level rise climate vulnerability assessment to be conducted, and an adaptation planning report to be created by the end of 2017. Hawaii earns a poor grade because these actions called for by the act have not yet been finished, but Hawaii has positioned itself to be more prepared for coastal flooding upon completion of these efforts.

KEY FINDINGS:



► Total population at risk of a 100-year coastal flood.

DID YOU KNOW?

- Currently, about 65,000 people live in the 100-year coastal floodplain. By 2050, this figure is projected to more than triple, to nearly 220,000 people.
- In percentage terms, the population at risk of a 100-year coastal flood in Hawaii is projected to jump from just 4.7 percent of the state's population to 15.7 percent.
- By 2050, only Louisiana and Florida are projected to have a larger percentage of their states' population at risk than Hawaii does.

COASTAL FLOODING: D-

EXAMPLE CRITERIA

A subset of the criteria used to develop Hawaii's coastal flooding preparedness grade.

	Transportation	Energy	Water	Health	Communities
ADDRESSING CURRENT RISKS					
Does the State Hazard Mitigation Plan cover coastal flooding?	✓	✓	✓	✓	✓
Does the state have a coastal flooding emergency response plan that is updated routinely?	✓	✓	✓	✓	✓
Does the state provide coastal flooding emergency communication materials for citizens?	✓	✓	✓	✓	✓
CONDUCTING VULNERABILITY ASSESSMENTS					
Has the state published information on how the frequency or severity of coastal flooding may change in the future?	✓	✓	✓	✓	✓
Has the state conducted coastal flooding vulnerability assessments for each sector?	✓	NO	NO	NO	NO
Is the state tracking coastal flooding impacts?	✓	n/a	NO	NO	✓
PLANNING FOR ADAPTATION					
Is there a statewide climate change adaptation plan covering coastal flooding?	NO	NO	NO	NO	NO
Is there a statewide implementation plan for climate change adaptation?	NO	NO	NO	NO	NO
Does the state have sector-specific coastal flooding adaptation plans?	NO	NO	NO	NO	NO
IMPLEMENTING RESILIENCE ACTIONS					
Are there optional state guidelines for resilient activities (e.g., construction)?	NO	NO	NO	NO	NO
Are there state requirements for resilient activities (e.g., construction)?	✓	✓	✓	✓	✓
Is there evidence that the state is implementing coastal flooding adaptation policy/guidelines?	NO	NO	NO	NO	NO

"n/a" indicates that the sector is either insensitive to the threat or the state does not have a significant role.