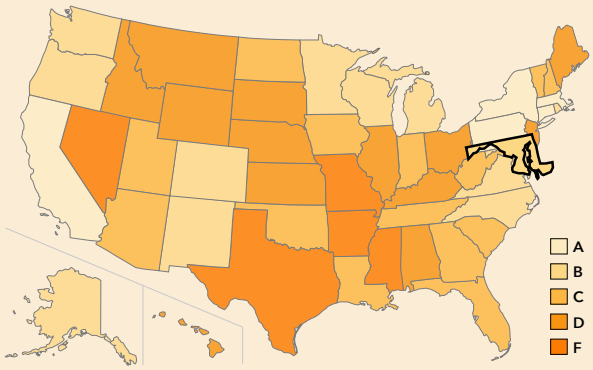
MARYLAND

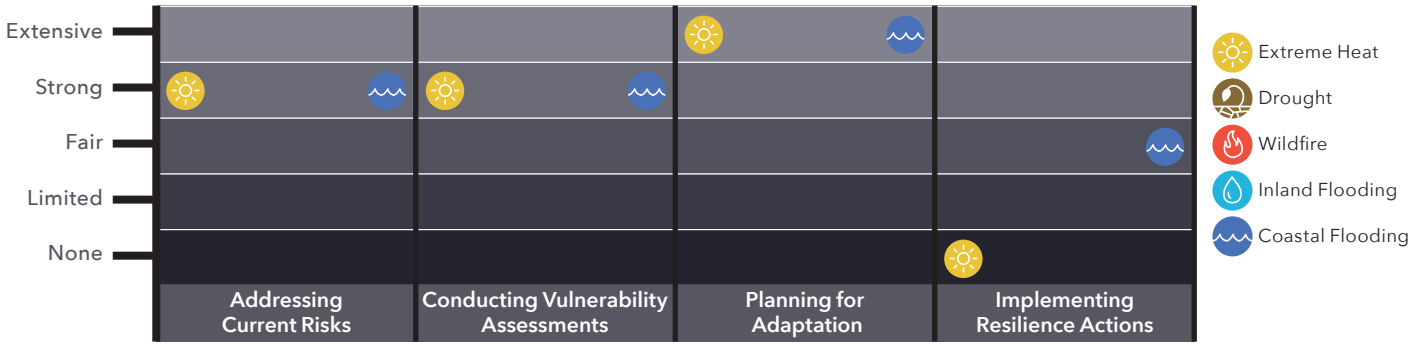
OVERALL GRADE: B+



OVERALL: B+	
EXTREME HEAT:	A
DROUGHT:	–
WILDFIRE:	–
INLAND FLOODING:	–
COASTAL FLOODING:	A-

Maryland faces considerable and significantly increasing threat levels from extreme heat and coastal flooding between now and 2050. Maryland scores an overall grade of B+ on the Report Card, with grades of an A- for coastal flooding and an A for extreme heat. The grades are relative to other states, and relative to the magnitude of the climate threats themselves. Maryland is one of only a few states that have taken *strong action* to plan for both their current and future climate risks. Actions include analyses such as a state-level climate change vulnerability assessment and an adaptation plan covering both coastal flooding and extreme heat. While Maryland has taken a *fair amount* of action to implement programs to address future coastal flooding risks, it has taken *no action* to implement actions to address future heat risks.

ACTION TAKEN:



SOME ACTIONS ALREADY TAKEN

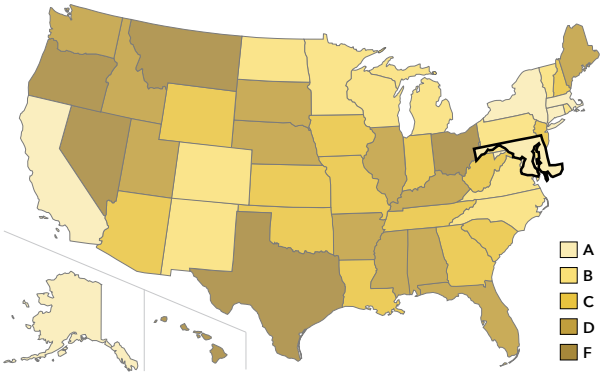
- The *Comprehensive Assessment of Climate Change Impacts in Maryland* provides localized model projections for future temperature and precipitation risks and discusses impacts of risks on human health, natural resources, and coastal communities.
- The *Comprehensive Strategy for Reducing Maryland's Vulnerability to Climate Change Phase II: Building societal, economic, and ecological resilience* identifies climate change adaptation actions.
- Maryland's *Updated Sea Level Rise Projections* (published in 2013) provide sea level rise projections and impacts based on federal guidance and recent national assessments.
- Multiple agencies have started to investigate and address vulnerability to climate change across the transportation and health sectors.
- "Chapter 8: Adaptation" of the *Greenhouse Gas Reduction Plan* identifies a lead agency, key partners, priorities, and timeframe for climate change adaptation strategy implementation.
- The CoastSmart Grant provides financial and technical assistance to local governments and targets coastal communities interested in reducing their vulnerability to the effects of coastal hazards and sea level rise by becoming ready, adaptive, and resilient.

WEAKNESSES

- No evidence of official state funding, policies, or guidelines to improve resilience against climate change-related extreme heat. No evidence of action to improve resilience against climate change-related coastal flooding except in the transportation and communities sectors.
- No evidence of action to incorporate climate change projections associated with extreme heat or coastal flooding into state-level programs, investments, and activities for the health sector.

MARYLAND

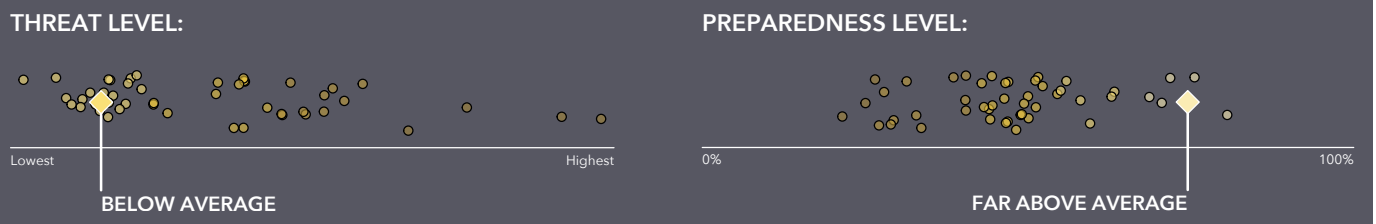
EXTREME HEAT: A



OVERALL:	B+
EXTREME HEAT:	**A**
DROUGHT:	–
WILDFIRE:	–
INLAND FLOODING:	–
COASTAL FLOODING:	A-

Maryland is one of the leaders in preparing for heat risks; it scores an A for its *far above average* level of preparedness in the face of a *below average* overall extreme heat threat. Currently, Maryland has a *below average* threat from extreme heat, and it has taken *strong action* to address its current risks. By 2050, Maryland's heat wave threat to vulnerable population is projected to more than triple, but remain *below average*. Maryland has taken *strong action* to understand its future heat risks, and is one of the only states that have taken *extensive action* to plan for them, whereas most states have taken *almost no action*. Maryland examines its future extreme heat vulnerabilities and identifies relevant adaptation options in its report, *Comprehensive Assessment of Climate Change Impacts in Maryland*. However, there is no evidence that Maryland has implemented the report's recommended heat-related adaptation measures and policies.

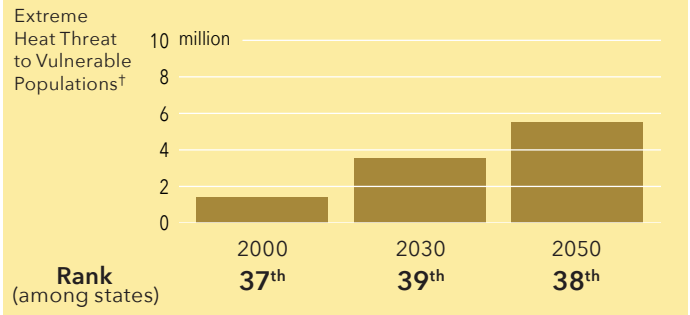
MARYLAND COMPARED TO OTHER STATES:



The preparedness grade represents how well a state is preparing for its threat level, relative to all states evaluated for that threat. It compares a state's position in the distribution of threat levels to its position in the distribution of preparedness scores. Thus two states with the same absolute preparedness score might receive different grades, depending on their levels of threat—a state with a higher threat level would receive a lower grade. For details, see the methodology.

KEY FINDINGS:

EXTREME HEAT THREAT



† 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?

- Currently, Maryland averages fewer than 10 days each year classified as dangerous or extremely dangerous, according to the NWS Heat Index. By 2050, Maryland is projected to experience 40 such days a year.
- By 2050, the typical number of heat wave days in Maryland is projected to increase from more than 10 to 50 days a year.
- Maryland has nearly 110,000 people 65 and older, or under 5 years old, living below the poverty line, which is *average* among the lower 48 states. These groups are considered to be especially vulnerable to extreme heat.

EXTREME HEAT: A

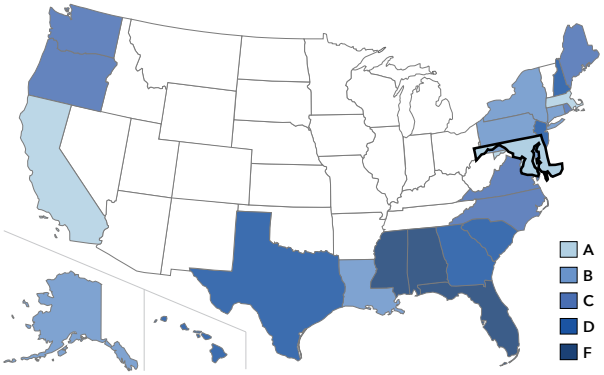
EXAMPLE CRITERIA

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

	Transportation	Energy	Water	Health	Communities
ADDRESSING CURRENT RISKS					
Does the State Hazard Mitigation Plan cover extreme heat?	n/a	✓	✓	✓	n/a
Does the state have an extreme heat emergency response plan that is updated routinely?	✓	✓	✓	✓	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**	✓	n/a
PLANNING FOR ADAPTATION					
Is there a statewide climate change adaptation plan covering extreme heat?	✓	✓	✓	✓	n/a
Is there a statewide implementation plan for climate change adaptation?	✓	✓	✓	✓	n/a
Does the state have sector-specific extreme heat adaptation plans?	✓	✓	✓	✓	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)?	**NO**	**NO**	**NO**	**NO**	n/a
Is there evidence that the state is implementing extreme heat adaptation policy/guidelines?	**NO**	**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.

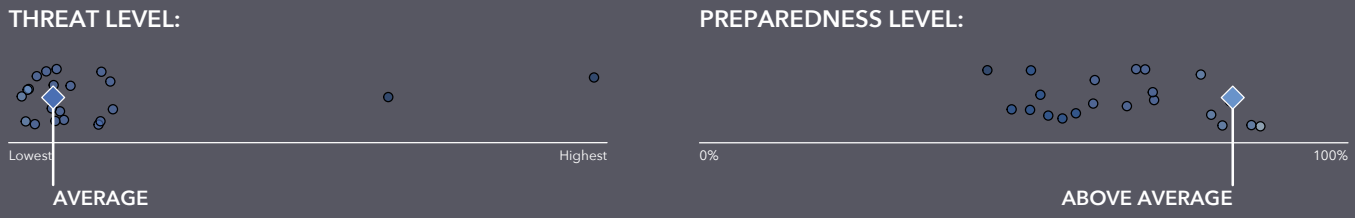
COASTAL FLOODING: A-



OVERALL:	B+
EXTREME HEAT:	A
DROUGHT:	–
WILDFIRE:	–
INLAND FLOODING:	–
COASTAL FLOODING:	**A-**

Maryland is one of the leaders in preparing for coastal flooding risks; it earns an A- for its *above average* level of preparedness in the face of an *average* overall coastal flooding threat. Currently, the state faces an *average* coastal flooding threat both in terms of total number of people, and the percentage of state population, at risk of a 100-year coastal flood. The state has taken *strong action* toward adressing both current and future coastal flooding risks. For example, it has evaluated future coastal flooding impacts and risks, including a detailed vulnerability assessment in the transportation sector. Maryland is one of the only states that have taken *extensive action* to plan for their future climate risks; it has developed climate change adaptation plans for all the sectors examined in this study. While most states have only taken only *limited action* to implement adaptation strategies, Maryland has taken a *fair amount of action*, including Executive Order 01.01.2012.29, which directs all state agencies to consider the risks of coastal flooding and sea level rise in the siting and design of state structures.

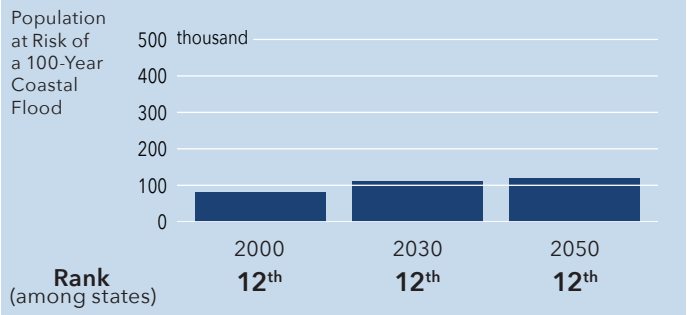
MARYLAND COMPARED TO OTHER STATES:



The preparedness grade represents how well a state is preparing for its threat level, relative to all states evaluated for that threat. It compares a state's position in the distribution of threat levels to its position in the distribution of preparedness scores. Thus two states with the same absolute preparedness score might receive different grades, depending on their levels of threat–a state with a higher threat level would receive a lower grade. For details, see the methodology.

KEY FINDINGS:

COASTAL FLOODING THREAT



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

DID YOU KNOW?

- Currently, Maryland has more than 80,000 people at risk of a 100-year coastal flood, ranking in bottom half of coastal states.
- By 2050, Maryland's coastal flood threat is projected to see an *average* increase of almost 50 percent, putting an additional 40,000 people in the 100-year coastal floodplain.
- Currently, 4.6 percent (430 square miles) of Maryland's land area is in the 100-year coastal floodplain, the fourth greatest percentage among the 22 coastal states. By 2050, this figure is projected to increase to 6.5 percent (600 square miles).

COASTAL FLOODING: A-

EXAMPLE CRITERIA

A subset of the criteria used to develop Maryland'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	✓	✓
PLANNING FOR ADAPTATION					
Is there a statewide climate change adaptation plan covering coastal flooding?	✓	✓	✓	✓	✓
Is there a statewide implementation plan for climate change adaptation?	✓	✓	✓	✓	✓
Does the state have sector-specific coastal flooding adaptation plans?	✓	✓	✓	✓	✓
IMPLEMENTING RESILIENCE ACTIONS					
Are there optional state guidelines for resilient activities (e.g., construction)?	✓	✓	✓	NO	✓
Are there state requirements for resilient activities (e.g., construction)?	✓	✓	✓	NO	✓
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.