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NATIONAL PARK SERVICE

Rock Creek Park could get more floods, poison ivy — study

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Published: Friday, November 3, 2017

Under a changing climate, Washington, D.C.'s urban oasis, Rock Creek Park, could face frequent flooding and see many of its native species shift northward, according to a [new assessment](#) released by the National Park Service.

Without action to reduce greenhouse gas emissions, the assessment shows, average temperatures inside Rock Creek are expected to increase 3 to 9 degrees Fahrenheit by 2100, with precipitation rates also forecast to rise. Warmer winters could mean less snow and more precipitation as rain, priming the park for flooding.

"Under the highest emissions scenario, floods of Rock Creek and its tributaries that in the past occurred once in 100 years and covered one-seventh of park area could occur once every 25 to 30 years," the report states.

Beloved by runners, hikers and dogs alike, the 1,754-acre park, established by Congress in 1890, is already feeling the impacts of climate change, the report says.

Inside the park, temperatures increased between 0.9 and 1.7 F from 1950 to 2013. The amount of fall rainfall rose 17 to 43 percent over that time period. Sea levels rose nearly a foot between 1924 and 2016.

The assessment — which draws on spatial analyses of published data and an assessment of peer-reviewed science — is one of a series of climate change summary reports being assembled for all 417 national parks by NPS.

The guides are meant to assist resource managers who work in the parks and provide them with sound data on how best to preserve and manage the natural and cultural resources inside the park.

Streams flowing in and through Rock Creek Park are expected to warm, which could affect populations of northern dusky salamanders, northern two-lined salamanders and northern red salamanders. Similarly, two fish species that migrate from the Atlantic Ocean into Rock Creek Park to spawn are vulnerable under a warming climate.

Invasive species including the aggressive, vined plant kudzu and Japanese honeysuckle are likely to thrive if greenhouse gas emissions aren't curbed. Both the toxicity and amount of poison ivy in Rock Creek could also increase, under high emissions scenarios.

The report also outlines possible mismatches in phenology due to climate change. Phenology is the study of how changes in the seasons and climate signal certain things to plants and animals. For example, when temperatures warm, some plants know to flower.

As temperatures rise, the eastern tent caterpillar may hatch earlier, but its main source of food, black cherry, will not be abundant enough to support the hungry babies, "leading to increased starvation of caterpillars," the report states.

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