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How climate change is worsening a buried pollution threat

BY ZACK COLMAN AND TUCKER DOHERTY, POLITICO PRO DATAPOINT

More than 100 storage sites for coal-burning power plants' toxic leftovers lie in areas that federal emergency managers have labeled a high risk for flooding, according to POLITICO's examination of government and industry data.

That finding comes as scientists and pollution experts warn that coal ash — a multibillion-dollar liability problem for communities across the country — may become an even greater danger because of heavier rains triggered by climate change.

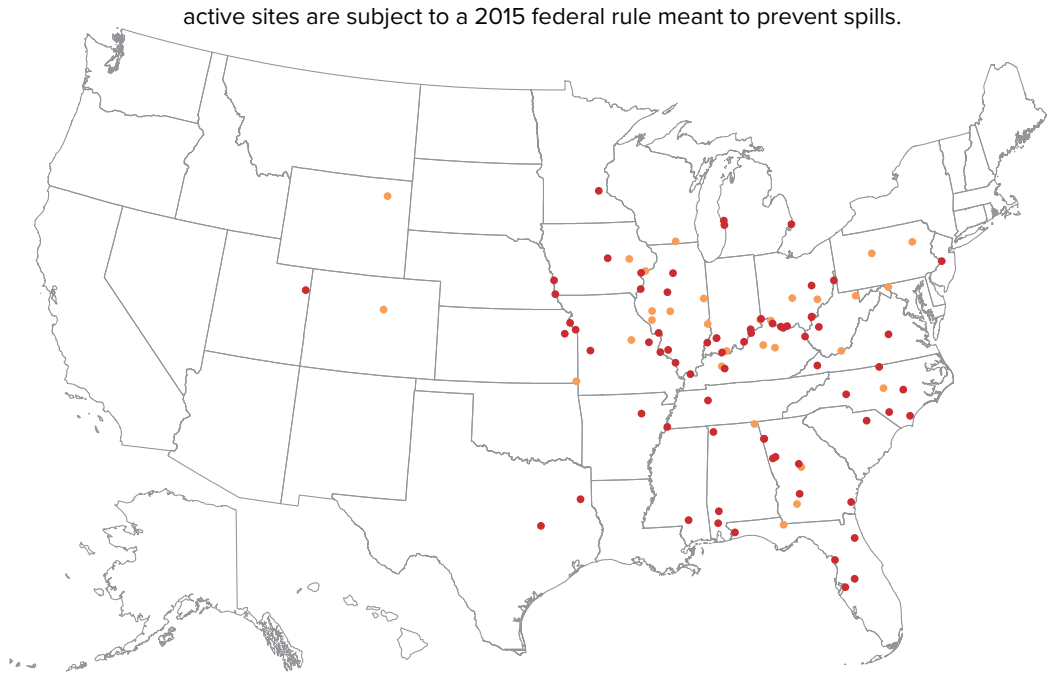
New federal regulations in 2015 were spurred by a 2008 spill in Tennessee that cost $1.2 billion to clean up. More recently, flooding caused by Hurricane Florence in North Carolina caused two coal ash spills in a river and lake.

However, the Trump administration has moved to weaken the Obama-era rule.

POLITICO's examination comes with significant caveats: Flood-risk information wasn't available for every site, and consistent documentation didn't exist for many long-dormant coal ash sites. A full analysis of any particular site's flood risk would have to look at a range of factors, such as a pond's elevation as well as its structural engineering.

Dozens of coal waste sites risk being flooded by climate change

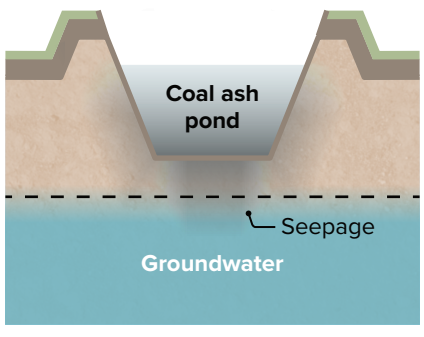
POLITICO identified **70 power plants with active coal waste sites** and **31 with inactive sites** that lie within FEMA-identified flood zones. Only active sites are subject to a 2015 federal rule meant to prevent spills.



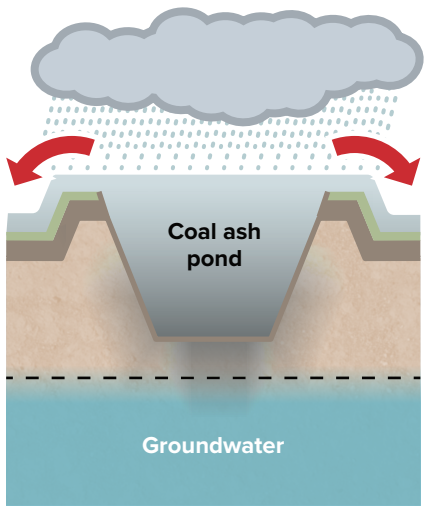
How coal ash contaminants can enter the water supply

1 The ash, left behind when coal is burned for power generation, contains arsenic, selenium, lead, mercury, boron and other contaminants known to cause cancer, neurological damage and heart ailments.

Electric utilities usually store it in massive landfills or unlined ponds. Over time, these contaminants can leach through the pit bottom and into groundwater underneath, tainting water supplies.

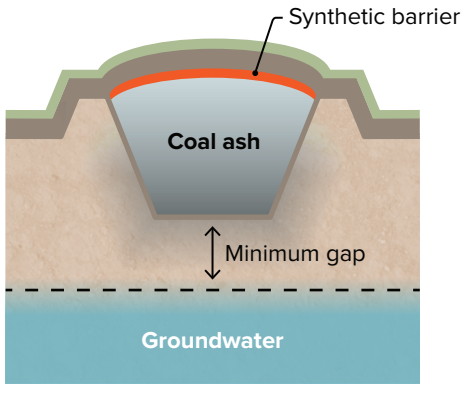


2 Heavy rainfall can also cause ash ponds to overtop or cause nearby rivers and lakes to overflow into them, spreading contaminants. Coal plants are frequently located near water sources used for cooling and transportation.



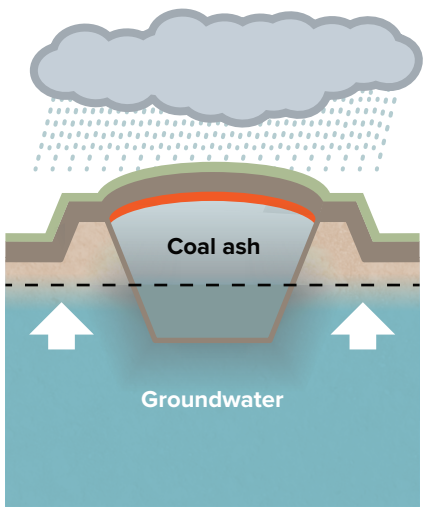
3 Owners can satisfy Obama-era regulations by monitoring groundwater for 30 years and capping their ponds — an approach that the industry says can be "equally protective" as removing the ash altogether.

Under the 2015 rule, pit bottoms must rest at least 5 feet above the uppermost aquifer. Coal waste sites are prohibited in wetlands and earthquake-prone areas.



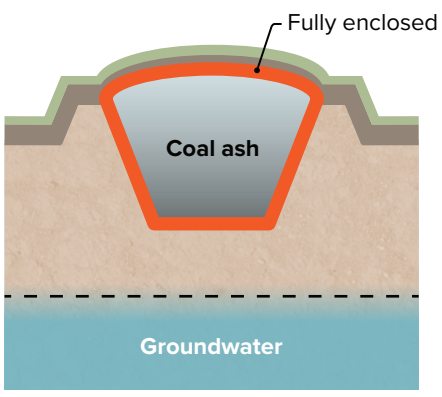
4 But environmentalists and scientists are concerned the caps don't address seepage.

Such contamination is likely to worsen as climate change brings more frequent rain, causing groundwater to rise and come into contact with the ash.



5 Short of hauling ash away from floodplains or storing it offsite in lined landfills, scientists and environmentalists contend the safest way to store waste long term is to fully enclose it.

That process involves excavating the ash, installing a protective lining at the pit's bottom, then putting ash back into the site with a cap on top.



Industry advocates say their critics have greatly exaggerated the significance of recent spills and reject a "one-size-fits all" approach. The Trump administration's proposed changes would give states greater discretion to waive requirements.

In contrast, concerned scientists say the existing flood maps are likely understating the extent of the problem.

The National Climate Assessment, compiled by researchers from 13 federal agencies, warned last year that "existing flood map boundaries do not account for future flood risk due to the increasing frequency of more intense precipitation events, as well as new development that would reduce the floodplain's ability to manage storm water."

"If they don't clean them up, they're going to be there forever," said Peter Goode, a former chief engineer for the Missouri Department of Natural Resources water pollution control program. "Thirty years from now, who knows what the flooding events are going to look like and what the rainfall events are going to look like?"

Sources: EPA, "Frequent questions about the 2015 Coal Ash Disposal Rule"; FEMA, "National Flood Hazard Layer Viewer"; Duke Energy; NOAA, "Fourth National Climate Assessment 2017/2018"

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