

Coal Ash Ponds in the Path of Hurricane Florence

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Many Coal Plants Store Waste Onsite in Ash Ponds

Numerous coal-fired power plants with onsite storage of coal ash waste are in the potential path of Hurricane Florence. Coal ash ponds can be susceptible to failure or spillage during heavy precipitation events or flooding, with devastating consequences for the environment, wildlife and human health.

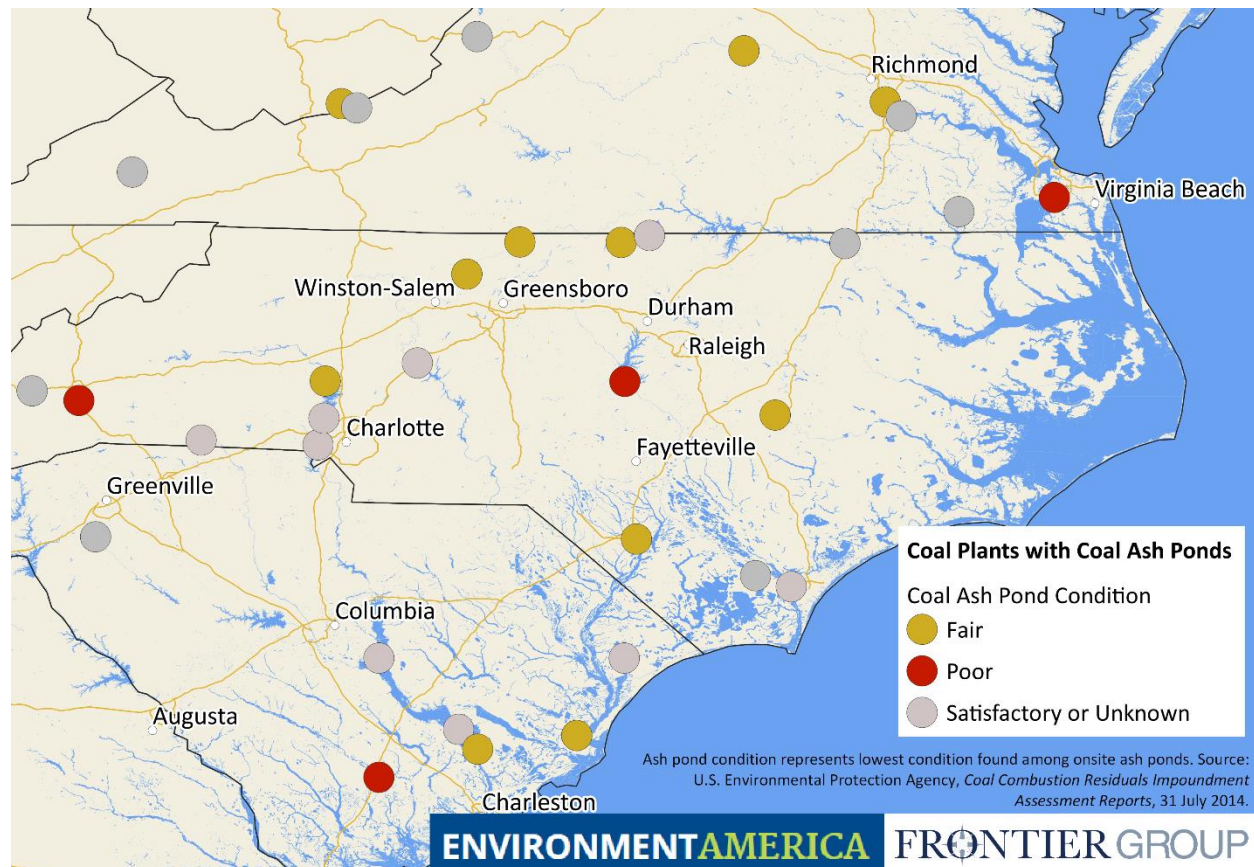
When power plants burn coal, they leave behind large amounts of waste, known as ash. Across the country, coal plants produce about 107 million tons of coal ash each year.¹ Coal plants often store ash waste onsite in an impoundment, or coal ash pond. These ponds, which contain a mixture of ash and water, average over 50 acres in area with depths of 20 feet, containing the equivalent of 130 Olympic swimming pools worth of wastewater.² This ash waste is highly toxic and frequently even radioactive, typically containing arsenic, mercury, selenium, and lead, and often containing trace amounts of uranium and thorium.³ Many of these substances pose grave threats to human health and the environment. Despite their risks, coal ash ponds are poorly regulated and are classified as non-hazardous waste.⁴ And in 2018, the U.S. EPA rolled back the already modest standards governing management of coal ash.⁵

Hurricanes Increase the Risk of Ash Pond Failure

Even under normal conditions, coal ash ponds pose a risk of failure, with dozens of reported spills and leaks in recent years.⁶ This risk is likely increased by flooding caused by hurricanes. Ponds are often located on the edges of waterways, sometimes protected by just a thin retaining wall. If floodwaters rise above retaining walls, coal ash waste can escape into the environment. In 2016, the Waterkeeper Alliance released aerial imagery of North Carolina coal ash ponds underwater following Hurricane Matthew.⁷ Heavy rains and flooding can also cause earthen retaining walls to collapse. In the case of one major coal ash spill, at the Kingston Fossil Plant in Tennessee, the foundation of an ash pond's retaining wall liquified following a period of heavy rain, releasing 5.4 million cubic yards of coal ash waste into the environment.⁸

When coal ash ponds do spill, damage to the environment and surrounding communities can be extensive and long-lasting. After the Kingston Fossil Plant spill, river water near the site tested positive for mercury and arsenic, and contained levels of lead and thallium in excess of safety limits.⁹ Even following the completion of a seven-year, billion-dollar cleanup effort, more than 500,000 cubic yards of coal ash remained in the river.¹⁰

Dozens of Coal Ash Ponds Lie in the Path of Hurricane Florence



The southeastern U.S. is home to dozens of coal plants with ash ponds, including in states where Hurricane Florence is projected to make landfall or cause inland flooding. The states of South Carolina, North Carolina, Georgia, Virginia, West Virginia, and Maryland are home to 60 active coal plants with onsite coal ash ponds.¹¹ In the case of failure, many of those sites could pose a threat to surrounding communities and the environment:

- The 60 coal plants in states potentially affect by Hurricane Florence have at least 86 coal ash ponds onsite.¹²
- Combined, those coal plants produce 12.4 million tons of coal ash waste each year.¹³
- Five plants have at least one coal ash pond onsite in “poor” condition, according to a 2014 survey conducted by the U.S. Environmental Protection Agency.¹⁴
- Twelve plants have at least one coal ash pond onsite that would pose a “high” hazard to the public and the environment in the event of a spill, according to the same survey.¹⁵

Staying Alert for Threats to Public Health

As Hurricane Florence approaches the Southeast, public officials should carefully monitor coal ash sites, and be prepared to alert residents in the case of spills or risks to drinking water. Residents who live near coal plants should immediately report any potentially contaminated drinking water, or any other evidence of coal ash spills. In the long run, the region should minimize the risk to the public by shifting from coal to cleaner forms of energy, such as renewable power.

Notes

¹ American Coal Ash Association, *2016 Coal Combustion Product Production & Use Survey Report*, archived at <https://web.archive.org/web/20171228210104/https://www.aaa-usa.org/Portals/9/Files/PDFs/2016-Survey-Results.pdf>, 28 December 2017.

² U.S. Environmental Protection Agency, *Frequent Questions about the Coal Ash Disposal Rule*, archived at <https://web.archive.org/web/20171228213108/https://www.epa.gov/coalash/frequent-questions-about-coal-ash-disposal-rule>, 28 December 2017.

³ Jennifer Duggan and Craig Segall, EarthJustice and Environmental Integrity Project, *Closing the Floodgates*, 2017.

⁴ Jonathan Kaminsky, "Coal Ash Is Not Hazardous Waste Under U.S. Agency Rules," Reuters, 19 December 2014, available at <https://www.reuters.com/article/us-usa-power-coalash/coal-ash-is-not-hazardous-waste-under-u-s-agency-rules-idUSKBN0JX15X20141220>.

⁵ U.S. Environmental Protection Agency, *EPA Finalizes First Amendments to the Coal Ash Disposal Regulations Providing Flexibilities for States and \$30M in Annual Cost Savings (press release)*, 18 July 2018, archived at <http://web.archive.org/web/20180909171359/https://www.epa.gov/newsreleases/epa-finalizes-first-amendments-coal-ash-disposal-regulations-providing-flexibilities>.

⁶ 72 sites were revealed just by Duke Energy and American Electric Power: Matthew Brown and Sarah Rankin, "US Utilities Find Water Pollution at Coal Ash Dumps," *Associated Press*, 2 March 2018.

⁷ Natasha Geiling, "North Carolina's record floods could have unexpected environmental consequences," *ThinkProgress*, 11 October 2016.

⁸ U.S. Environmental Protection Agency, *EPA Response to Kingston TVA Coal Ash Spill*, archived at <http://web.archive.org/web/20180908031545/https://www.epa.gov/tn/epa-response-kingston-tva-coal-ash-spill>.

⁹ Shaila Dewan, "Tennessee Ash Flood Larger than Initial Estimate," *The New York Times*, 26 December 2008.

¹⁰ Carol Eimers, Tennessee Valley Authority, *Completion Report for TVA Kingston Fossil Plant Fly Ash*, 22 April 2015, archived at <https://web.archive.org/web/20180316203434/https://semspub.epa.gov/work/04/11015838.pdf>.

¹¹ U.S. Energy Information Administration, *Form 860 - 2017ER*, 1 June 2018, available at <https://www.eia.gov/electricity/data/eia860/>.

¹² U.S. Environmental Protection Agency, *2014 Coal Combustion Residual Regulatory Impact Analysis Appendices*, 17 April 2015, available at <https://www.regulations.gov/document?D=EPA-HQ-RCRA-2009-0640-12112>.

¹³ *Ibid.*

¹⁴ U.S. Environmental Protection Agency, *Coal Combustion Residuals Impoundment Assessment Reports - Summary Table for Impoundment Reports*, 31 July 2014, downloaded from https://www.epa.gov/sites/production/files/2016-06/documents/ccr_impoundmnt_asesmnt_rprts.pdf.

¹⁵ *Ibid.*