

# THE TRUTH ABOUT COAL ASH

Coal ash — the byproduct of burning coal for electricity — is currently regulated under the same rules as regular household garbage. Filled with heavy metals such as arsenic, selenium and lead, coal ash is proven to contaminate groundwater and pollute communities with dust. This December, the U.S. Environmental Protection Agency has a deadline to set new regulations on this toxic substance. Will they do the right thing?

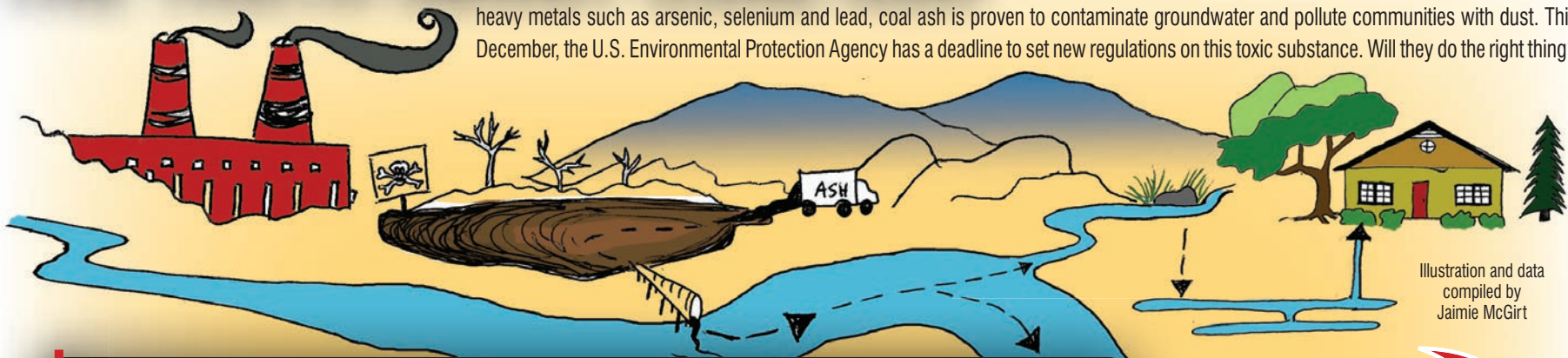


Illustration and data compiled by Jaimie McGirt

NATIONAL

U.S. coal-fired power plants generate **130 MILLION TONS** of coal ash waste per year.

Nearly **50%** of southeastern coal ash ponds are concentrated in low-income communities

Only **2** states in the U.S. — Louisiana and Pennsylvania — require groundwater monitoring in new or existing coal ash ponds.

## HEALTH IMPACTS FROM COAL ASH

### IN THE SOUTHEASTERN STATES...

#### Kentucky

Third-largest state in the nation for coal ash storage; 49% of dams exceed a 25-foot depth or store 500 acre-feet of coal ash; no requirement for frequent inspection; only 15 have been EPA-inspected to date.

#### West Virginia

83% of dams pose a high or significant hazard in the case of dam failure; one of only three states in the country that requires composite liners for new coal ash ponds; requires frequent inspection by dam operator.

#### Virginia

73% of dams pose a high or significant hazard in the case of dam failure; despite having an emergency action plan, pond liners and groundwater monitoring are not required; 4 of 11 sites show evidence of contaminated groundwater.

#### North Carolina

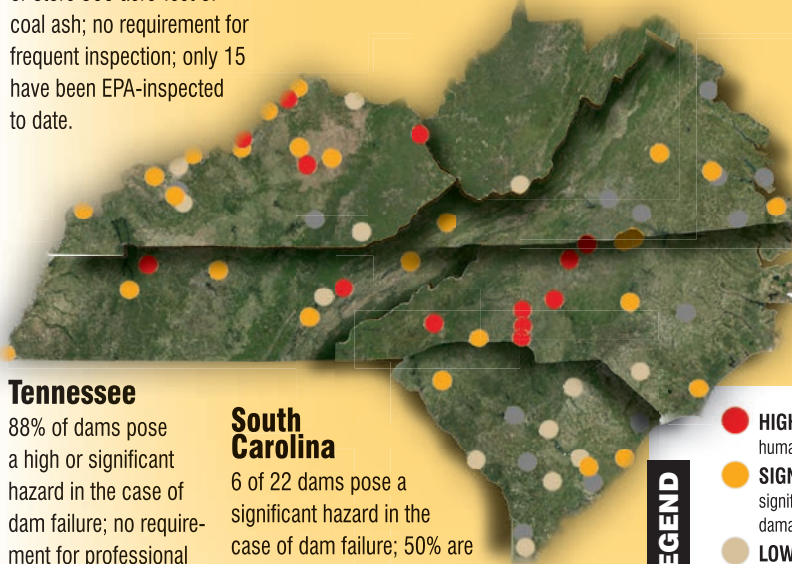
69% of dams pose a high or significant hazard in the case of dam failure; average height of dams is six stories; all 14 coal ash sites show evidence of contaminated groundwater.

#### Tennessee

88% of dams pose a high or significant hazard in the case of dam failure; no requirement for professional engineers to design or supervise dams; no dams inspected in the last 5 years.

#### South Carolina

6 of 22 dams pose a significant hazard in the case of dam failure; 50% are large capacity or have heights over 25 feet; pond liners and groundwater monitoring are not required.



LEGEND

- **HIGH HAZARD:** dam failure likely to cause loss of human life.
- **SIGNIFICANT HAZARD:** Failure likely to cause significant economic loss, environmental damage, or damage to infrastructure.
- **LOW HAZARD:** Failure would likely not result in loss of human life and would likely cause low economic or
- Hazard unrated by EPA

Detail of map created by Jovian Sackett, courtesy of:



Lead, arsenic, boron, mercury and excess selenium exposure may cause brain swelling and neurological damage, including developmental defects, impaired vision, paralysis and even death

Boron, arsenic, and frequent chromium inhalation may cause nose and throat irritation, asthma, wheezing and lung cancer

Lead exposure and arsenic ingestion may cause cardiovascular issues, especially in children

Arsenic ingestion may cause urinary tract cancers. Lead exposure and excess boron ingestion may have damaging effects on the kidneys.

Lead exposure and excess boron ingestion may cause damage to the male reproductive system

Chromium ingestion may cause stomach and intestinal ulcers, anemia, and stomach cancer. Excess boron ingestion may cause liver and intestinal damage

Arsenic absorption through the skin may cause skin cancer

**INFOGRAPHIC SOURCES:** SoutheastCoalAsh.org accessed Sept. 2014; EPA.gov accessed Sept. 2014; "State of Failure," Earth Justice and Appalachian Center for Mountain Advocates, 2011; "Coal Ash: The Toxic Threat to our Health and Environment," Physicians for Social Responsibility and EarthJustice, 2010; Federal Register/ Vol. 75, No. 118 **MAP SOURCES:** EPA, TVA, US Census Bureau, Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus, DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS

### Pursuing Federal Regulations -- a timeline

#### October 1976

EPA creates the Resource Conservation and Recovery Act (RCRA) to identify and regulate hazardous wastes.

#### August 1993

EPA determines that coal ash should be regulated as non-hazardous waste

#### May 2000

EPA declares that regulation is not warranted whenever coal ash is beneficially used for agriculture or construction

#### 2004

The EPA hosts four public meetings to address concerns about coal ash disposal due to the lack of liners, water monitoring, and consistent state regulation.

#### Dec. 23, 2008

A coal ash pond at a TVA plant in Harriman, Tenn., fails, causing one of the largest environmental disasters in U.S. history with one billion gallons spilled.

#### June 21, 2010

EPA considers proposal to classify coal ash as hazardous waste

#### Feb. 2, 2013

A main ash pond at Duke Energy's Dan River Steam Station in Eden, N.C., fails, spilling more than 39,000 tons of coal ash waste into the Dan River

#### Dec. 19, 2014

EPA required to decide whether or not to regulate coal ash as hazardous waste, which would lead to stronger regulation and enforcement