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One in Three: Interactive Map, Report Show Kids in Danger of Chemical Catastrophes

by Amanda Frank

One in three U.S. schoolchildren attends school within the danger zone of a high-risk chemical facility, according to a [report](#) and [interactive map](#) released by the Center for Effective Government. These children face the risk of chemical leaks and explosions simply by going to school. Safer chemicals and technologies would reduce the danger to our children, and they should be required whenever feasible.

Kids in Danger Zones

Our analysis found that nearly 19.6 million students attending 40,000 schools in 48 states fall within the vulnerability zone of a high-risk chemical facility. In other words, 36 percent of U.S. schoolchildren – **at least one in three** – face the risk of a chemical disaster on a daily basis.

Our analysis also revealed the following unsettling facts:

- **Half of all children at risk (10.3 million) are in more than one vulnerability zone.** The school most at risk in the country – San Jacinto Elementary in Deer Park, Texas – is in the vulnerability zones of 41 different facilities.
- **The metropolitan regions of Houston, Texas; Beaumont-Port Arthur, Texas; and Baton Rouge, Louisiana face the highest risks.** Schools in these cities are in more vulnerability zones than anywhere else in the nation.
- **In 102 counties across 22 states, every single child attends school within a vulnerability zone.** Texas, Virginia, Kentucky, and Louisiana have the highest number of high-risk counties.
- **There are ten facilities that each put more than 500,000 students at risk.** The Kuehne Chemical Company in South Kearny, New Jersey has a 14-mile vulnerability zone that includes most of Manhattan and puts 861,000 students at risk.
- **In Utah, Rhode Island, Texas, Louisiana, and Nevada, at least 60 percent of students are at risk of a chemical catastrophe.**
- **The states with the most children at risk also happen to be the most populated states: California, Texas, Florida, Illinois, and New York.**

For more facts and analysis, view our [report](#) and individual [state fact sheets](#).

What Can You Do to Help?

One in three is an unacceptably high number of schoolchildren at risk. Fortunately, there are steps we can take to reduce facility vulnerability zones and protect the health of our nation's children.

EPA is considering improvements to its Risk Management Program, including a requirement for facilities to switch to safer chemicals and technologies whenever feasible. Safer chemicals would reduce or eliminate vulnerability zones and protect nearby schools and communities. **In fact, if all facilities in our study shrunk their vulnerability zones in half, 11 million fewer children would be in vulnerability zones.**

Safer chemicals are feasible and cost-effective across a range of industries. For example, drinking water and wastewater treatment plants across the country have shifted from using dangerous chlorine gas to less hazardous alternatives like liquid chlorine or ultraviolet radiation (UV) to treat water. Similarly, the Clorox Company switched from using chlorine gas to liquid chlorine in all seven of its bleach manufacturing plants. This action removed 13 million Americans from vulnerability zones.

However, until EPA makes safer chemicals a requirement, many facilities will continue using outdated chemicals and processes that put their communities at risk. **There are many things that you can do to urge EPA action and to put pressure on facilities in your community:**

- Sign our [action alert](#) urging EPA to require safer chemicals and technologies whenever feasible. Tell EPA to use its authority to act now and protect our children.
- Visit the [interactive map](#) and find contact information for the facilities putting your community's children at risk. Contact these companies and ask them if they have a plan to use safer chemicals. Or, you can start a petition or letter-writing campaign to pressure them to use safer chemicals.
- View our [state fact sheets](#) to learn about risks specific to your state. Contact the schools most at risk and ask if they have an emergency plan in place for a chemical catastrophe.
- Give teachers the [curriculum materials](#) that help students explore the map and take action.
- Inform others in the community about these risks. Write a [letter to the editor](#) of your local paper. Share the map and report with local officials and urge them to take action.

Together, we can put pressure on EPA to improve chemical regulations and protect the safety of our children. For additional action steps and resources, visit our project's [landing page](#).

How We Mapped the Chemical Hazards

The interactive map includes 3,429 high-risk facilities across the country that report to the U.S. Environmental Protection Agency's (EPA) Risk Management Program (RMP). Nearly 13,000 facilities must report to this program because they use or store large quantities of certain hazardous chemicals. Among other requirements, facilities must calculate the maximum distance from the facility that could be impacted by a release or explosion of their largest container of hazardous chemicals. This distance is known as a "vulnerability zone."

We examined a select number of facilities based on the number of people they put at risk and their industry categories. We used Geographic Information System (GIS) software to map the facilities. We then obtained their vulnerability zone information and mapped these as red circles surrounding the facilities. Finally, we mapped each public and private elementary and secondary school in the nation.

Previous Report and the Need for Transparency

This project builds off of an earlier [map](#) we released in April to mark the one-year anniversary of the [West, Texas fertilizer plant explosion](#). The map included all 12,728 facilities reporting to EPA's Risk Management Program. It also included every U.S. public school located within a mile of these facilities. We found that one in 10 students – 4.6 million – go to schools within a mile of such facilities.

However, the actual area that could be affected by a chemical release or explosion often extends beyond one mile. Unfortunately, public access to such vulnerability zone information is restricted. Individuals

are only allowed to review 10 facilities' risk management plans each month and only from designated [federal reading rooms](#). Due to these challenges, we restricted our analysis to facilities in large urban areas or belonging to one of seven industry types.*

Even with a fraction of facilities represented, the number of students at risk increased fourfold – from 4.6 to 19.6 million. This is because the vulnerability zones often extend beyond one mile and can be as large as 25 miles or more. If we were able to feasibly access vulnerability zone information for the remaining 9,299 facilities, the number of children at risk would likely be even higher.

The difficulty in obtaining RMP data is troublesome. Most parents are likely unaware that their child may be at risk of a chemical catastrophe. Local leaders are often similarly unfamiliar with the dangers, especially when high-risk facilities are located miles away or in another county. Without making RMP data readily accessible, communities will remain in the dark and improvements to regulations slow coming. We urge EPA to make RMP data more readily available so that communities can be aware of dangers and be equipped to take action.

For more resources, visit our project [landing page](#).

* These included potable water treatment, wastewater treatment, commercial bleach manufacturing, electric power production, petroleum refining, pulp and paper production, and chemical manufacturing.

Fracking an Arid Landscape: New Report Examines Freshwater Availability near Gas Reserves

by Amanda Frank

As governments around the world consider tapping into their shale gas reserves through fracking, a new [report](#) cautions them to consider a key factor: available freshwater. The World Resources Institute (WRI) found that 38 percent of shale resources lie beneath arid or water-stressed regions. These areas may face water shortages and disputes when fracking's enormous thirst for water competes with other local uses.

Fracking often requires millions of gallons of water *per well* in order to release the gas locked deep within the bedrock. And even though this accounts for a tiny portion of total water withdrawals in a country (0.1 percent in the U.S.), the effects are amplified locally. For instance, in 2008, fracking in Johnson County, Texas consumed nearly one third of total county water withdrawals. When fracking occurs in water-stressed areas, it can potentially create shortages and impact farmers and communities relying on the same water resources.

WRI's analysis drew from its [Aqueduct Water Risk Atlas](#), a global map displaying levels of water risk (i.e., the chance that a region will experience drought or water stress). Paradoxically, regions rich in shale gas are not necessarily endowed with water resources. China, for instance, has the highest volume of recoverable shale gas of any country, yet these resources lie in regions that often experience high water stress. The same is true for eight of the top 20 countries with the largest recoverable gas reserves.

Moreover, the report found that regions with the potential for shale gas extraction are collectively home to 386 million people. The population in these regions depends on local fresh water to grow crops and meet household needs. Fracking puts an additional demand on local aquifers that can lead to [local tensions and conflict](#), even in times of low water risk. Furthermore, variability in available water resources also represents a business risk for drilling companies.

The WRI report outlines various recommendations for improving water governance in regions considering developing their shale resources:

- Drilling companies should conduct a water risk analysis in order to understand available resources.
- Drilling companies must also try to reduce their use of freshwater as much as possible.
- Governments should improve water monitoring and requiring companies to disclose their water consumption.
- Finally, both drilling companies and governments should seek input from community members and other local stakeholders in improving water governance.

Water resources are becoming more precarious in the face of a changing climate. Proper planning and allocation prior to developing shale resources may help relieve conflicts surrounding water resources. Moreover, governments must consider the impacts on water resources in policy decisions requiring fracking approvals.

Visit the [report's](#) appendix to view maps of shale gas reserves overlaid with water risk data for 11 countries with shale resources, including the U.S.

Poisoned Peanuts: Verdict Sends Strong Message to Food Company Executives

by Ronald White

The guilty [verdicts](#) handed down on Sept. 19 in the unprecedented federal criminal case against senior officials of the Peanut Corporation of America (PCA) should send a strong message to food company executives – you can and will be held criminally responsible for deliberately risking the health and safety of the American public for the sake of profits.

The case stems from the 2008 national outbreak of *Salmonella* poisoning from contaminated peanuts and peanut products that were traced to PCA. A subsequent inspection of PCA production plants in Georgia and Texas by Food and Drug Administration (FDA) inspectors found roaches, rats, mold, dirt, bird droppings, and accumulated grease in the plants, among other problems that contributed to the contamination.

At least nine people died and over 700 people were sickened, some critically, from eating contaminated food, which included Kellogg products. Based on previous studies of the number of unreported foodborne illnesses, the total number of unreported cases likely exceeded 22,000. PCA ultimately filed

for bankruptcy in 2009, and a \$12 million [compensation fund](#) was established to settle a class action lawsuit.

PCA President Stewart Parnell and his brother Michael were originally [indicted](#) in February 2013 on 76 counts of criminal conduct, including conspiracy, mail and wire fraud, and the introduction of misbranded food into interstate commerce. Stewart Parnell and former PCA quality assurance manager Mary Wilkerson were also indicted for obstruction of justice for lying to FDA investigators.

Ultimately, a federal [jury found](#) Stewart Parnell guilty on 67 felony counts, Michael Parnell guilty on 30 counts, and Wilkerson guilty on one of the two obstruction of justice counts brought against her. Two former PCA plant managers who had previously pleaded guilty to several criminal charges testified against the Parnell brothers and Wilkerson at the trial. None of the defendants was charged with causing any actual illnesses or deaths due to the technical and legal hurdles in proving that the deaths and illnesses were directly due to the contaminated products.

The PCA case is one of the most influential food contamination cases in history in terms of the precedent-setting criminal charges brought against the corporate executives involved. It was also a key event that contributed to Congress passing the [Food Safety Modernization Act](#) in late 2010. The verdict should send a strong message to food corporation executives who recklessly disregard their responsibilities for ensuring our food is safe to eat that they will be held criminally responsible as individuals for their actions.

The Tragic Recurrence of Debilitating Black Lung Disease

by Ronald White

The negative health and environmental impacts of our nation's continued reliance on coal as a fuel source for power plants appropriately receives significant attention in the media and in public policy debates. However, the health consequences for those working in underground coal mines have received much less attention. A recent [letter](#) to the editor in a medical journal from researchers with the National Institute of Occupational Safety and Health (NIOSH) and an [article](#) in the *Louisville Courier-Journal* will hopefully shine a brighter light and raise the profile of this national tragedy.

For the past 40 years, NIOSH has conducted surveys and monitored trends in the prevalence of coal miners' pneumoconiosis (also known as black lung disease), including progressive massive fibrosis (PMF), the worst form of the disease. PMF is an advanced, debilitating, and lethal form of black lung with no cure and limited treatment options. NIOSH researchers note while the prevalence of this devastating disease in long-term underground miners had essentially been eliminated in the late 1990s, by 2012 it had rebounded to a level ten times higher than those 15 years earlier, to levels not seen since the early 1970s.

So what's behind the stunning increase in this severe form of black lung disease? The NIOSH researchers note that "excessive inhalation of coal mine dust is the sole cause of PMF in working coal miners, so this increase can only be the result of overexposures and/or increased toxicity stemming from changes in dust composition." They go on to conclude that "despite readily available dust control

technology and best practices guidance, recent findings suggest dust exposures have not been adequately controlled and that a substantial portion of U.S. coal miners continue to develop PMF.”

Corporate malfeasance and a lack of enforcement by the Mine Safety and Health Administration (MSHA) may also be factors in the increase in PMF and other mining-related diseases. Miner health advocates suggest that mine operators are placing coal dust monitors in areas where levels are substantially lower than the much higher and illegal levels that miners are actually exposed to. This allows mining companies to report much lower mine dust levels to MSHA, resulting in a lack of MSHA enforcement.

Last April, MSHA adopted new [limits](#) on acceptable levels of coal dust exposure. The agency cut the level set more than 40 years earlier by 25 percent, from two milligrams of dust per cubic meter of air (mg/m³) to 1.5. While an [improvement](#) over the previous standard, MSHA had originally proposed a 50 percent cut in allowable exposures, which would have set the level at 1 mg/m³ – a level originally recommended by NIOSH in 1995.

What was behind the decision to adopt the less stringent exposure level? Politics. With the Obama administration already taking substantial heat from the mining industry and their proxies in Congress over proposals to limit carbon dioxide emissions from new and current power plants (limits that would significantly impact the use of coal as a fuel source), MSHA compromised on the coal dust standard. The agency's own [analysis](#) found that adopting the compromise standard would still result in as many as 197 cases of PMF and 246 cases of severe emphysema per 1,000 miners over a 45-year work period in jobs exposed to the highest coal dust levels.

MSHA's revised coal dust exposure limit isn't scheduled to take effect until August 2016, which means another two years in which exposures to the current unhealthy levels of coal dust will be legally acceptable. With respect to the 154 PMF cases in miners documented by NIOSH between 1998 and 2012, the authors note in their letter that “each of these cases is a tragedy and represents a failure among all those responsible for preventing this severe disease.”

One Year After Obstructionists Shut Down the Government: Where Are We Now?

by Jessica Schieder

Tomorrow, Oct. 1, marks one year since obstructionists in the House shut down the federal government. Approximately [800,000 federal workers](#) stretching [across the country](#) were told not to report to work, and many public services ground to a halt.

When the government shut down last fall, public servants processing requests ranging from Pell grants to [Social Security checks](#) were taken off the job. The National Institutes of Health stopped admitting new patients. National parks, including monuments and museums, closed their doors. Inspectors and other officials, including those who ensure the safety of the nation's mass transportation systems, were told to stay home. The 16-day fiasco cost the economy [\\$24 billion](#).

This year, the story is different, but serious challenges remain. Congress passed a continuing resolution (CR) earlier this month before members returned home to hit the campaign trail. The measure keeps the government running until Dec. 11. Both parties seem to be optimistic that they'll get a better deal out of the budgeting process if they wait to do the final work until after the November midterm elections.

Beyond additional budget work in December, Congress will likely face another debt limit fight in March. You might be asking yourself: didn't we just raise the debt limit? Yes. Congress raised the limit this past February, but the agreement only bought a year of time. Another increase is necessary to ensure the United States doesn't default on its debt. This could be the fourth year in a row of a manufactured crisis on the national debt. There used to be bipartisan agreement that calling the credit-worthiness of the national government into question was detrimental to the health of the nation.

This pattern of budgeting by crisis has plagued the country in recent years despite the [widely reported](#) economic drawbacks of such an approach. Budget crises slow growth, erode investor confidence, and can cause fluctuations in a nervous market more focused on the near-term political winds than the long-term needs of business and the economy.

The policy consequences of consecutively enacting continuing resolutions are also substantial. Instead of having a thoughtful debate about adapting budget priorities to changing realities, members of the appropriations committees simply allow prior budget commitments to continue on auto-pilot.

Congress needs the flexibility to react to a fast-changing environment. A year ago, pundits would have been hard-pressed to predict we'd be launching attacks against an al-Qaeda spinoff group, ISIS (the Islamic State of Iraq and the Levant). Similarly, no one predicted the biggest Ebola outbreak in history, or the flood of immigrant children from South America. The [spending](#) needed to provide adequate health care for the growing number of our nation's veterans has also been difficult to accurately estimate.

Working families are in a vulnerable position – long-term unemployment is still at record levels, the gap between the rich and the poor is the largest it's been since records were kept, and wages for the vast majority of Americans have either stagnated or declined in recent years. The public needs a proactive government that works on the people's behalf – to put folks back to work, to provide vital products and services, and to make sure the American dream is alive and well for future generations.

America is fully capable of addressing these challenges, but it will require a shift in the way some policymakers are currently operating. Congress can no longer budget by crisis and continuing resolution, hacking away at funding for crucial programs and protections. Instead, congressional leaders need to establish a more thoughtful, measured approach and listen to the priorities of the American people.



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