

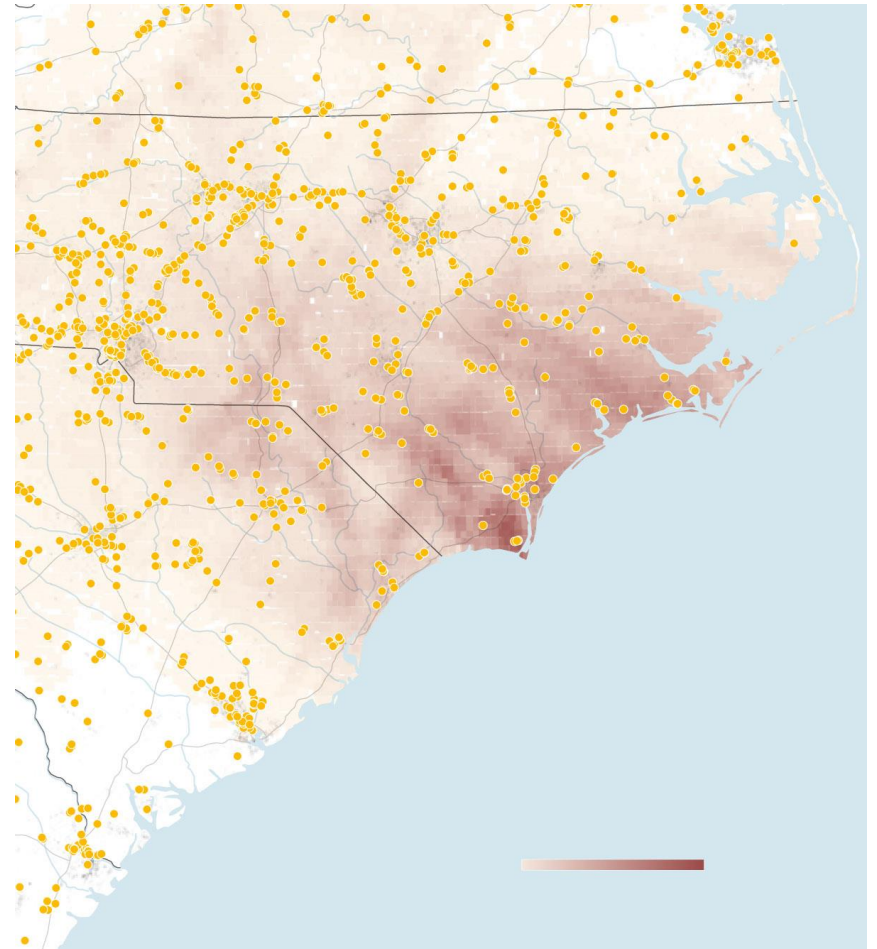
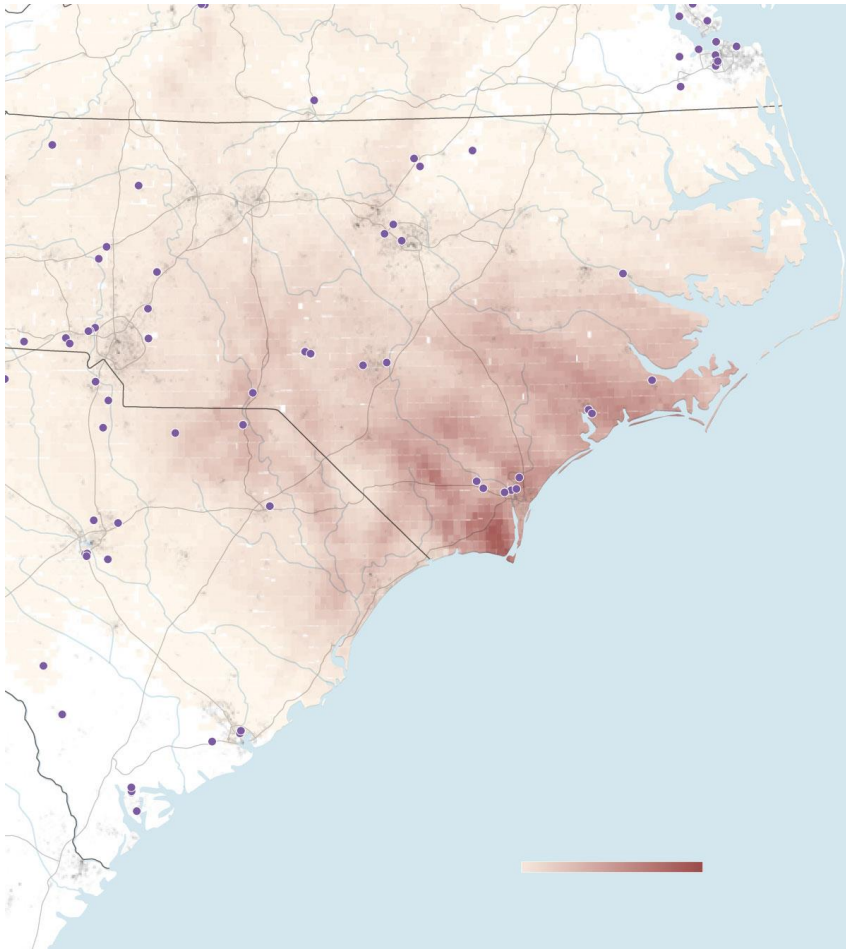
CERCLA in a Changing Climate:

Permanent Cleanups in
an Impermanent World

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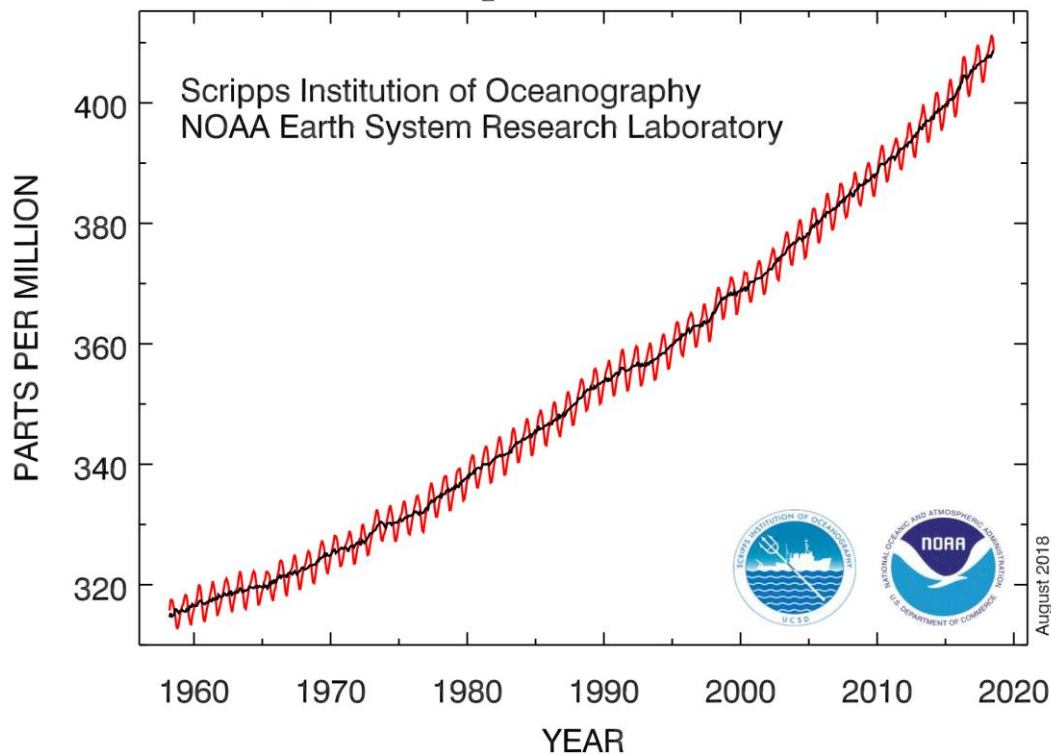
In the news...





Hurricane Harvey, Superfund, and Climate Change

Atmospheric CO₂ at Mauna Loa Observatory



- Disasters – fueled by climate change – only highlight deeper and slower challenges to all environmental laws
- These tectonic shifts also affect CERCLA in sweeping ways

CERCLA and Climate Change



CERCLA Basics

- Comprehensive Environmental Response, Compensation & Liability Act of 1980
- Target – orphan waste sites and contaminated areas
- But covers much more
 - Emergency response
 - Operating facilities
 - Natural Resource Damages



CERCLA's Core Elements

- REPORTING
- REMOVAL AND EMERGENCY RESPONSE
- REMEDIATION AND PERMANENT CLEANUP
- LIABILITY







CERCLA Elements: Release Reporting

- CERCLA Section 103(a): must report a
 - “Release” or “substantial threat of release”
 - Of a “hazardous substance”
 - Into the environment
 - Above a “Reportable Quantity” within a 24 hour period
- So what’s a “release”?
- So what’s a “threatened release”?

CERCLA Release Reporting and Climate Change

- » Mechanical issues:
 - » “Release” or “anticipated release” during severe weather
 - » Was a reportable quantity released?
- » Bigger issues: do we need to rethink elements of our reporting system if climate change creates new risks and vulnerabilities?



- CERCLA excludes from the definition of “hazardous substance” any petroleum, natural gas, or constituents thereof
- Federal reporting required by Clean Water Act and Oil Pollution Act of 1990
- But what happens when...

And don't forget the petroleum exclusion

CERCLA Cleanups: Short and Long Term

- » CERCLA cleanups come in two flavors: removals vs. remedial actions
- » Removal actions
 - » Limited in duration (1-2 years)
 - » Limited in amount spent (\$1 - \$2 million)
 - » Meant for quick response to dangerous conditions, but also allowed for “non-time critical” action



CERCLA Cleanups

- Remedial actions –
 - Long-term cleanups meant to achieve permanent reduction in risk
- Process:
 - Hazardous Ranking Score (HRS)
 - Preliminary Assessment/Site Investigation (PA/SI)
 - Remedial Investigation/Feasibility Study (RI/FS)
 - Record of Decision (ROD)
 - Remedial Design/Remedial Action (RD/RA)
 - Five-year Remedy Reviews



Choosing the Remedy

- “Nine Criteria” of National Contingency Plan: 40 C.F.R. Section 300.430
- Key Criteria include:
 - Protect human health and environment
 - Comply with Applicable or Relevant and Appropriate Requirements (ARARs)
 - Cost
 - State acceptance
 - Public comments

Adapting CERCLA for Climate Change: Broad Strategies

- *Expand range of permissible removal actions to account for foreseeable climate change risks*
- *Select permanent remedies with sufficient resilience or hardening to resist likely climate change effects*
- *Buttress EPA and state emergency response authorities to account for climate disasters and disruption*
 - Possible expanded role for 106 orders
- *Incorporate state climate requirements as ARARs in CERCLA remedy choices*



CERCLA Liability and Climate Change: Specific Steps and Risks

- » “Climate Premium” for Cash-Out Release of Expanded liability from climate change effects (e.g., the disappearing landfill)
- » Five-year reviews and consent decree reopeners for outdated remedies or changing climate effects
- » Guidance on Use of Enforcement Powers in weather emergencies and imminent/substantial endangerments
- » Clear Rules of Liability for actions to adapt or offset climate change effects (innocent owners, bona fide purchasers, lenders)

CERCLA's Sleeping Giant: Natural Resource Damages and Climate Change

- CERCLA allows recovery for loss of natural resource damages beyond simple remediation costs
- Allows for large potential liabilities for lost use of natural resources due to spills or contamination, even if eventually restored
 - Fishing losses
 - Injured birds, vegetation, wildlife
 - Wetlands, ecosystem services
- Climate change cuts in many ways
 - Pay for restoration of resources – include repair of climate damages?
 - Pay for natural resources restoration if climate change will inevitably doom them?



CERCLA and Climate Change: Liability as an Engine for Environmental Restoration

- Liability:

- Release
- Hazardous Substance
- Caused Incurral
- Response Costs
- Consistent with National Contingency Plan

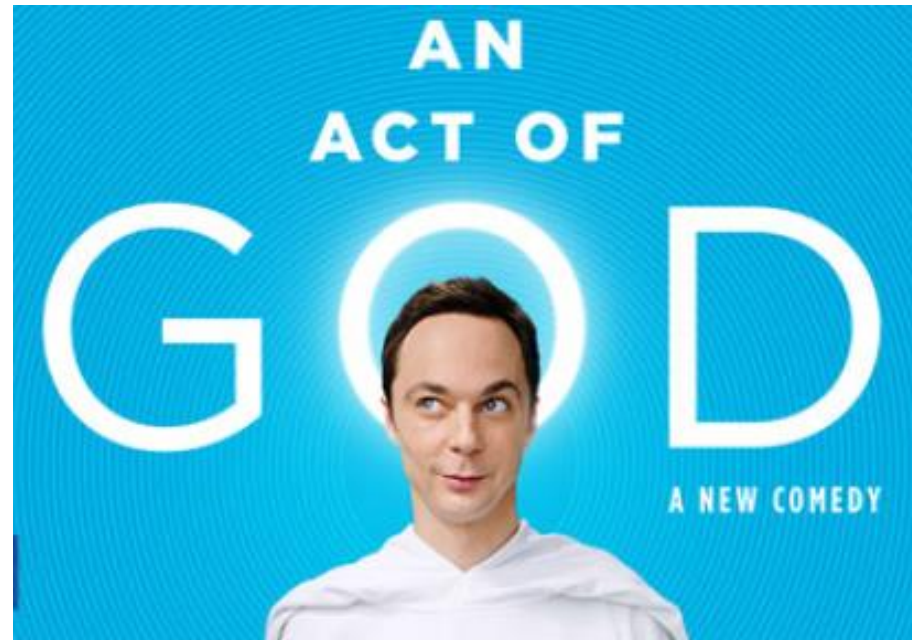
AND

- Potentially responsible party
 - Owner or Operator
 - Prior Owner or Operator if Disposal Occurred
 - Transporter who selected site
 - Arranger for treatment or disposal



Defenses to CERCLA Liability

- Act of God
- Act of War
- Act of Third Parties (with no contractual relationship)
- Or any combination of the three





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