

FracTracker



**BLOG AND DATA TOOL FOR TRACKING
IMPACTS OF SHALE GAS EXTRACTION**

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August 27, 2010

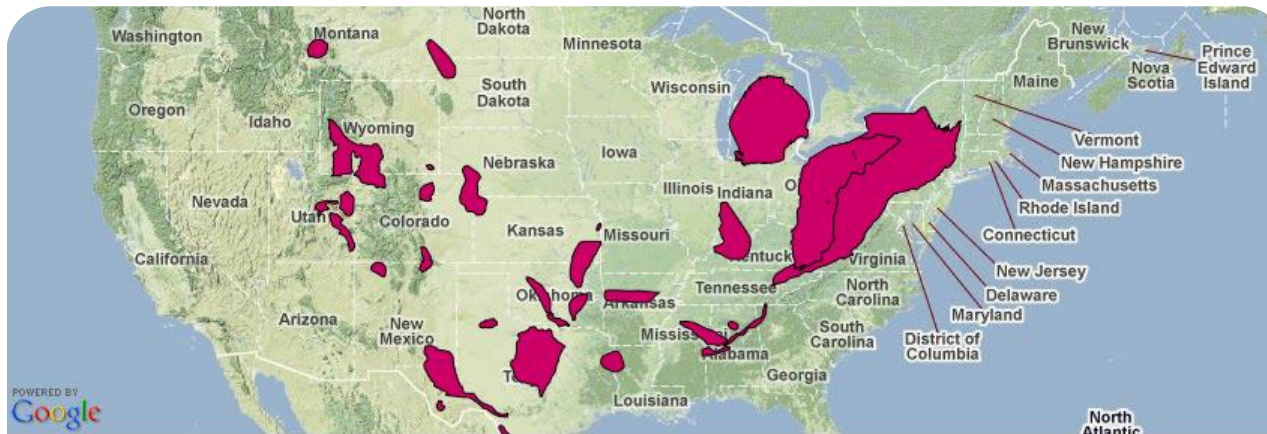
The Purpose



Manage Various Geo-located Datasets

- Environmental
- Environmental health
- Social & Behavioral Health
- Emergency preparedness
- Community & Public health
- Land use

Applications for All Shale Plays throughout U.S. & World



Center for Healthy
Environments & Communities
University of Pittsburgh Graduate School of Public Health

Shale Gas Plays in the Continental USA

<http://data.fractracker.org/cbi/snapshot/page?concept=~017807b0de9e4411dfb75fdfab0275b52>

Created by
Conrad Volz
on Aug 2, 2010

Center for Healthy
Environments & Communities
University of Pittsburgh Graduate School of Public Health

Shale Gas Plays in the Continental USA

The Theory

CROWDSOURCING
USING THE MASSES TO MAKE SOMETHING
BETTER THAN YOU COULD BUILD ALONE



Blog Features

Pages – About Us, Marcellus Resources, How FracTracker Works, DataTool, Events Calendar

Share It (Twitter, etc)

RSS Feeds – Most recent datasets from DataTool, CHEC documentary project videos, PA DEP News, Citizens' Photos

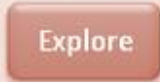
Links

Search Button

Archive

Blog Followers & Contributors

Labels/Tags from Posts



The Blog – <http://fractracker.org>

FRACTRACKER - MARCELLUS SHALE DATA TRACKING

TRACKING THE IMPACTS OF MARCELLUS SHALE GAS EXTRACTION

[Blog](#) [About Us](#) [Marcellus Resources](#) [How FracTracker Works](#) [DataTool](#) [Calendar](#)

TUESDAY, AUGUST 24, 2010

Potential Shale Gas Extraction Air Pollution Impacts

How Organic Compounds Contained in the Shale Layer Can Volatilize Into Air, Become Hazardous Air Pollutants and Cause Ozone Formation

By: Conrad Dan Volz, DrPH, MPH; Drew Michanowicz, MPH, CPH; Charles Christen, DrPH, MEd; Samantha Malone, MPH, CPH; Kyle Ferrer, MPH - Center for Healthy Environments and Communities (CHEC), University of Pittsburgh, GSPH, EOH department

The Center for Healthy Environments and Communities has received numerous requests for information on how Marcellus shale gas extraction operations might contribute to air quality problems throughout the PA-NY-WV region, how air quality problems might develop in other shale plays around the country, and the potential human exposure to specific air contaminants generated in these processes. We are addressing this question in a very thorough academic fashion now by looking at the industrial processes involved from [site clearance](#), to well drilling and [hydrofracturing](#), to gas processing and methane and byproduct [transport](#); we are developing conceptual site models of human exposure to contaminants generated by this very complicated industry with many sub-operations.

A [conceptual site model](#) is a written and/or pictorial representation of an environmental system and the biological, physical and chemical processes that determine the transport and fate of contaminants from a source, through environmental media (air, groundwater, surface water, sediment, soils, and food) to environmental receptors (humans, aquatic and terrestrial organisms can all be environmental receptors) and their most likely exposure modes (ASTM, 2008). Again, because there are many sources and types of contaminants to understand and uncover within each gas

WELCOME!

FracTracker's Blog & DataTool, (hosted by the Foundation for PA Watersheds & funded by the Heinz Endowments), provide citizens with a common place to share their Marcellus Shale drilling experiences & data. Both the Blog & DataTool are managed by CHEC.

SHARE IT

[Share this on Facebook](#)
[Tweet this](#)

This has been shared 68 times.

[Get this for your site](#)

MOST RECENT
FRACTRACKER DATASETS

[Community Impacts of](#)

Register

Splash page (screen shot right)

Free & automated using Rhiza tools (software developer)

Provide name and email address to encourage data accuracy

Can view datasets and take a tour without registering, but cannot upload or download data



DataTool – <http://data.fractracker.org>

The screenshot shows the Fractracker website splash page. At the top left is the logo for the Center for Healthy Environments & Communities, University of Pittsburgh Graduate School of Public Health. To the right are navigation links: 'MY HOME', 'IMPORT', and 'EXPLORE', followed by a search bar. The main content area features a large image of dark, layered rock with the word 'Fractracker' overlaid in a semi-transparent box. Below the image are six icons representing 'Find', 'Visualize', 'Save', 'Share', 'Trust', and 'Upload'. At the bottom of this section is a large blue button that says 'TAKE THE TOUR'. On the right side of the splash page is a registration and login form. It starts with 'Welcome to Fractracker' and 'Please sign up for an account!', followed by a 'JOIN NOW' button. Below that is a 'LOG IN' section with a lock icon, 'EMAIL ADDRESS' and 'PASSWORD' input fields, and a 'LOG IN' button. At the bottom of the form is a link for 'Forgot your password?'.



My Home

Your profile – name, contact info, & a summary of your activity

Library of datasets uploaded, snapshots created

Everything is public.

Explore

Dashboard / summary of site's recent activity

Search / sort by datasets, snapshots, users, geographic area



My Home & Explore Pages

The screenshot shows the user profile page for Samantha Malone. At the top, there is a header for the Center for Healthy Environments & Communities, University of Pittsburgh | Graduate School of Public Health. Below the header, there are navigation tabs for MY HOME, IMPORT, and EXPLORE. The profile section includes a user icon and the name Samantha Malone. A link for 'More details and comments about Samantha Malone' is visible. The profile information is organized into two columns:

NAME	Samantha Malone	MEMBER SINCE	19 May 2010
EMAIL	slm75 at pitt dot edu	DISCUSSION	0 Comments
WORKGROUPS	CHEC	CREATED	0 Collections
Position Title	Communications Specialist	UPLOADED	2 Datasets
Organization	Center for Healthy Environments & Communities	CREATED	10 Snapshots

Additional features include an 'EMAIL NOTIFICATIONS' toggle set to 'ON', a 'RATING' section with 5 stars and the text 'Rate this item', and a 'LINKS' section with a link to the Center for Healthy Environments & Communities. Below the profile information, there is a 'Library' section showing 16 items. The first item is 'PA Oil and Gas Wastewater Facilities and Water Areas' by Samantha Malone, created on Aug 14, 2010, with 0 comments. The second item is 'PA Facilities Approved to Receive Oil and Gas Wastewater' by Samantha Malone, also created on Aug 14, 2010, with 0 comments. Each item has an 'ACTIONS' button.

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My Home & Explore Pages

Center for Healthy Environments & Communities
University of Pittsburgh | Graduate School of Public Health

MY HOME IMPORT EXPLORE

Explore Data, People, and Snapshots

Explore A Specific Geography
Click the button below to search for all the data in Fractracker within a specific geographic area.

Explore By Topic Or Keyword
Type in a topic or keyword below and press submit to search through all the information in Fractracker.

SELECT GEOGRAPHIC AREA

Topic or Keyword SUBMIT

Advanced Search

Show Datasets Browse

80 Items SORT BY: Most Recent

	Community Impacts of Marcellus Shale Drilling and M... xtraction Documentary Project Interviews (2010-08-24)	☆☆☆☆☆ 0 Comments	Originator: Kyle Ferrar Uploaded by: Kyle Ferrar on Aug 24, 2010	ACTIONS
	Asthma and Myocardial Infarction Rates of SW PA Counties in 2007	☆☆☆☆☆ 0 Comments	Originator: CDC's National Center for Health Statistics National Vital Statistics System Uploaded by: Drew Michanowicz on Aug 23, 2010	ACTIONS
	National Gas Transmission Pipeline Incidents 2010 to Present	☆☆☆☆☆ 0 Comments	Originator: USDOT - PHMSA Uploaded by: Drew Michanowicz on Aug 23, 2010	ACTIONS
	Marcellus Shale Drilled Wells in PA	☆☆☆☆☆	Originator: Pennsylvania Department of	ACTIONS



Upload

Accepts ESRI shape files, GeoTIFF raster imagery, KML, CSV, or GPX

Upload from URL or computer – Can be a new, part of a series, or replacement dataset

Provide metadata

View Dataset

Preview page (shown right) – Uploader info

Visualize data, comment or rate the dataset, or download the data

Metadata



Upload & View Dataset

National Gas Transmission Pipeline Incidents 2010 to Present ACTIONS

<< More details and comments about National Gas Transmission Pipeline Incidents 2010 to Present

About This Dataset

NAME	National Gas Transmission Pipeline Incidents 2010 to Present	CREATED	23 Aug 2010
UPLOADED BY	Drew Michanowicz	DISCUSSION	0 Comments
DESCRIPTION	Data pertaining to gas transmission and gas gathering incident data. Incidents data includes: significance, operator name, location, commodity released, causes, injuries, site descriptions, minimum value for property damage, value or volume of product lost and criterion for fire and/or explosion, etc. The 2010 to present PHMSA flagged data set reports 38 total incidents across the country. Thirty Three (33) or about 87% of these incidents were reported as significant incidents.	SAVED IN	0 Collections
CLASSIFICATIONS	Infrastructure	DOWNLOADED	0 Times
		USED IN	1 Snapshot
		RATING	☆☆☆☆☆ Rate this item

VISUALIZE **DOWNLOAD**

Metadata

Description

TITLE	National Gas Transmission Pipeline Incidents 2010 to Present	AUTHOR/ORIGINATOR	USDOT - PHMSA
ABSTRACT	In the United States the Department of Transportation's (DOT) Pipeline and Hazardous Material Safety Administration (PHMSA), acting through the Office of Pipeline Safety (OPS), administers a regulatory program to assure the safe transportation of natural gas, petroleum, and other hazardous materials by pipeline. OPS develops regulations and other approaches to risk management to assure safety in design, construction, testing, operation, maintenance, and	PRIMARY CONTACT PERSON	
		Email Address	
		Main Address	



Visualize = Map the data

This is why latitude and longitude are critical

Define what you want to show on the map

Adjust the screen to zoom in on an area

Learn more about an individual record

Save session for later or create a snapshot



Visualize Data

Visualization Tool ACTIONS

MAP

POWERED BY Google

Lat: 41.70573 Lon: -85.69336

National Gas Transmission Pipeline Incidents 2010 to Present

All records

+ all values view

1 Dataset

National Gas Transmission Pipeline Incidents 2010 to Present

SHOW ON MAP:

all records as +

Search for More Datasets



Just like a snapshot you take with a camera, except this one can update automatically!

Provides information on how the snapshot is being used & what datasets were used to create it

Create a new visualization based on the snapshot

Download it

Or share it online (in pop up box to the right)



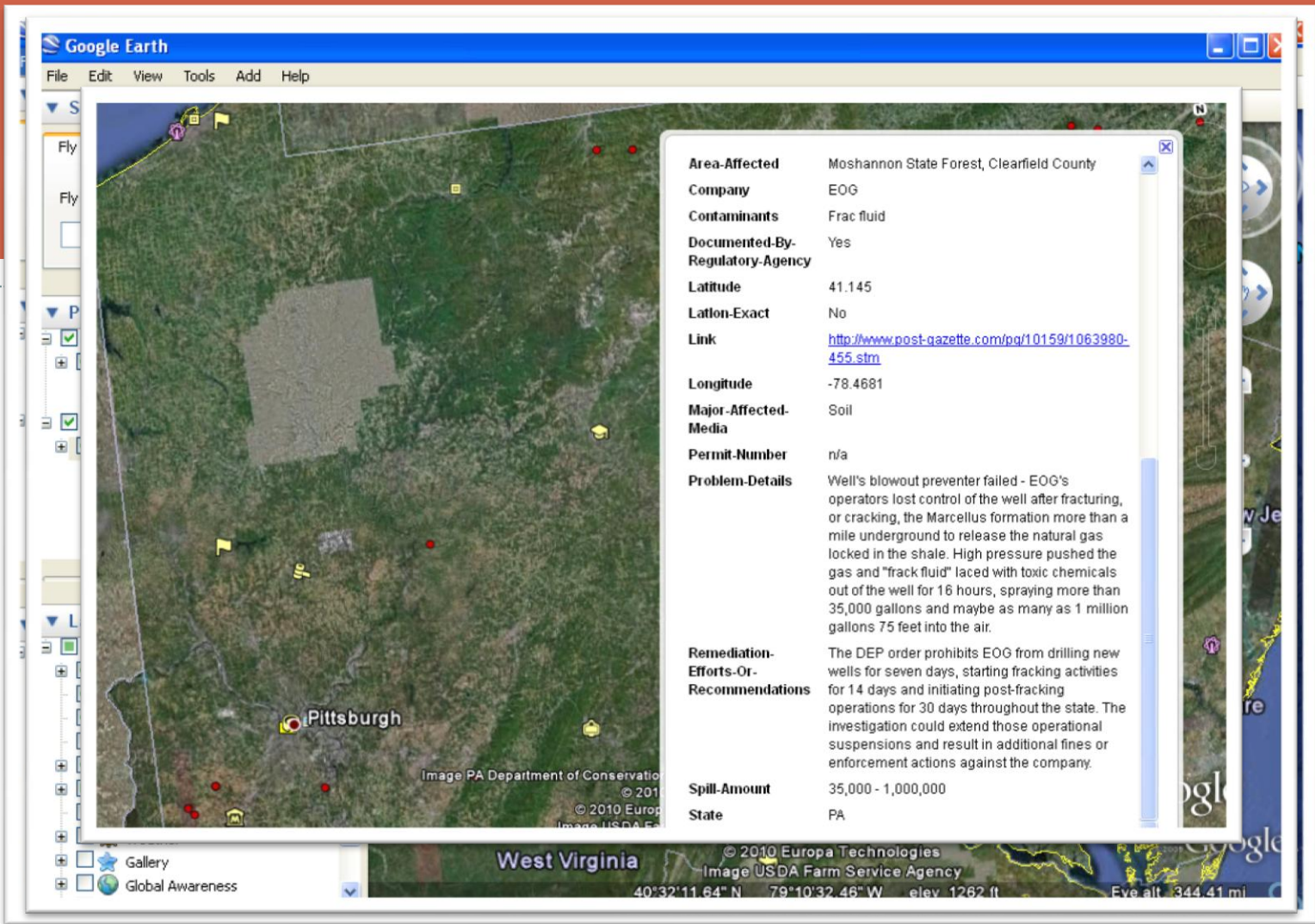
Snapshots

The screenshot shows a 'Share this Snapshot' dialog box overlaid on a map visualization. The dialog box contains the following fields and options:

- LINK:** `http://data.fractracker.org/cbi/link/WUjLbzNzNXC`
- EMBED:** `<iframe src="http://data.fractracker.org/cbi/snapshots/...">`
- THUMBNAIL:** `[Image Placeholder]`
- Options:** Include name & legend (large), Just the visualization (small)
- KML:** `http://data.fractracker.org/cbi/export/kmlSnapshot...`

The background map shows the United States with red markers indicating data points. The map is titled 'Incidents' and includes a table with the following information:

ACTIONS	
CREATED	Aug 25, 2010
DISCUSSION	0 Comments
SAVED IN	1 Collection
BASIS OF	0 Snapshots
RATING	Rate this item



Google Earth

File Edit View Tools Add Help

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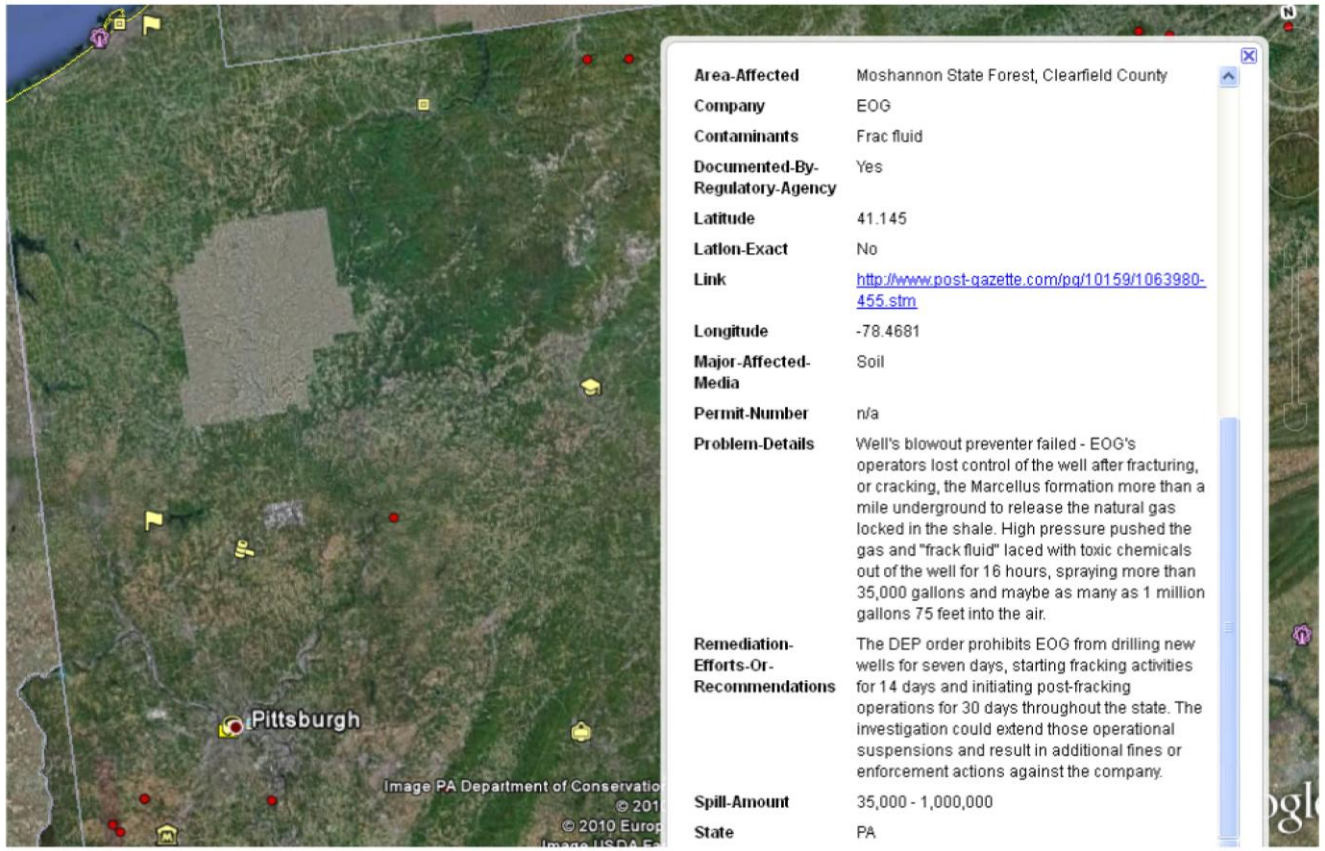
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Pittsburgh

Image PA Department of Conservation

© 201

© 2010 Europa

Image USDA Farm

Agency

Gallery

Global Awareness

Area-Affected	Moshannon State Forest, Clearfield County
Company	EOG
Contaminants	Frac fluid
Documented-By-Regulatory-Agency	Yes
Latitude	41.145
Latlon-Exact	No
Link	http://www.post-gazette.com/pg/10159/1063980-455.stm
Longitude	-78.4681
Major-Affected-Media	Soil
Permit-Number	n/a
Problem-Details	Well's blowout preventer failed - EOG's operators lost control of the well after fracturing, or cracking, the Marcellus formation more than a mile underground to release the natural gas locked in the shale. High pressure pushed the gas and "frac fluid" laced with toxic chemicals out of the well for 16 hours, spraying more than 35,000 gallons and maybe as many as 1 million gallons 75 feet into the air.
Remediation-Efforts-Or-Recommendations	The DEP order prohibits EOG from drilling new wells for seven days, starting fracking activities for 14 days and initiating post-fracking operations for 30 days throughout the state. The investigation could extend those operational suspensions and result in additional fines or enforcement actions against the company.
Spill-Amount	35,000 - 1,000,000
State	PA

West Virginia

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Image USDA Farm Service Agency

40°32'11.64" N 79°10'32.46" W elev 1262 ft

Eye alt 344.41 mi

Community Engagement – FracTracker Comments



Suggestions

- Great platform to start this database work. Not sure how exactly the general public will be able to use it.
- Add a page on the blog that summarizes the datasets available on the datatool so that unfamiliar users can access categorized information.
- More data needs to be added for drilling occurring or planned outside of PA.
- Conduct user interface testing with various user groups.

Praise

- My brain hurts in most computer situations but you made it possible for me to visit and use FracTracker in the future.
- Very excited that this tool helps to bring together diverse groups of stakeholders!
- I'm very interested to see how the tool evolves.
- The scope and successful application of technology of the FracTracker tool is fantastic. There is so much potential here.