

Empowerment for Shale Gas Communities: *Visualizing Fracking Pollution*



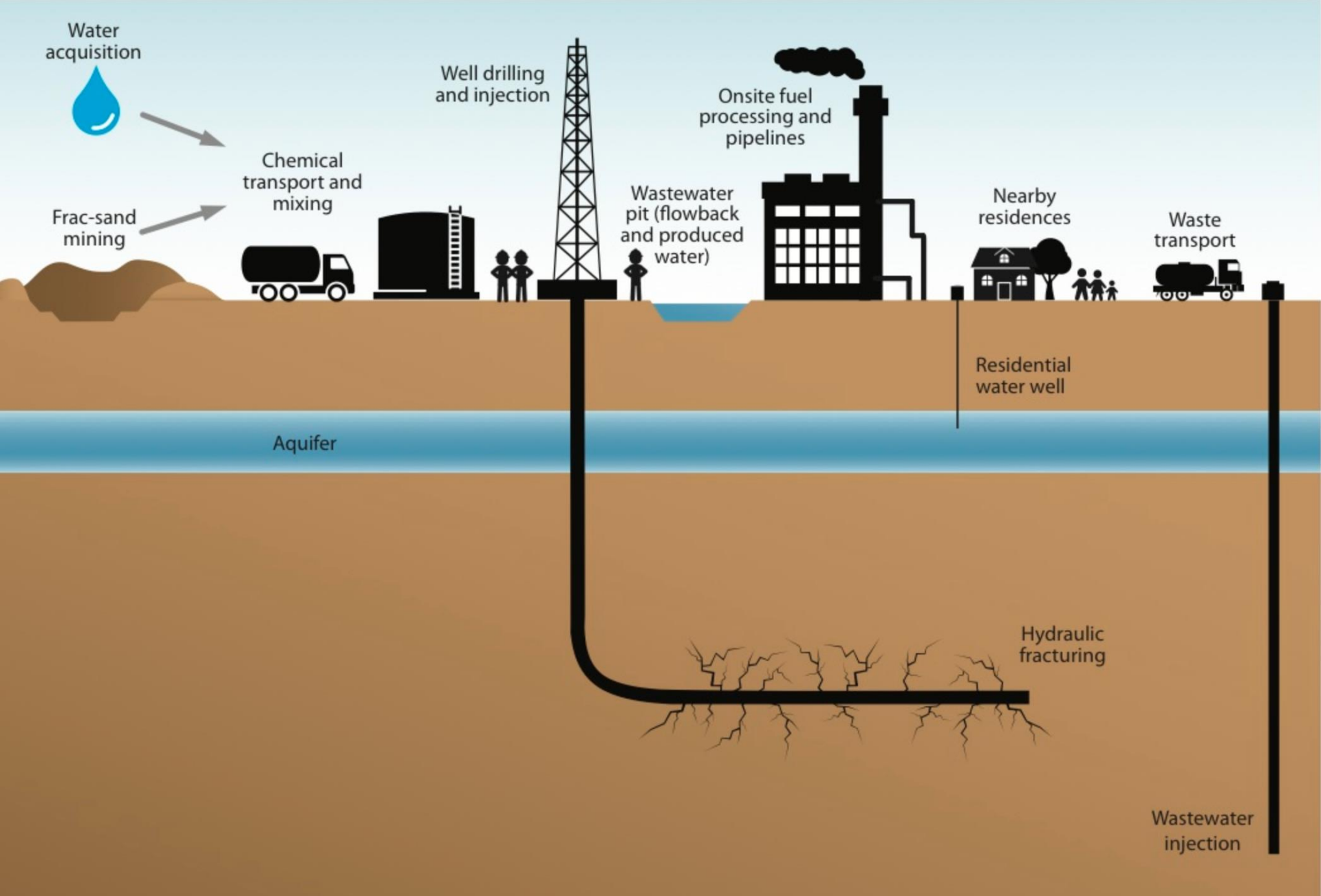
AGWG Community Organizing Summit

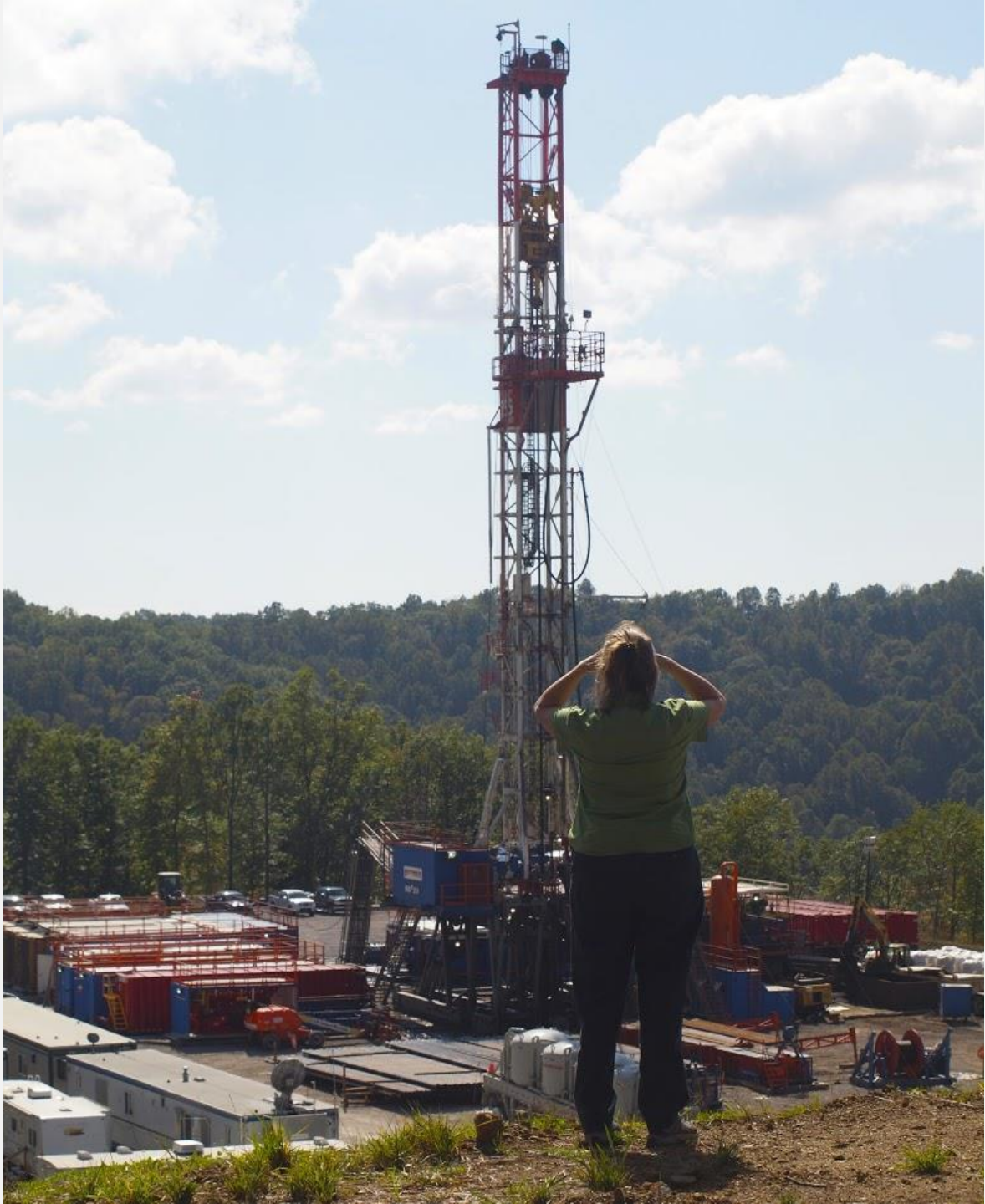
• □ April 7, 2018 • □

Leann Leiter

Pennsylvania & Ohio Field Advocate

Earthworks





















08.15.2014 19:2

What's happening where you live?

What are the main fracking-related fights happening where you live?

What are some of the challenges?





<https://youtu.be/3yVFGfr7vlc>



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Protecting Communities and the Environment
from the Impacts of Mining, Digging, and Drilling



https://youtu.be/K_6rIBJ-JSg



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The problems with fracking

- ***Environmental impacts***
 - Habitat fragmentation
 - Water contamination
 - Contribution to climate change
- ***Infringement on human rights and civil rights***
 - Use of eminent domain
 - Denial of access to information
- ***Health problems from exposures to:***
 - Contaminated water
 - Noise and light pollution
 - Stress
 - Air pollution



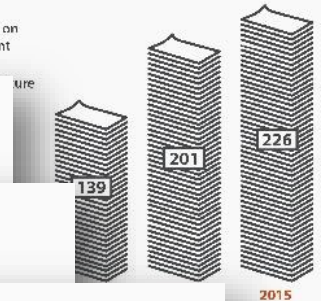
Fracking impacts: A look at the literature

THE SCIENCE ON SHALE GAS DEVELOPMENT

A Survey of the Environmental Public Health Literature

The scientific community is only beginning to understand the impacts of shale and tight gas development on human health and the environment. Many data gaps remain, but numerous hazards and risks have been identified.

685+ Current total of peer-reviewed publications on the impacts of shale or tight gas development



HEALTH



WATER QUALITY



AIR QUALITY



87%



40 studies contain findings that indicate elevated air pollutant emissions and/or atmospheric concentration.

6 studies contain findings that indicate no significantly elevated air pollutant emissions and/or atmospheric concentration

Indicate risks, or

Indicate no elevated

Indicate actual

Indicate or ation

AIR QUALITY



87%



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Fracking's air pollution

Methane – A climate-disrupting VOC 86 times more powerful than CO₂

Volatile Organic Compounds (VOCs) – Chemical gases which may have negative health effects

Other air pollution concerns include:

- Carbon dioxide (CO₂)
- Particulate matter
- Nitrogen oxide from diesel engine exhaust (NO_x)
- Creation of ground-level ozone (from NO_x and VOCs)



Air pollution pathways

Methane & VOCs emitted from:

- Oil & gas wells & equipment
- Pipelines & valves
- Compressor, pump, metering, pigging stations: move & measure gas along pipelines
- Processing plants: separate & create liquids (propane, butane, ethane)
- Engines and truck traffic
- Venting & flaring; pressure releases (blowdowns)
- Tanks and ponds



The Oil & Gas Threat Map

oil&gas 2.0
THREATMAP

THREAT MAP

PUBLIC LANDS

#CUTMETHANE

GASPING FOR BREATH

ABOUT

MEDIA



SHOW STATS & SEARCH

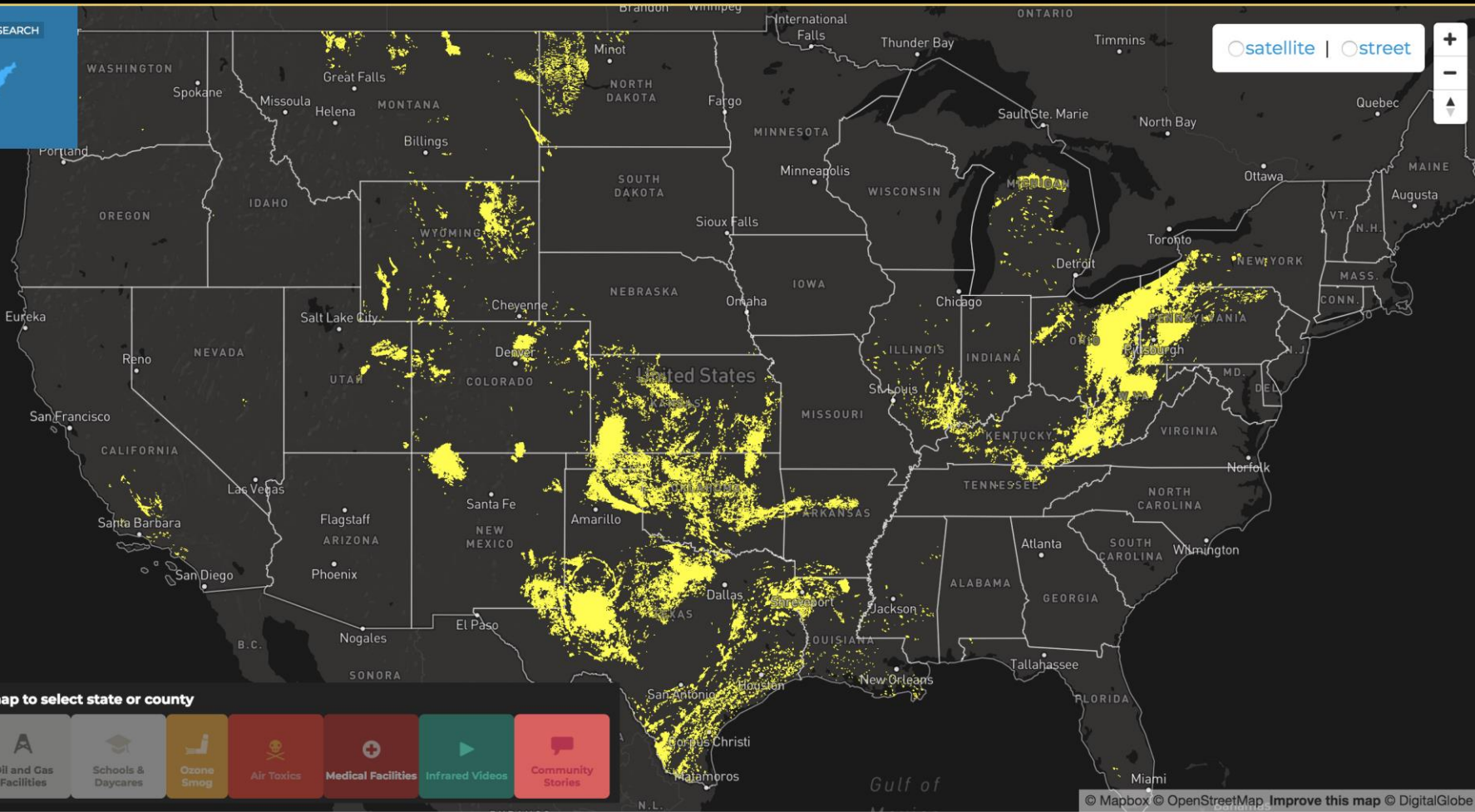


Nation

satellite | street



mapbox



Please click in map to select state or county

- Threat Radius
- Oil and Gas Facilities
- Schools & Daycares
- Ozone Smog
- Air Toxics
- Medical Facilities
- Infrared Videos
- Community Stories

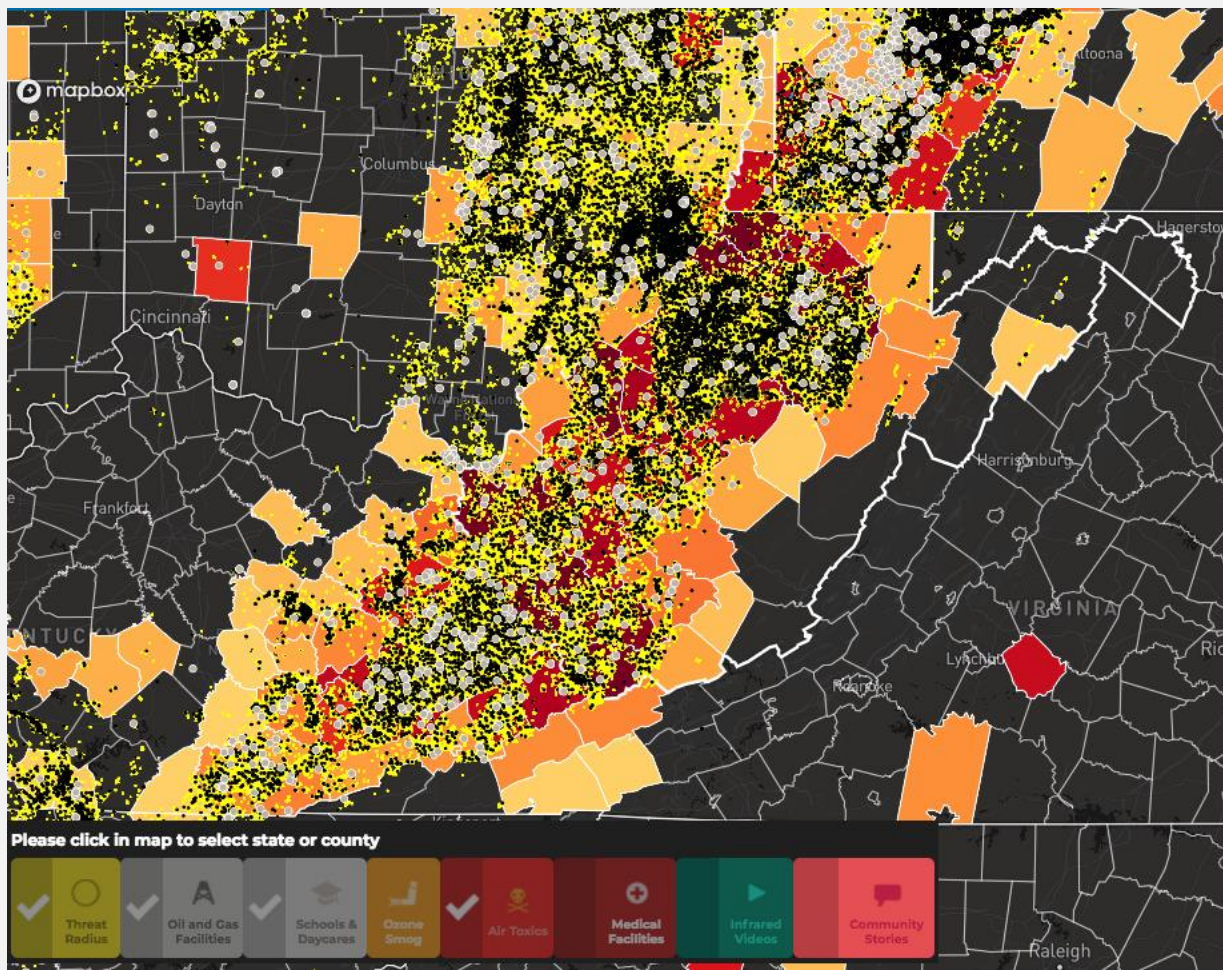
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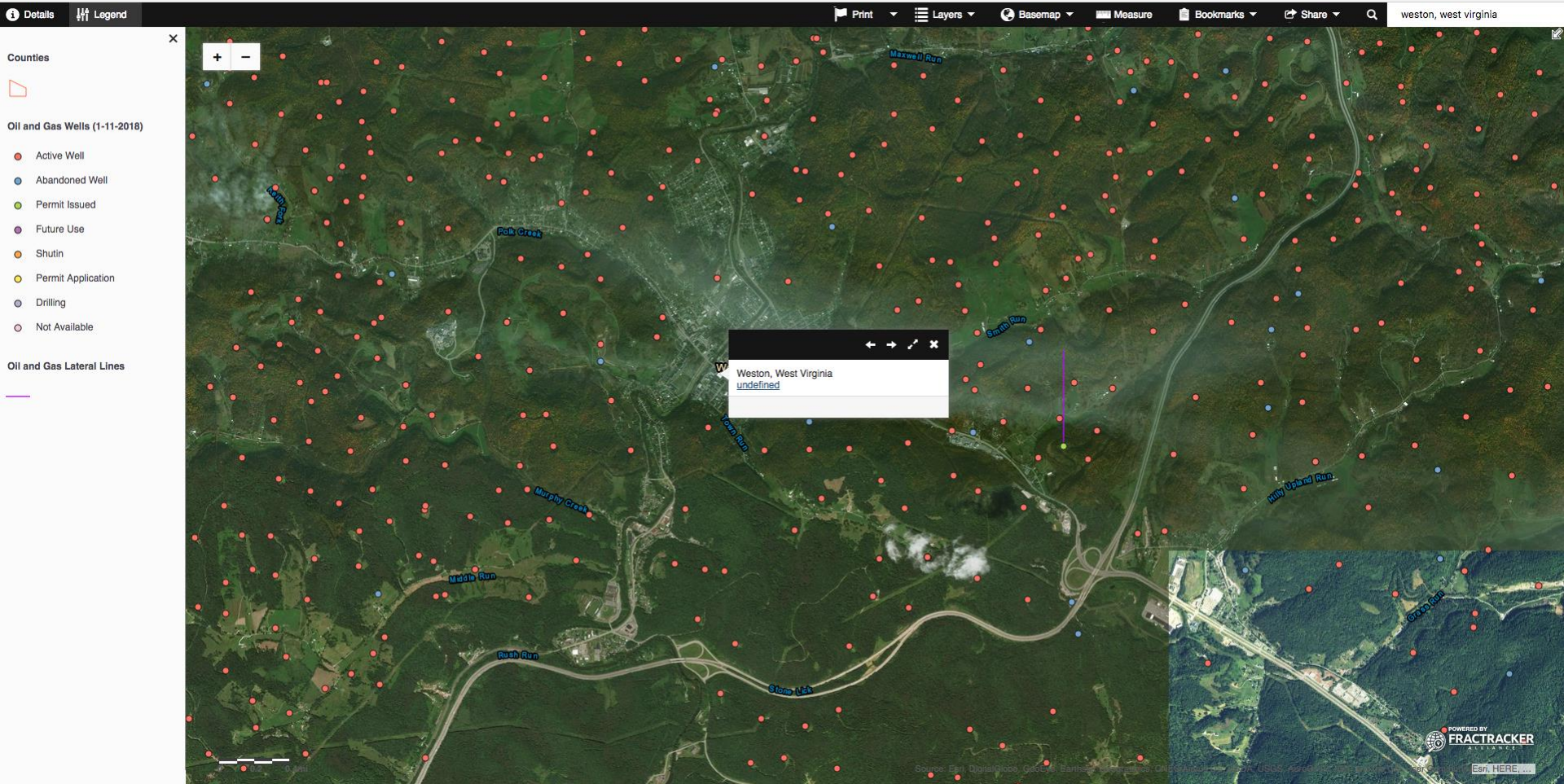
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West Virginia

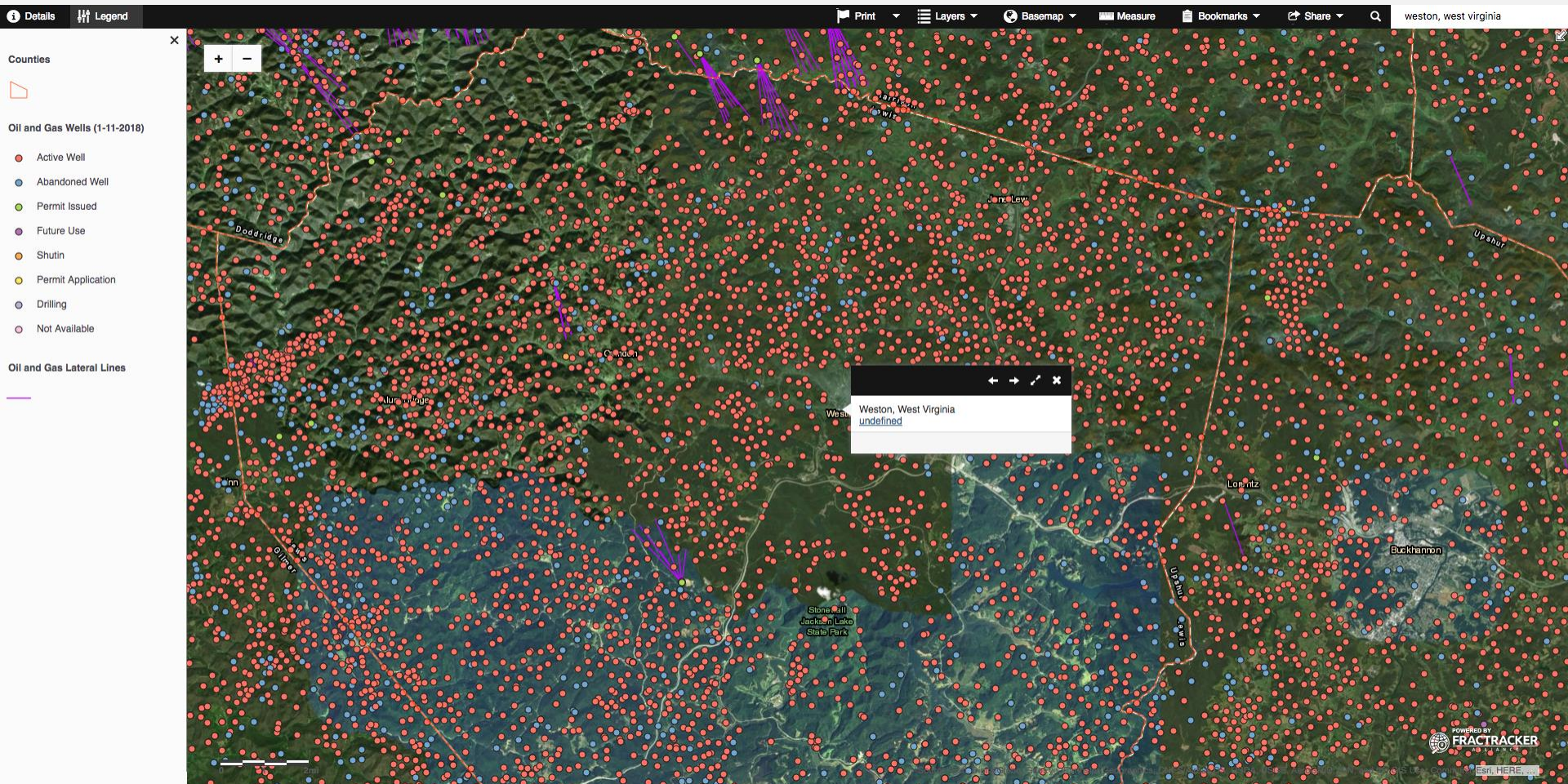


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Fracking near here?



Fracking near here?



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The Community Empowerment Project

What is empowerment?



- "It's a game-changer to expose this otherwise invisible air pollution and allow communities, residents, and neighbors to see the pollution for the first time. Oftentimes people have smelled or suspected pollution for years, but never had the proof. Earthworks' camera provides evidence, and... filing a complaint turns that evidence into real action that helps the whole community."

--Sharon Wilson, Earthworks' Senior Organizer and certified thermographer



Recent investigations

Powhatan Point, Ohio – XTO Energy Well Pad explosion and 3-week “leak”



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How it works: Some key terms

OGI = Optical Gas Imaging

FLIR = Forward Looking InfraRed, a brand of OGI camera used by regulators and gas industry.

We use model GF320

VOCs = Volatile Organic Compounds: Climate disrupting or health-harming compounds

Camera detects 20 different VOCs associated with fracking, like methane, benzene and xylene

“Temp spot” = Indicator on FLIR camera screen that helps thermographers differentiate between heat and gases





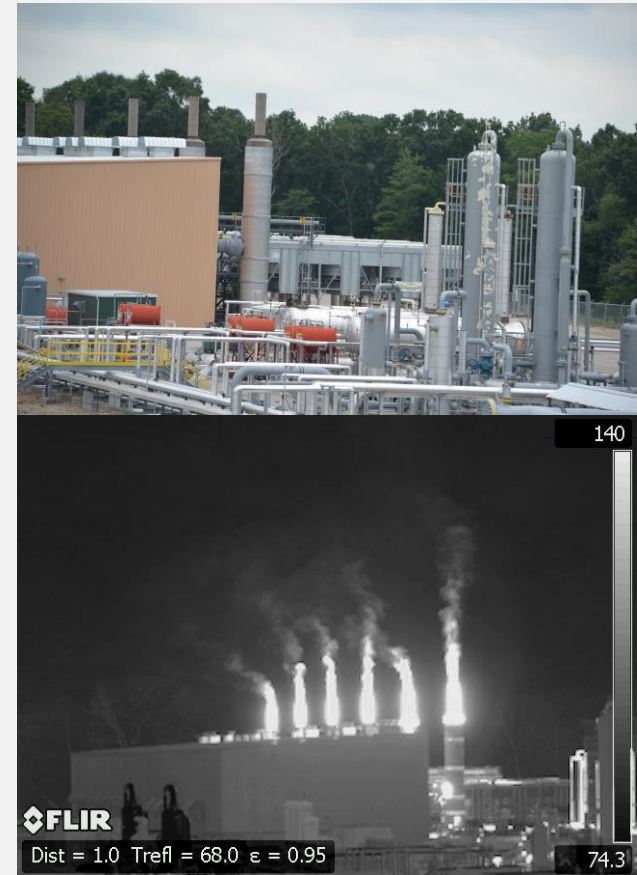
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FLIR video by ITC certified Optical Gas Imaging Thermographer
Using FLIR GF 320 camera

<https://youtu.be/wy3THzv1ISY>

Visual evidence for empowerment

- **Identify** problems (odors, health symptoms) and likely sources
- **Partner** with affected residents
- **Visit** sites, film emissions using Optical Gas Imaging (OGI)
- **File complaints** based on experiences and “hooks” in local, state, and federal rules (equipment, LDAR)
- **Document and expose** industry practices, pollution, bad actors, repeat offenders
- **Demand accountability**
 - Residents take evidence to local officials, media
 - Regulators inspect, issue violations
 - Operators required to change practices & permits = pollution reductions



What we want to give you

FLIR footage

- bit.ly/CEP-WV
- bit.ly/CEP-OH
- youtube.com/user/earthworksaction/playlists



Interview footage

- bit.ly/CEPVoces

And—we can provide video downloads so you can view without wifi!

A screenshot of a YouTube channel page for Earthworks. The main video is titled "Community Voices: Oil & Gas Impacts" and has 75 videos and 637 views. Below the video is a "SUBSCRIBE 497" button and a short link: <http://bit.ly/CEPVoces>. To the right of the main video is a list of seven interview videos, each with a thumbnail, name, location, and duration. The list includes: 1. Jane Worthington, Washington County, PA (0:50); 2. Harriett Irby, Tarrant County, TX (1:09); 3. John Fenton, Fremont County, WY (1:11); 4. Herman Hoops, Uintah County, UT (0:55); 5. Carl Erickson, Weld County, CO (1:12); 6. Kim Alexander, Garrett County, MD (1:14); 7. Sam Sage, Sandoval County, NM.

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Let's gather up and brainstorm!



Helen Lockhart/Two Oceans Aquarium



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Craft social media posts

The image shows a screenshot of a Twitter thread. On the left is the profile of Senator Bob Casey (@SenBobCasey), including his name, handle, location (Scranton, PA), and a bio. The main part of the screenshot is a tweet from Leann Leiter (@LeannLeiter) replying to Senator Casey. The tweet text reads: "Thank you, @SenBobCasey! Your strong stance on this issue means so much. I hope you've added your name to call for action on methane emissions in PA? org.salsalabs.com/o/676/p/dia/ac... @Earthworks @cleanaircouncil @CleanAirMoms_PA @SierraClubPA @EnvDefenseFund". Below the text is a video thumbnail showing a large plume of white smoke or steam rising from a dark area, with a smaller inset image of a tall industrial stack emitting a plume against a blue sky. The video is labeled "EARTHWORKS". At the bottom of the tweet are icons for reply, retweet, like, and share. On the right side of the screenshot, there is a "Tweet" button and a footer with copyright information: "© 2018 Twitter About Help Center Terms Privacy policy Cookies Ads info".



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Write an LTE

...val secretary. Even as the... the receiving end, he frantically chose the damage control course because Girija Babu is no more to coordinate the internal and external forces for the survival or dismissal of his government.

Girija Babu had an "uncanny ability". He generated both these forces of survival and dismissal together. In his first innings as prime minister in 1991, he created conditions to have the lower house of parliament dissolved when his party had a majority and two more years to go. At the fag end of his life, he had become

The prime minister... the interest of Nepal before the interest of our neighbours. Any highhandedness in the name of security and porous border will hurt the sensibility of the sovereign people. This, in turn, could spread alienation and even give rise to blind nationalism. Thus, it is not wise to make the water muddy, as it is, it is not crystallising. It surely is not in the interest of the neighbours who have to live together to cooperate and preserve each other's sensibility.

encounter... run marathons, I would've maybe... to be reminded of money first."

Although scientists have been studying pain for years, they still don't entirely understand why or how the perception of discomfort can vary so much. On a scale from one to 10, for example, one person's four might be another's eight. Even a single experience can feel more or less painful

In another... felt less distressed during a competition in which two other players threw a virtual ball mostly to each other. The game is used often in studies like these, and data clearly show that the brain's physical and emotional pain centers light up when the other players reject them. As bolstering as

filled screen of hard or...
"I always... money," she

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letters to the editor

MRP fiasco

Foreign Minister Sujata Koirala has been treating Nepal as a fiefdom inherited from her father, late Girija Prasad Koirala ("No deal," April 13, Page 6). How else could she think of violating the country's established regulations and practices by awarding the MRP contract to an Indian firm without completing the required bidding procedures? Her insensitivity towards Nepal's security concerns is proof that Koirala does not deserve to be in her current position. She should be sacked immediately, even if Madhav Kumar Nepal, who himself has come under the scanner, remains prime minister. Likewise, Indian ambassador Rakesh Sood's direction to Nepal government to take measures that would harm Nepal's national interest is insulting. His 'confidential' letter from Dec. 4, 2009 was undiplomatic and no

way to communicate with higher authorities in his host country.

While Sood may have written the letter on instruction from his superiors in New Delhi, it has hurt the sentiments of Nepalis far and wide. To avoid further loss of goodwill, New Delhi should promptly call Sood back.

Upama Adhikari
Sydney, Australia

Future course

In his analysis of the future course the Maoists are likely to steer, Aditya Adhikari concedes a fundamental truth: India has an upper hand in deciding who leads the government in Nepal ("The limitations of circumstance," April 13, Page 6). If India, as Adhikari pre-

dicts, impedes the formation of a national unity government under Maoist leadership (whichever individual is chosen to lead), it will have to share the blame for the failure to draft the constitution on time and the resulting chaos. India, vulnerable as it is to domestic threats, should focus on its own problems rather than meddling in the affairs of other countries.

Keshavraj Adhikari
Chapakot, Kaski

Maternal health

We are pleased to see that your Mother's Day edition has two major articles on maternal health ("Maternal deaths down in poor countries," April 14, Page 5; "Mothers in need," April 14, Page 7). Both are highly relevant to Nepal, which is one of the few countries on target to meet a key part of Millennium Development Goal 5: reducing maternal mortality.

Through the Green Tara Trust's materni-

ty care improvement project, we try to address the diverse and changing needs of local communities and make the best use of existing health care resources while empowering women at the same time. Helping improve existing local maternity service provisions makes it more likely that the intervention becomes sustainable. It is vital for development programmes to involve local stakeholders to ensure success, as opposed to the common approach by outside NGOs and INGOs that make decisions based on the needs that they perceive to exist.

Dr. Padam Simkhada,
University of Aberdeen, UK
Prof. Edwin van Teijlingen,
Bournemouth University, UK
Dr. Jane Stephens,
Director, Green Tara Trust, UK

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Prime Min...
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Show your elected officials

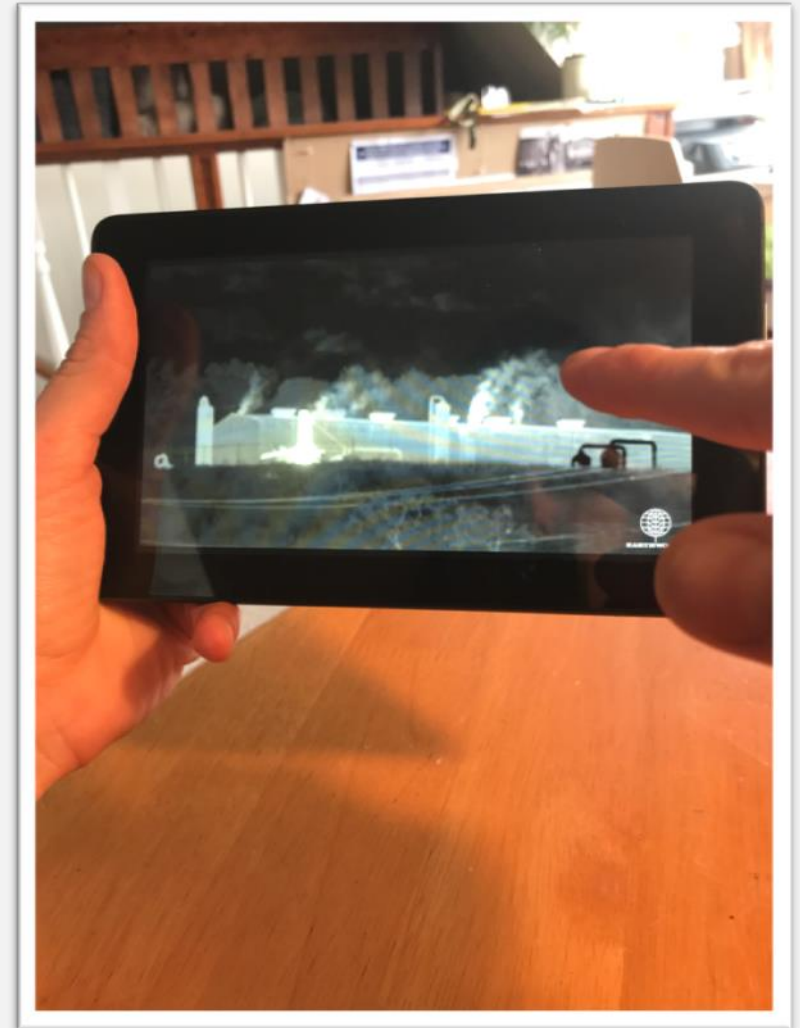


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Show the world

What other ways or opportunities could you show the footage?



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Engagement makes the difference

- OGI air monitoring = Provides evidence
- Press conferences & media = Demonstrates accountability (+shaming)
- Legislative visits = Reminder of constituent influence, sway votes
- Written comments = Builds a record, shows widespread support/opposition
- Municipal resolutions = Builds support, pushes states
- Protests = Builds solidarity, public pressure & power
- LTEs and Social media = Spreads the message quickly and easily



THANK YOU!

**Leann Leiter
Ohio & PA Field Advocate**

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@LeannLeiter**

