

les PFAS ou la pollution **éternelle**

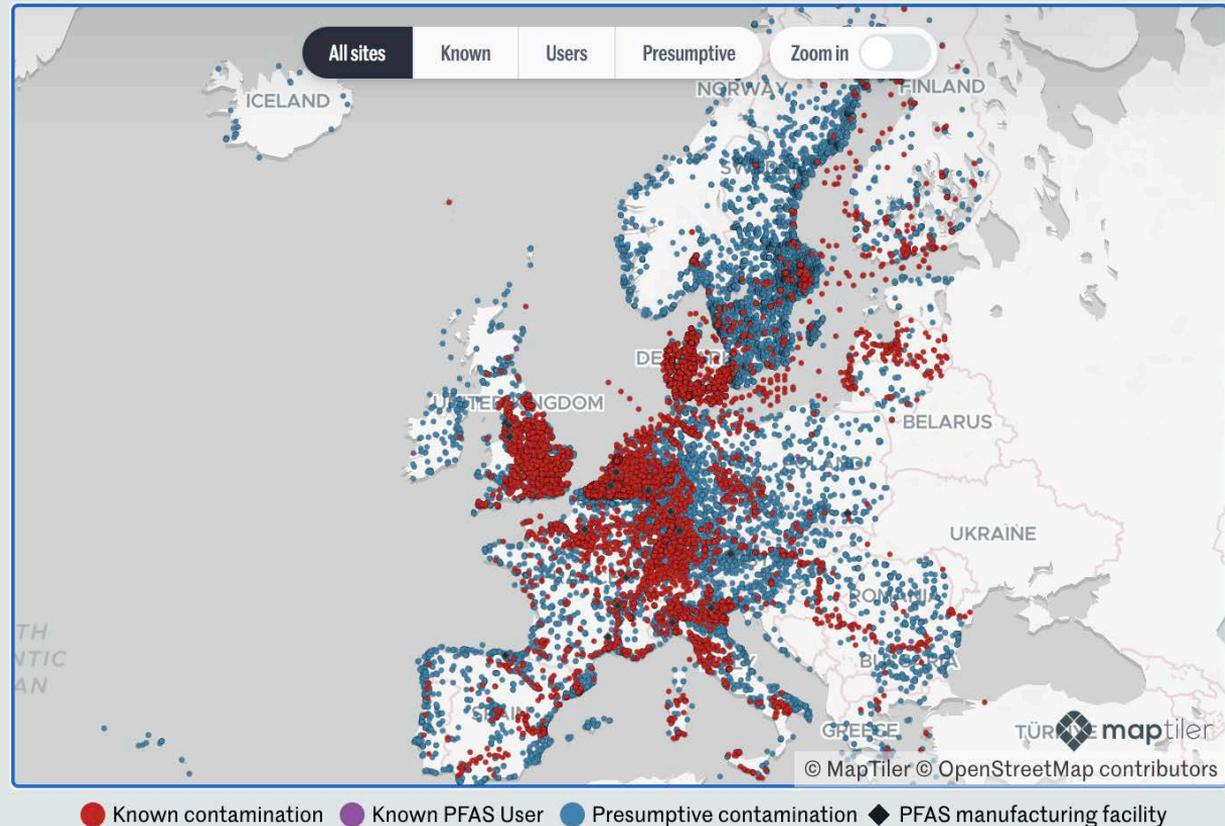
Stéphane Horel *Le Monde*

11 janvier 2024

Webinaire France urbaine



le Forever Pollution Project



Investigation cross-border

Le Monde

France

Süddeutsche Zeitung NDR® WDR®

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Belgium

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Denmark



Finland

REPORTERS UNITED

Greece

Latvijas Radio

Latvia

DATADISTA

Spain

SRF

Switzerland

WATERSHED

United Kingdom

The Guardian

12 pays, 16 media
Février-Juin 2023

Work grants



Coordination



Map design

Le Monde

Mapping partner



7 “expert-reviewers”

Sociologues

Alissa Cordner (Whitman College, Walla Walla, USA)

Phil Brown (Northeastern University, Boston, USA)

Chimistes de l’environnement

Kimberly K. Garrett (Northeastern University, Boston, USA)

Derrick Salvatore (Massachusetts Department of Environmental Protection, USA)

Ian Cousins (Stockholm University, Sweden)

Martin Scheringer (ETH Zürich, Switzerland)

Juriste spécialisée en environnement

Gretta Goldenman (Global PFAS Science Panel, Brussels)



Sites de contamination détectée

Nom ↑

- Europe | Sampling data by country
- Final Map Dataset ⚠
- Known Contamination
- Known PFAS Users
- Presumptive Contamination Sites
- Producers and users of PFAS
- 2022.07 HBM4EU | PFAS hotspots net
- Index of data sources for Map dataset
- Map | Final task list and planning 👤

Nom ↑

- Austria
- Baltic
- Belgium
- Black Sea
- Croatia
- Czechia
- Danube Basin
- Denmark
- Europe data
- Finland

aire

Nom ↑

- 2017 Boiteux Dauchy | CHEMOURS Concentrations and patterns of PFASs
- 2017 Dauchy | CHEMOURS PFASs in the wastewater treatment plant of a fl
- 2017 Dauchy | PFASs in firefighting foam concentrates and water samples
- 2019 Dauchy | VERNON Deep seepage of PFASs through the soil of a firefi
- 2019 Dauchy | VERNON PFASs in Runoff Water and Wastewater Sampled a
- 2019 Schmidt | Occurrence of perfluoroalkyl substances in the Bay of Mar
- 2019 Simonnet-Laprade | Biomagnification of perfluoroalkyl acids (PFAAs)
- Ademe Déchets base Sinoe
- Ades database
- Ades Eaux souterraines
- APRONA Aquifère du Rhin
- Georisques
- Naiades base eaux de surface

20 usines de fabrication de PFAS

Company	Town	Country
Dyneon / 3M	Gendorf	
Solvay	Bad Wimpfen	
Archroma	Gendorf	
Gore	Gendorf	
Daikin refrigerants	Frankfurt am Main	
Lanxess	Leverkusen	
Arkema	Pierre-Bénite	
Daikin	Pierre-Bénite	
Solvay	Tavaux	
Solvay	Salindres	
Chemours	Villers Saint-Paul	

AGC	Thornton-Cleveleys	
F2	Preston	
Mexichem/Koura	Runcorn	
Miteni	Trissino	
Solvay	Spinetta-Marengo	
3M	Zwijndrecht	
Chemours	Dordrecht	
Grupa Azoty	Tarnów	
Arkema	Zaramillo	

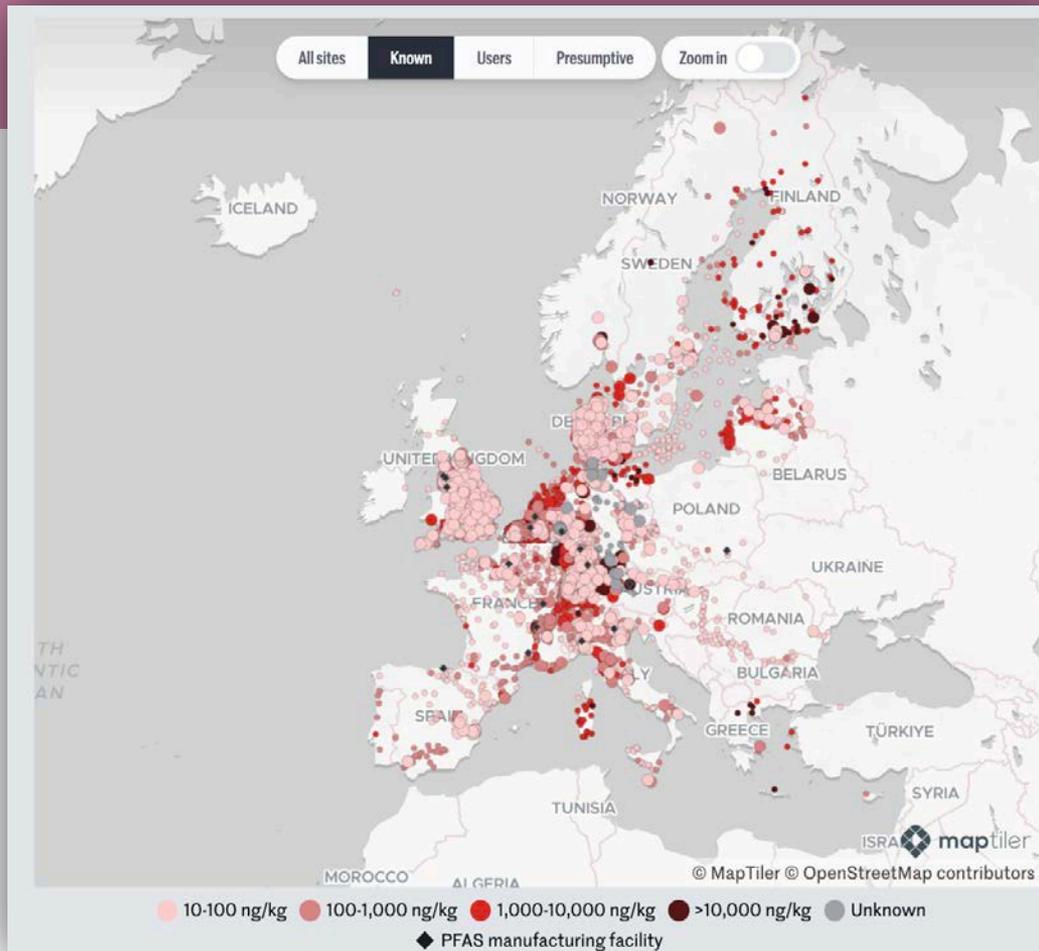
20,176 sites de contamination détectée

2,200 hotspot clusters

Valeur limite européenne
= 100 ng/l (20 PFAS)
= 500 ng/l (tous PFAS)

Hotspot selon les experts
= 100 ng/l

Valeur limite Danemark
= 2 ng/l



Adaptation de la carte de contamination américaine

Presumptive Contamination: A New Approach to PFAS Contamination Based on Likely Sources

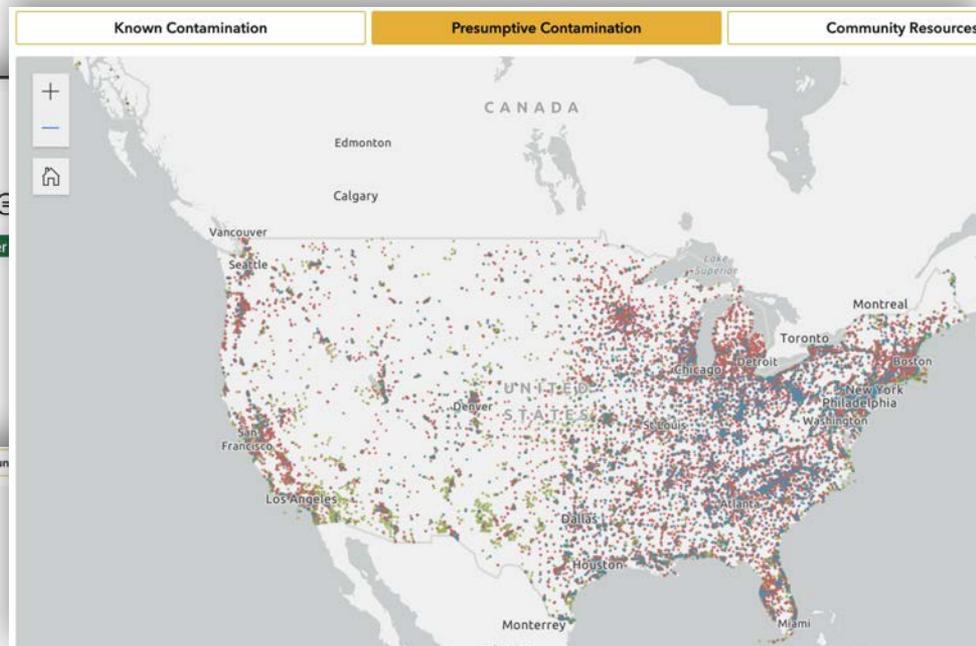
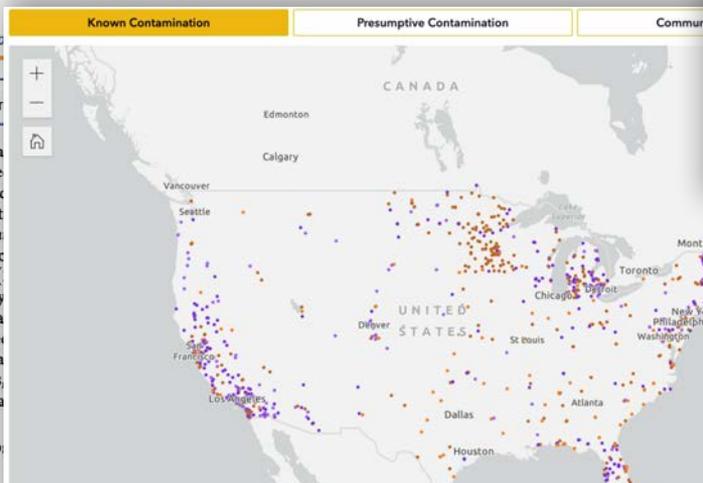
Derrick Salvatore, Kira Mok, Kimberly K. Garrett, Grace Poudrier, Phil Brown, Linda S. Birnbaum, Gretta Goldenman, Mark F. Miller, Sharyle Patton, Maddy Poehlein, Julia Varshavsky, and Alissa Cordern*

Cite This: *Environ. Sci. Technol.*

ACCESS | Metrics

ABSTRACT: While research on PFAS contamination has increased, it remains incomplete about the scale, source, and distribution of PFAS contamination in the United States. This study uses quality testing data, PFAS contamination data, and PFAS source data to identify likely sources of PFAS contamination. (1) fluorinated aqueous phase extraction (FAE) facilities, and (2) are incomplete on all three types of data. This study integrates available geocoded, national contamination sites in the United States to identify likely sources of PFAS contamination: 49,145 industrial, current or former military sites, and potential exposure sources.

KEYWORDS: per- and polyfluorinated substances (PFAS) waste and disposal



Sites de contamination présumée

**Méthodologie similaire
employée par le BRGM
pour la France**

**Sites sans résultats de prélèvements, mais présumés contaminés
sur la base d'études scientifiques et d'avis d'experts**

Presumptive Contamination: A New Approach to PFAS Contamination Based on Likely Sources

Derrick Salvatore, Kira Mok, Kimberly K. Garrett, Grace Poudrier, Phil Brown, Linda S. Birnbaum, Gretta Goldenman, Mark F. Miller, Sharyle Patton, Maddy Poehlein, Julia Varshavsky, and Alissa Cordner*



Cite This: *Environ. Sci. Technol. Lett.* 2022, 9, 983–990



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ABSTRACT: While research and regulatory attention to per- and polyfluoroalkyl substances (PFAS) has increased exponentially in recent years, data are uneven and incomplete about the scale, scope, and severity of PFAS releases and resulting contamination in the United States. This paper argues that in the absence of high-quality testing data, *PFAS contamination can be presumed* around three types of facilities: (1) fluorinated aqueous film-forming foam (AFFF) discharge sites, (2) certain industrial facilities, and (3) sites related to PFAS-containing waste. While data are incomplete on all three types of presumptive PFAS contamination sites, we integrate available geocoded, nationwide data sets into a single map of presumptive contamination sites in the United States, identifying 57,412 sites of presumptive PFAS contamination. 49,146 industrial facilities, 4,265 military sites, and 2,403

Presumptive Contamination Sites (n=57,412)



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Types de sites de contamination présumée

1– Usage de mousses extinctrices type B (AFFF)

642 sites militaires

978 aéroport

1096 sites d'entraînement lutte anti-incendie (Flandres, Suède, Norvège)

Incidents lutte anti-incendie (10,774 en Suède, 279 en Flandres)

2– Sites de traitement des déchets

2,620 stations d'épuration >3,700m³/jour

2,167 sites de traitement des déchets (décharges pour déchets (non)-dangereux et incinérateurs)

Types de sites de contamination présumée

3- 2,911 sites industriels

Industrial activity	Sites
Manufacture of pulp, paper and paperboard	1,120
Treatment and coating of metals	680
Manufacture of articles of paper and paperboard	302
Manufacture of plastics in primary forms	221
Manufacture of refined petroleum products	213
Manufacture of other fabricated metal products n.e.c.	132
Finishing of textiles	126
Manufacture of other organic basic chemicals	45
nan	45
Manufacture of rubber and plastic products	16
Tanning and dressing of leather; dressing and dyeing of fur	11
Treatment and disposal of hazardous waste	1

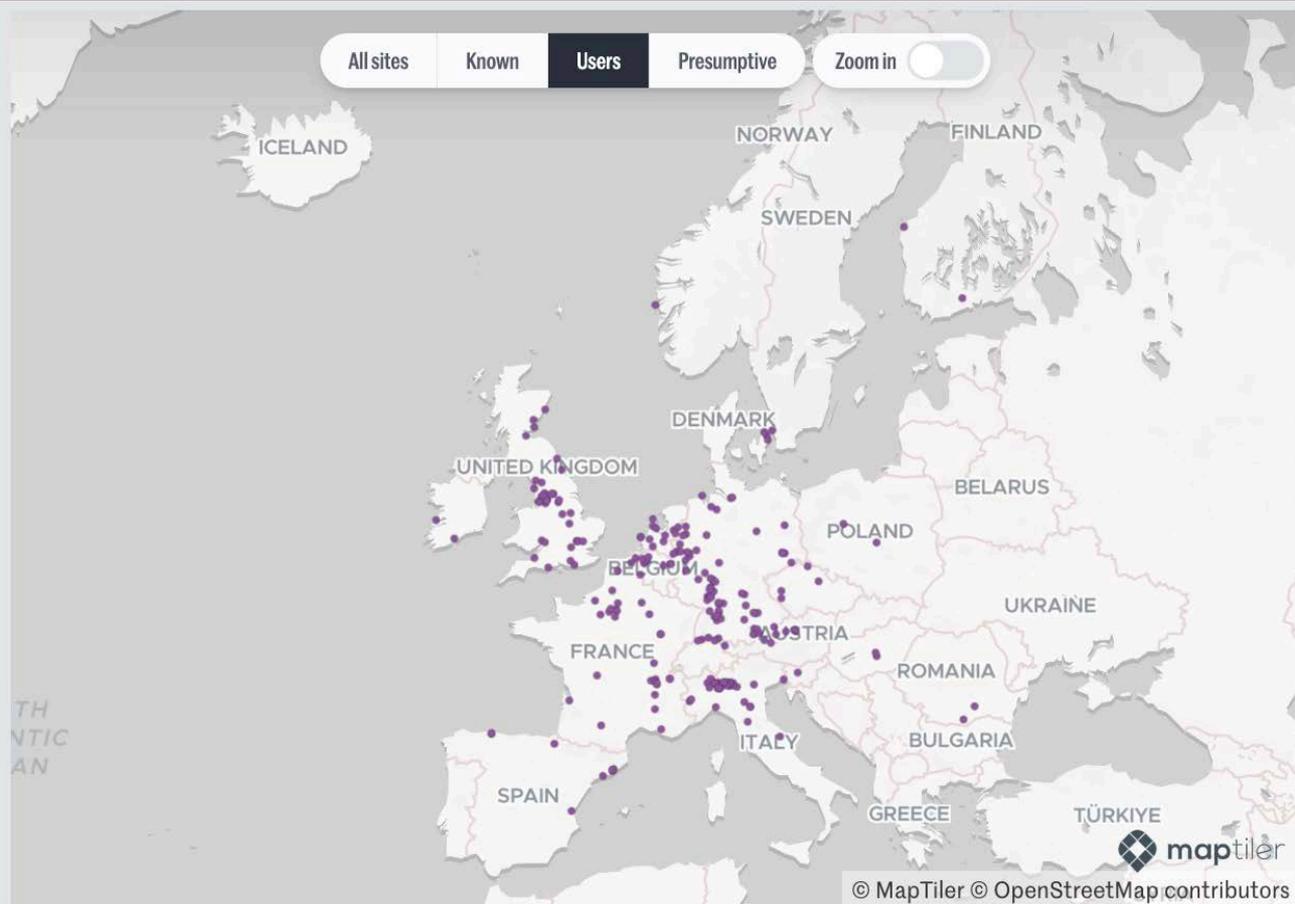
21,429 sites de contamination présumée



231 utilisateurs de PFAS

Sites où l'usage de PFAS est documenté.

= Nouvelle catégorie validée par “nos” experts et adaptée à la carte des États-Unis.



méthodologie > article dans une revue scientifique

Methodology | The Map of Forever Pollution

The Forever Pollution Project

Disclaimer

The purpose of the contaminated or like Europe.

Our primary goal is members, research contamination for th prioritised by govern the public.

This map reflects in resources. Due to th contamination is sig

5. Research methodology

5.1 Known contamination sites

5.1.1 Sites where PFAS have been detected

5.1.1.1 Research

PFAS monitoring datasets were proactively collected from national and local authorities, regulatory agencies, national and regional databases (with data collected by 136 organisations in total), research insti freedom of information requests acro

Precisely 100 datasets were collecte

– Scientific studies

We contacted scientists participating Perforce³², NORMAN network³³, Ze Scheringer (ETH Zürich), Ian Cousin



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PFAS : les chiffres

Maladie

Personnes affectées par les PFAS en Europe	15.664.255
Personnes affectées par les PFAS en France	1.992.455
Coût pour les systèmes de santé en Europe	€52–84 milliards/an

Décès

Personnes vivant à proximité d'une usine de PFAS	12.000/an (Europe)
Personnes affectées par une hypertension liée aux PFAS	10.000/an (Europe)

Source :The Cost of Inaction (2019)

<http://foreverpollution.eu>

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THE FOREVER
POLLUTION
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