

EPA Network / EEA Citizen Science Initiative CleanAir@School (Ireland)



Stephanie Long
Leo McKittrick
Pat Kenny
13th December 2019

CleanAir@School



2019 Overview



Environmental Protection Agency

January - Information gathering

WANTED!

LOOKING FOR



NAME

**NITROGEN DIOXIDE
(NO₂)**

THE SILENT KILLER



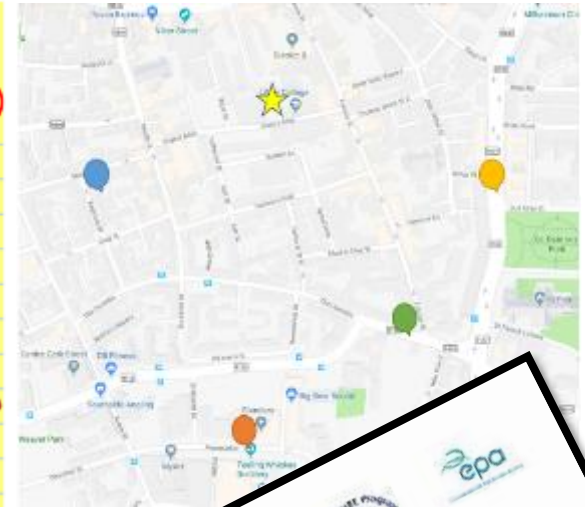
Victim File

Profile:

Risk reason:

People you know:

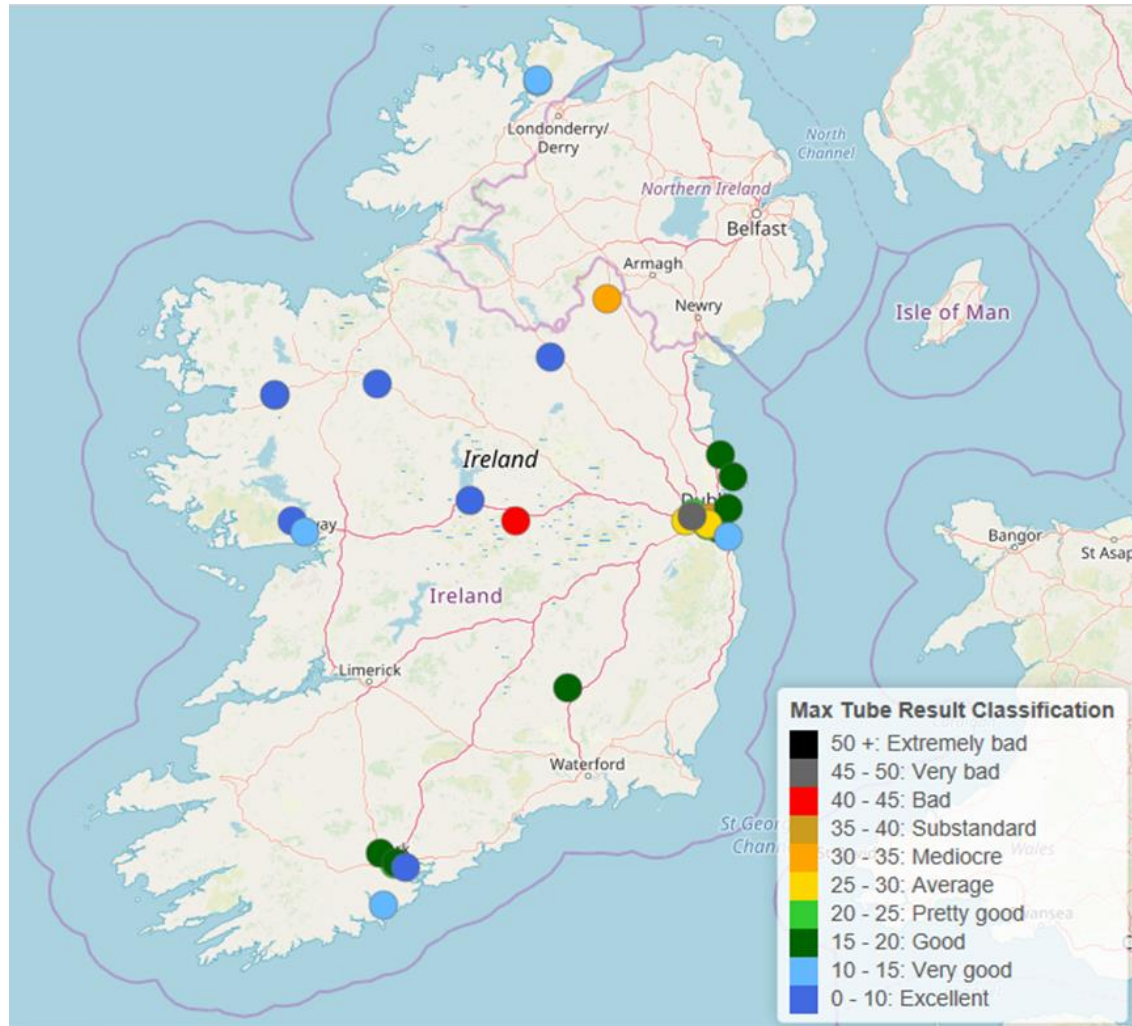
IMPORTANT



February - Measurements



March/April - Data Analysis



Traffic Zones & NO₂ Air Pollution
Kreenly Daza, Lennon Walsh, Pavel Trigub, Zinedin Labelle
Larkin Community College, Champions' Avenue, D1



Results

Water Temperature Ranges

Temperature Range (°C)	Color
18.0 - 20.0	Dark Blue
16.0 - 18.0	Blue
14.0 - 16.0	Light Blue
12.0 - 14.0	Green
10.0 - 12.0	Yellow
8.0 - 10.0	Orange
6.0 - 8.0	Red
4.0 - 6.0	Dark Red
2.0 - 4.0	Black

EPA Air Monitoring Sites

Curriculum Needs Scale



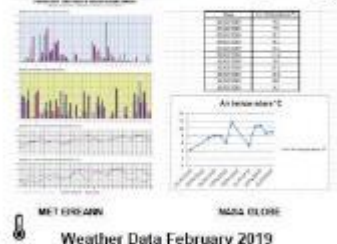
The WHO state that air pollution is the single biggest health risk and the EPA in Ireland state that 'premature deaths attributed by air pollution in Ireland is estimated at 1650 per annum'. Further complications such as an increase in air pollution in warmer weather can lead to respiratory pollution such as 'Ozone' that can cause respiratory ailments from chest pains to deadly cancer and that overall one third of deaths from stroke, lung cancer and heart disease are due to air pollution.

Larkin Community College Dublin 1



Sheltered Area Drop-off Zone Moving Traffic

Diffusion Tube Locations

EEA Air Pollution Data February 2019 

To collect this research a broad survey would also be conducted from a cross-section of the students and staff community to investigate their perceptions and needs. This information could help inform the Green Technology Committee how best to continue planning and a new school bus is a critical impact on the environment. Traffic surveys measuring the volume of traffic during set hours is one other. The funds are meant to help staff prepare to handle bus to join the future design of the city. Students mean as a project planning the design of their school community.

[illegible]

May - Reporting & Presentations



<https://www.globe.gov/web/ireland/home/overview-of-air-quality-campaign/celebration-events>



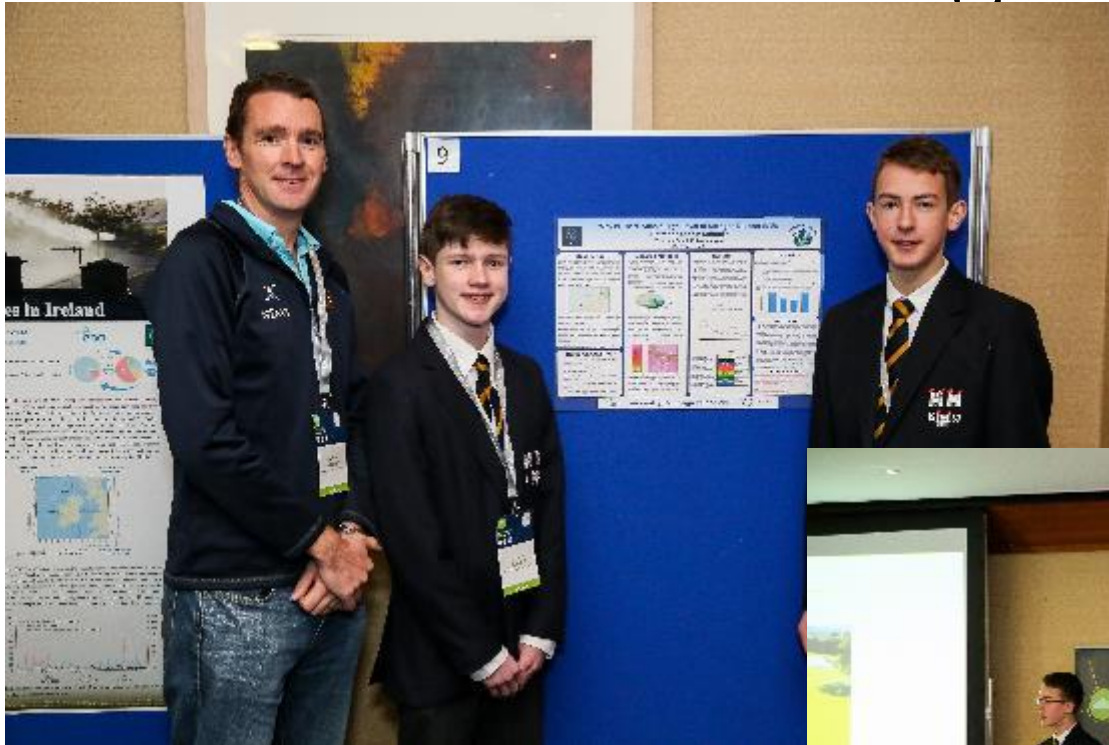
October - Measurements



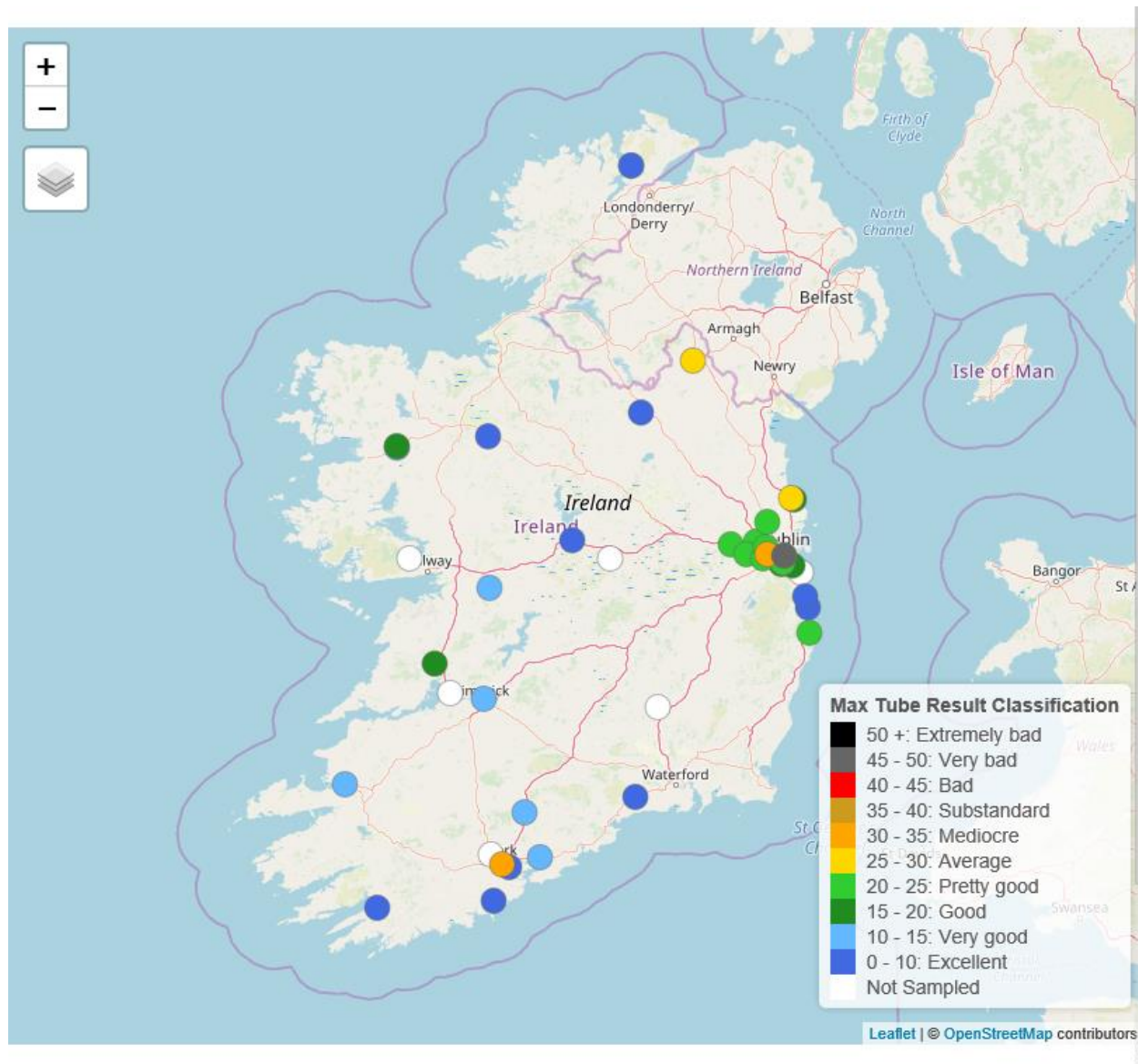
- September: liaison with school teachers
- 45 schools registered
- Data collected during 4 weeks of October
- Incorporated GLOBE Weather
- Included questionnaire re behaviour
- Results for 85% of tubes



November – EPA Annual Air Quality Event



November- Data Analysis



Valerie Flynn

Thirty Irish primary and secondary schools participated in Globe, a NASA-sponsored international citizen science project to monitor air pollution last spring. It found that average NO₂ concentrations were three times higher outside city and suburban schools than those in rural areas and small towns. Diesel engines are a particular contributor to NO₂ pollution.

Readings of more than 40mcg/m³ were recorded on



Jane Hackett of Green Schools said: "The school gate should be a place that is safe, healthy and free from cars and idling engines. However, many school gates in Ireland have high levels of the air-polluting gas NO₂.

"It is shocking to hear that one in five Irish children experience asthma at some stage, and this is linked to poor air quality. We are calling on schools to help improve their students' health."

Air pollution rose on Dublin car-free day

Large number of diverted buses doubled level of pollution on Lord Edward St

No further events planned for College Green after levels rose by 50%

DAN CRIEFFIN

DON'T BE OBNOXIOUS ON THE SCHOOL RUN

Studies have found air quality can be up to 36% worse when drivers sit in their vehicles with the engine running, reports *Valerie Flynn*



TURN IT OFF

A graphic featuring the text "TURN IT OFF" in a bold, sans-serif font. Below the text is a simple line drawing of a car. To the right of the car is a diamond-shaped road sign with a black border, depicting a pedestrian and a child walking.

[illegible]

London in 2006 by measuring concentrations of black carbon, a component of diesel exhaust (PM2.5), at pollution hotspots associated with diesel exhaust emissions. Away from busy roads, including at a school, concentrations were 20%-30% lower on the days when volunteers approached drivers of parked vehicles to ask them to switch off their engines. The effect was less noticeable in busier spots.

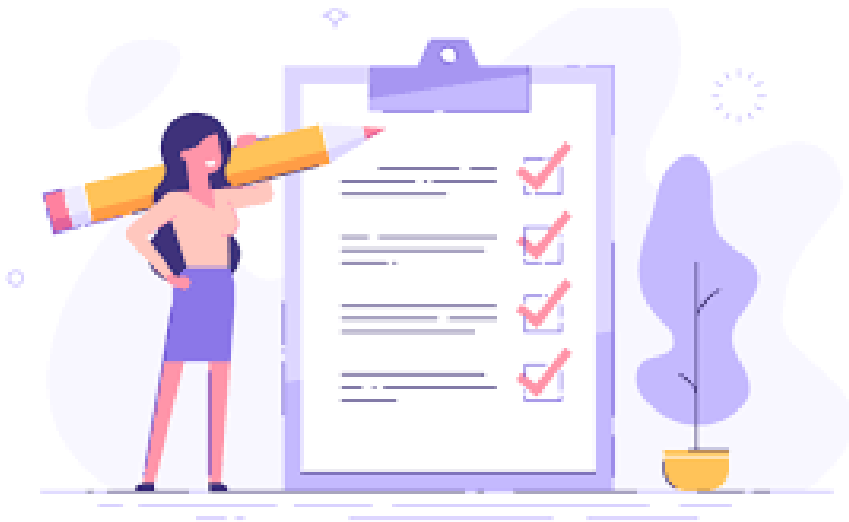
A 2003 study at Cincinnati schools also found anti-idling campaigns were effective in reducing PM2.5 at schools heavily visited by buses and passenger cars. Some schools lost more than a third of idling time, but the effectiveness of enforcing idling cutoffs, or ordered zones that the catalytic converters then clean engine exhaust flames need heat to function. That means anti-idling measures could lead to a burst of emissions

“There’s a disconnect—people think they don’t cause traffic, other people do

Media Coverage

December.

- Twinning of schools to compare data



- Schools submit projects before term end
- Behaviour change survey will be repeated

2020 plans

Continue to
grow existing
programme

Scope &
rollout broader
programme

Establishment of GLOBE protocol



Environmental Protection Agency

- <https://www.globe.gov/documents/10157/9033487/Guidelines+for+New+Protocols.Final.2013.pdf>