



# Climate Resilient Schools: Empowering Young People and Children to Implement Community-Based Nature-Based Solutions

## The Task:

### Investigate: How Spongy is Your School?

### Rainfall and Flood Resilience

In January 2023, 20 Schools across Ireland investigated rainfall patterns, soil infiltration rates, and flood-related risks and nature-based resilience-building opportunities on school grounds

### Explore: How Cool is Your School?

### Surface Temperature, Land Cover, and NBS

In March, 2023, 30 schools across Ireland measured and compared surface temperature and surface-related heat risks, investigating corresponding nature-based urban cooling solutions

These projects were developed and coordinated by GLOBE Ireland. GLOBE Ireland is part of the International GLOBE Programme, an Earth-System Citizen Science Education Programme supported by NASA. GLOBE Ireland is based in the Environmental Education Unit of the Irish NGO AnTaisce and is funded by the Irish Environmental Protection Agency.

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Learn more about GLOBE Observation at globe.gov

## The Process:

### 1) Investigate and learn from experts



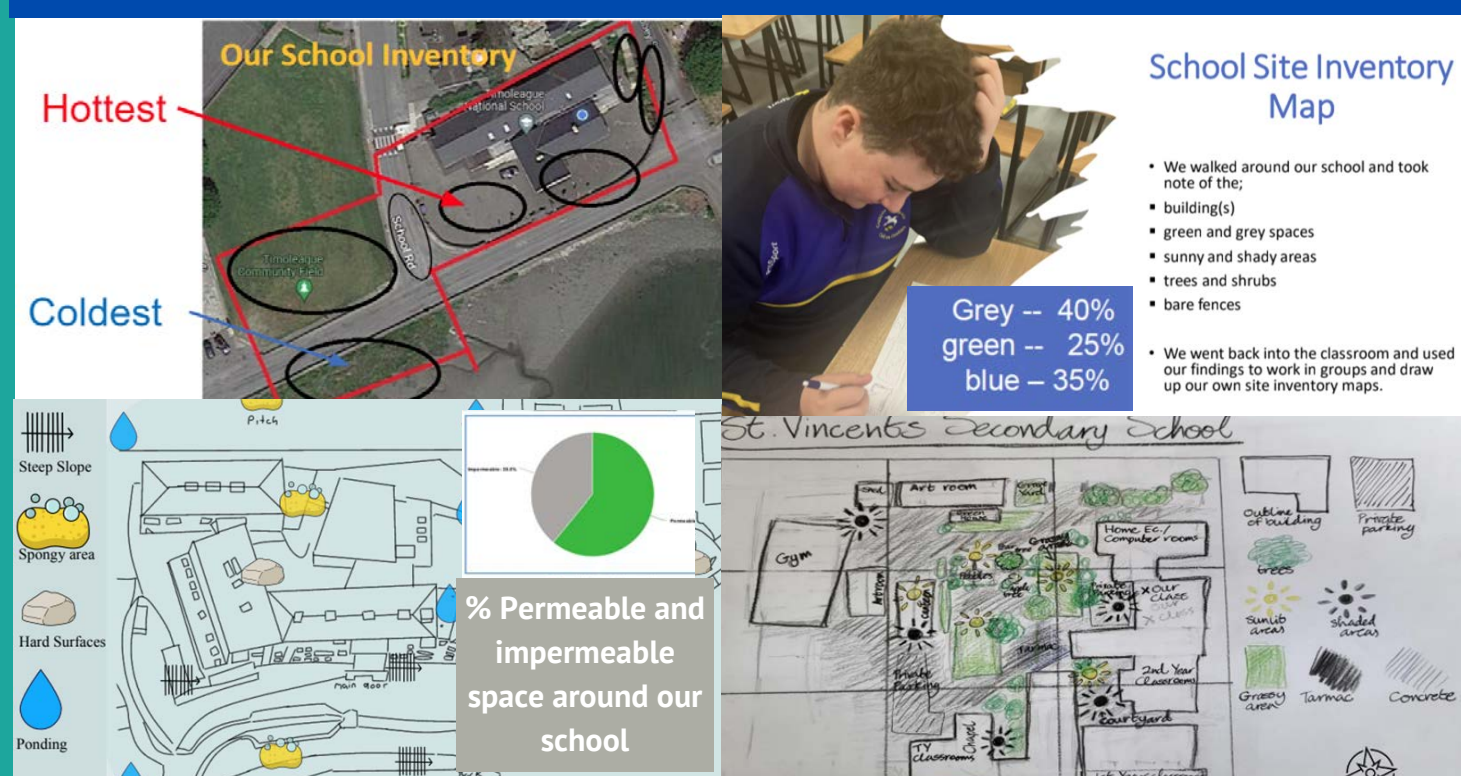
Students listened to experts representing university professors, sustainability engineers, local entrepreneurs, meteorologists, and local authorities.

### 2) Evidence-Based Earth Observation



Over a set time duration the students used the scientific method and GLOBE-approved protocols to investigate the topics. A material resource bundle was sent to all participating schools.

### 3) Site inventory and analysis



Students completed in-depth land cover analysis around the school and neighbourhood to create site inventories using a GLOBE Ireland -developed climate risk checklist. Site maps highlighted opportunities for implementing nature-based solutions.

Any questions about this project, contact: mayagryestenfields@gmail.com

## The Outcomes:

### Student-created climate-resilient school designs:

A selection created by students ages 9-16



#### Roof Garden

The roof garden can be installed on something similar in nature to a shed that is made to support the weight of the plants, water, and soil.

We could use a wildflower seed mixture that won't grow too tall, doesn't mind cramped areas, and doesn't require any maintenance beyond the initial installation.

### Proposed 'Nature Based' Solutions for our School Environment

Proposed amendments to St Vincent's School Campus

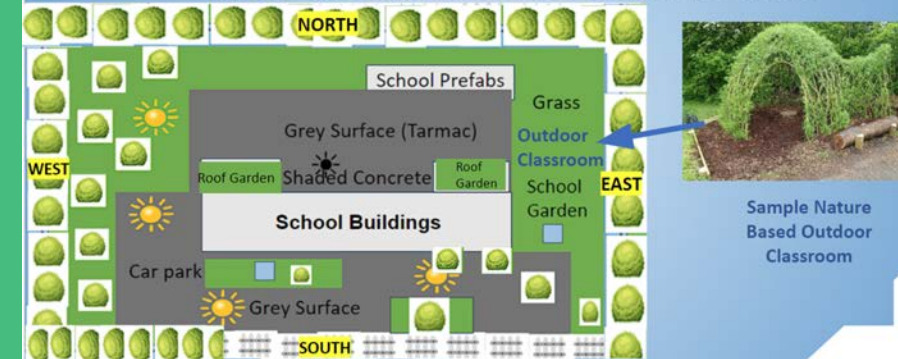


### OUR 'COOL SCHOOL' FUTURE PLAN:

- Remove some of the Tarmac
- Plant more natural growth & trees
- Add more solar panels on the roof of the school and put a brighter tile colour on the roof of the school.
- Change the Tarmac pathway that was wrapped around the school for a bright stone pathway.
- This would mean more grass pitches
- The aim would be to lower the average surface temperature for the grounds around our school.

### Our Dream Cool School Design

- Increase green spaces to cover over half the land cover.
- Add blue spaces e.g. water features - mini pond & fountain.



### Student-led Implementation underway..



Mini ponds



Mini ponds

### Local Authority Implementation Support

Upon completion of the climate-resilient school proposals, the Irish Climate Action Regional Office (CARO) and the local Water Authorities Protection Office (LAWPRO) offered to deliver a total of 7.500 EUR across 14 schools across the country to pilot the implementation of their Nature-Based Solutions. Schools will start implementing the projects September '23. Projects Include: Green Roof developments, rain gardens, ponds, tree planting, hedge planting, living walls, and permeable pavement



Rain Gardens



Nature-solutions

& more coming...