

## What If Every School in Queensland Tracked When Eucalypts Bloom?

An article by Karyne Maurmann, HOPE researcher Qld

### The Tree That Defines a Continent

There are few symbols more deeply woven into the fabric of Australian identity than the eucalyptus. With more than 800 species across the continent, these remarkable trees shape the landscape, the seasons, and the lives of countless animals that depend on them. In Queensland — from the hinterlands of Gold Coast and the forests of the Scenic Rim to the coastal margins of Brisbane and the dry scrublands of the interior — eucalypts are the backbone of the ecosystem.

When eucalypts flower, the event is anything but quiet. Koalas, gliders, honeyeaters, lorikeets, flying foxes, and a host of native bees and insects depend on this flowering for food and survival. The timing of this bloom is not random: it is a finely tuned response to temperature, rainfall, and seasonal cues built up over millennia. But that timing is now shifting — and the scientific community is only beginning to understand how, why, and with what consequences.

A comprehensive review published in 2025 in [Austral Ecology](#) examined 67 studies spanning 58 years of phenological research on eucalypts and related species across Australia. Its finding was sobering: geographical data gaps are widespread, and only 22% of existing studies used time series long enough to robustly detect shifts in flowering driven by climate change — that is, data spanning more than 30 years. Queensland, in particular, is underrepresented in the literature. In other words: we do not yet know, with any scientific rigour, how the eucalypts of Southeast Queensland are responding to a warming, more extreme climate. And that is a gap that schools could begin to close — starting today.



Example of Eucalyptus bloom. Source of image: Wikipedia Commons. Available at [https://commons.wikimedia.org/wiki/File:Eucalyptus\\_gomphocephala\\_Tuart\\_Blossom\\_%282347476596%29.jpg](https://commons.wikimedia.org/wiki/File:Eucalyptus_gomphocephala_Tuart_Blossom_%282347476596%29.jpg), May 2026.

### A Region on the Front Line

The urgency is not abstract. Queensland's climate is changing measurably and rapidly. According to the [Queensland State of the Environment Report 2024](#), the state has seen significant rises in temperature, altered rainfall patterns, and a marked increase in extreme weather events. Three out of five years between 2019 and 2023 were among Queensland's ten warmest on record.

For Southeast Queensland — the corridor stretching from the Gold Coast through Brisbane to the Sunshine Coast — the recent years have brought a succession of record-breaking extreme events that would once have been considered once-in-a-generation. They are becoming routine.

In February 2022, the region experienced what researchers have since described as the most impactful flood in Australian recorded history in terms of insurance claims, driven by saturated soils between the Gold Coast and Lismore. Between December 2023 and January 2024, another severe storm sequence struck Logan, Scenic Rim and the Gold Coast with flash flooding, landslides and widespread infrastructure damage. Then, in

March 2025, Tropical Cyclone Alfred made landfall near Moreton Island — the first tropical cyclone to strike the east coast of Australia in 51 years. Gold Coast Airport closed. Brisbane Airport shut down. Schools and universities across Southeast Queensland were shuttered. The Prime Minister declared a national emergency and deployed the Australian Defence Force. Climate scientists were unequivocal: the southward shift of tropical cyclones into previously unaffected regions is a direct consequence of climate change, and events like Alfred will become more frequent.

These are not isolated incidents. They are data points in an accelerating trend — and each one reshapes the biological landscape of the region in ways that are poorly understood, because the baseline data simply does not exist. Science tells us that extreme events — not gradual warming alone — are often the moments that reshape ecosystems most abruptly. Yet these are precisely the moments for which we have the least biological baseline data: what was flowering before? What disappeared after? What moved, and where?

### **Citizen Science: Where Communities Become the Instrument**

Citizen science — the practice of engaging members of the general public in the collection, classification, and analysis of scientific data — has grown from a niche concept into a global scientific movement. Also known as community science, it encompasses everything from backyard bird counts and water quality monitoring to detecting exoplanets and mapping coral bleaching. Its value is now formally recognised at the highest levels.

In 2025, the [International Union for Conservation of Nature \(IUCN\)](#) adopted a formal resolution on citizen science at its World Conservation Congress — the first time the organisation had done so. The United Nations 2024 SDG Progress Report identified citizen science as a key mechanism for filling the massive data gaps that threaten global sustainability reporting.

[In Australia, the movement is already substantial.](#) Around 50% of all records in the [Atlas of Living Australia \(ALA\)](#) — the country's national biodiversity repository — now come from citizen scientists. Queensland's own Chief Scientist Office actively supports citizen science through grants, teacher resources, and partnerships with universities and community groups. Yet for all this activity, long-term phenological monitoring of native vegetation — especially eucalypts — remains one of the most significant underdeveloped areas.



Science citizen. Source of image: Wikipedia Commons. Available at [https://commons.wikimedia.org/wiki/File:2015\\_Citizen\\_Science\\_%2821013737360%29.jpg](https://commons.wikimedia.org/wiki/File:2015_Citizen_Science_%2821013737360%29.jpg), May 2026.

### **The Proposal: A Statewide School Eucalypt Watch**

Imagine this: every school in Queensland — primary, secondary, urban, rural, coastal and inland — adopts one or two eucalyptus trees on or near its grounds. Once a month, students photograph the tree using a free app such as iNaturalist or a custom-built platform, and record a simple observation score:

- 0 — No buds or flowers visible
- 1 — Buds forming
- 2 — Flowers open (partial)
- 3 — Flowers open (peak bloom)

That's it. Each observation is automatically geotagged and timestamped. Over time — across hundreds of schools, thousands of trees, and decades of data — this simple protocol would generate something that has never existed for Queensland: a spatially distributed, long-term phenological record of native eucalypts, correlated with local temperature and rainfall data.

The scientific value is concrete. Research published in *Austral Ecology* has already demonstrated that eucalypt flowering is directly sensitive to temperature and rainfall variability, and that climate change is expected to alter — and in some species reduce — flowering intensity and duration. What is missing is the spatial and temporal breadth to understand these shifts at the landscape scale. A school network would provide exactly that.

For species identification, Queensland's own [WildNet platform](#) — the state government's biodiversity database — provides species distribution records that schools could use to identify the eucalypts most likely to occur near them and most relevant to monitor.

#### **Protocol in Practice: What a school observation looks like**

*Species: Corymbia citriodora (Lemon-scented Gum, syn Eucalyptus citriodora) school oval, Gold Coast*

*Date: 15 August 2025 | Observer: Year 5, Room 12*

*Score: 2 — Flowers open, approximately 40% of visible crown*

*Photo: uploaded to iNaturalist, geotagged automatically*

*Temperature that week: max 22°C, min 14°C | Rainfall last 30 days: 38mm*

*This single observation costs under three minutes of class time. Multiplied across 1,500 Queensland schools over 20 years, it becomes a dataset of national scientific significance.*

#### **More than Flowers: Connecting the Dots**

A eucalypt watch program would not exist in isolation. It naturally connects to, and amplifies, a wider ecosystem of citizen science activity already underway in Queensland. [BirdLife Australia](#) already operates extensive bird monitoring programs in Southeast Queensland, including the Powerful Owl Project and eBird, which track species distributions that overlap closely with eucalypt flowering habitats. A flowering phenology record would provide the ecological context for understanding why birds appear or disappear from certain areas at certain times.

[CoralWatch](#), developed at the University of Queensland, pioneered the school-based scientific monitoring model in Australia — demonstrating that students can generate scientifically valid, peer-reviewed data when given a clear protocol and a dedicated tree (or reef). The eucalypt watch model follows this template directly.

[Conservation Volunteers Australia](#) and Landcare networks are active across Queensland and could serve as community connectors — linking schools with landholders who have native trees on their properties, extending the monitoring network beyond school grounds into riparian zones, private land, and regional areas.

[The Australian Citizen Science Association \(ACSA\)](#) provides a national framework and community of practice for exactly this kind of initiative, offering resources, partnerships, and pathways to connect school data with formal research institutions.

At the local level, Carbon Positive Australia's Pocket Forest program — which establishes dense, fast-growing native plantings in urban spaces — could complement a school monitoring program by creating new monitoring sites in areas where native trees are sparse.

#### **Why Schools? Why Young People?**

There is a compelling educational argument alongside the scientific one. Climate change is, at its core, a challenge of long-time horizons — and young people are the generation who will live through most of it. Citizen science offers something rare in environmental education: a genuine role.

A student who photographs a flowering eucalypt in Year 5 and then, in Year 12, can look at seven years of data from that same tree — and compare it to data from 300 other schools across Queensland — has experienced science as it actually works: slow, cumulative, collaborative, and real. This is not a simulation. The data they collected matters.

International research consistently shows that students who participate in genuine citizen science projects demonstrate higher environmental literacy, stronger scientific reasoning skills, and — crucially — a greater likelihood of continued environmental engagement into adulthood. The goal is not just data: it is cultivating a generation of informed, engaged residents who understand the natural systems around them.

### Example: How to Get Involved Now

A statewide program begins with a single school, a single teacher, and a single tree. Here is what participation could look like from day one:

- Register your school's eucalypt on iNaturalist (free, available for iOS and Android)
- Photograph the tree monthly and record a simple 0–3 flowering score
- Connect with the Australian Citizen Science Association ([citizenscience.org.au](http://citizenscience.org.au)) for curriculum resources
- Contact Queensland's Chief Scientist Office ([chiefscientist.qld.gov.au](http://chiefscientist.qld.gov.au)) for introductions to researchers in your area
- Use the [WildNet platform](#) to identify which eucalypt species are recorded near your school
- Partner with local Landcare groups or Conservation Volunteers Australia for field support

For NGOs and community organisations: the role of a coordinating body is essential. A network of schools generating monthly observations needs a central platform, a data protocol, and a scientific partner to ensure the data is usable. This is exactly the kind of connective work that community organisations are uniquely positioned to do.

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*The eucalypts of Queensland have been flowering and feeding and sheltering life for millions of years. Right now, in a changing climate, those flowers are telling a story we are only beginning to listen to. Every school in Queensland has a tree. Every student has eyes. The science is waiting to be done.*

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