GEELONGPORT CITIZEN SCIENCE PROGRAM

GeelongPort

Blue Carbon Lab

DEAKIN UNIVERSITY

CONNECTING THE GEELONGPORT COMMUNITY TO CORIO BAY'S COASTAL ECOSYSTEMS AND CLIMATE CHANGE RESEARCH

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CITIZEN SCIENCE DAY

Get the most out of your Blue Carbon Citizen Science day! Read this field trip briefing for information on how to prepare and what to bring. Also, start getting familiar with the site, the research and the data collection activities.

DAY IN THE FIELD

The Citizen Science day will begin with a presentation providing insights into coastal wetland research. We will then head to Avalon Coastal reserve to collect data from the tidal marshes.

MEETING POINT

Baptcare - *Meeting Room*
45 Robin Ave, Norlane VIC 3214

KEY TIMES

Arrival to Baptcare: 7:45 am
Return to Baptcare: 3:00 pm

SCHEDULE

8:00 AM 9:00 AM	Coastal Wetland talks Incl. morning tea
9:00-9:30 AM	Travel to field site
09:30 AM 02:30 PM	Fieldwork Incl. picnic lunch
2:30 -3:00 PM	Return to Baptcare

FOOD & WATER

Morning tea and a picnic lunch will be provided during the citizen science day (please specify any dietary requirements in your registration form). Please bring your own snacks or energy bars for the field. Water will be available on-site so you can refill your bottle.

TOILETS

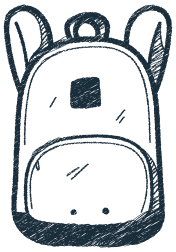
The field site does not have toilet facilities. Please use the toilet at Baptcare before departing to the field. In case of emergency, we will have access the toilets at the Abalone farm nearby.

The Citizen Science day will require walking through uneven, soft and muddy ground across the Avalon Coastal Reserve. We expect to cover approx 3.5 km.

RECOMMENDED CLOTHING & FOOTWEAR

- ☐ Closed footwear that can get muddy and wet (old shoes, diving boots, hiking boots, gumboots)
- ☐ Long comfortable pants & a long sleeve shirt (to avoid scratches, sunburn or insect bites). Rain jacket if a rainy day.
- ☐ Spare change of clean pants and shoes for your return

RECOMMENDED FIELD SUPPLIES



- ☐ Small daypack (to carry water bottle, hat, personal items)
- ☐ Hat & sunglasses
- ☐ Water bottle & snack
- ☐ Personal items in ziplock/ dry bag
- ☐ Medications (if required)
- ☐ Insect repellent & sunscreen

*Please check the weather forecast and adjust your clothing accordingly. Sunscreen, insect repellent, and water (to refill water bottles) will be available at the field site.

COASTAL WETLANDS

Coastal wetlands – mangroves, tidal marshes, and seagrasses – are collectively known as 'Blue Carbon' ecosystems. They provide a wide range of ecosystem services (e.g., carbon sequestration, coastal protection, fisheries enhancement) that help local communities mitigate and adapt to climate change.

THEIR IMPORTANCE

FAST & LONG-TERM CARBON STORAGE

Coastal wetlands are natural carbon sinks; capable of capturing carbon 30-50 times faster than terrestrial forests and locking it into the soil for millennial time scales.

ECOSYSTEM SERVICES & CLIMATE ADAPTATION

Coastal wetlands provide a range of ecosystem services helping communities adapt to the impacts of climate change. They increase coastal resilience to sea-level rise and extreme weather events, enhance biodiversity and fisheries, and provide ecotourism revenues.

VULNERABLE & DEGRADED

When degraded, coastal wetlands stop providing ecosystem services and become significant sources of greenhouse gases (methane, nitrous oxide, carbon dioxide). In Australia, coastal wetlands are mainly threatened by changes in land use and the modification of coastal hydrology.

AVALON COASTAL RESERVE

Located within Wadawurrung Country, Avalon Coastal Reserve sits 20 km northeast of Geelong. The land was originally a low-lying coastal wetland; however, it was transformed into salt ponds by the Cheetham Saltworks (operating until 2002). In 2017, Parks Victoria assumed responsibility for the management of this coastal area.

CARBON AND BIODIVERSITY GAINS FROM SALTMARSH RESTORATION

Saltmarsh restoration is widely known to enhance the scenic value of the coastline. However, the blue carbon and biodiversity benefits from rehabilitating coastal vegetation are unclear in the region.

In this research program, participants will help scientists compare blue carbon and biodiversity dynamics between areas with degraded and rehabilitated saltmarsh communities.

Results will be critical to building the case for the restoration and protection of saltmarsh for blue carbon offsets in Victoria.

FIELD SITE

FIELD SAMPLING

In the field, participants will support the following field data collection activities:

SALTMARSH CONDITION & COVER

Saltmarsh species will be identified within sampling plots, where their cover and condition will be surveyed.

SOIL CARBON STOCKS

Soil cores (down to 50 cm deep) will be collected using PVC pipes to calculate soil carbon storage.

BIODIVERSITY

To measure wildlife biodiversity we will identify and count bird and invertebrate fauna.

SURFACE ELEVATION

Using an RTK GPS, participants will measure saltmarsh elevation in relation to sea level.

SCIENTISTS IN THE FIELD

The GeelongPort citizen science program will be led by experienced scientists working with wetlands, community engagement and sustainability across Port Phillip Bay.

DR MARIA PALACIOS

BLUE CARBON LAB (DEAKIN)

Maria is the marine ecologist leading the award-winning #BlueCarbonArmy.

@mdm_palacios

DR LISA MILLS

GEELONGPORT

Lisa is the environmental engineer leading GeelongPort's Environment and Sustainability team.

@DrLisaMills

DR JACQUI POCKLINGTON

BLUE CARBON LAB (DEAKIN)

Jacqui is a marine ecologist working to measure the benefits of blue carbon restoration.

@dr_snorkel

JOHN CALDOW

BUG BLITZ

John is the director of the Bug Blitz Trust; an environmental organisation dedicated to raising awareness about the importance of biodiversity to sustainable living.

birdlife AUSTRALIA

BirdLife is Australia 's largest organisation for the advocacy, education and conservation of birds. One of their experts will join us in the field and lead bird research.

@BirdLifeOZ

POTENTIAL HAZARDS*

*See pg 10 for emergency assistance

SNAKES & WILDLIFE

Venomous snakes could be present at the site! Participants must wear proper footwear (boots) and be mindful of where they step.

Participants allergic to bee/wasp stings or insect bites should bring necessary medication (EpiPen) and alert staff before heading to the field.

WEATHER

In summer, participants should wear sunscreen and hats at all times and drink plenty of water. In winter, keep warm with protective jackets and raincoats.

TERRAIN

The terrain is mostly flat, but wet and muddy areas can cause slips and trips. Wear boots and watch where you step!

RUSHES & BUSHES

Scratches or cuts from spiky rushes or overhanging branches are very common.

Wear protective clothing - including long pants and long sleeve shirts.

KNEELING

Field activities require bending down and kneeling. Remember to keep a good posture, flexing the hips and knees, not the waist.

Also, be careful when using tools to avoid any cuts and blisters.

SAFETY

EMERGENCY ASSISTANCE

Deakin University's Blue Carbon Lab has safety protocols and emergency procedures in place. We encourage participants to exercise their best judgment with regard to their own safety and the safety of other team members.

In the event of a medical emergency, all our staff is certified to provide first aid and assist participants. There will be several First Aid kits and snake bandages on site. If necessary, an ambulance will be requested by dialling **000**.

The Avalon Coastal Reserve is located less than 25 min drive from the nearest hospital (20 km), and has a stable mobile connection and easy road access.

NEAREST MEDICAL CENTRE

UNIVERSITY HOSPITAL GEELONG
Ryrie Street, Geelong VIC 3220
(03) 4215 0000 (24H)

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PARTICIPANT RIGHTS & RESPONSIBILITIES

COVID-19

All participants MUST be fully vaccinated against COVID-19 and willing to comply with any Victorian Government COVID-19 health and safety directives whilst participating in the program.

INTELLECTUAL PROPERTY RIGHTS

We encourage you to share photos, videos, and stories of your fieldwork with family, friends, and social media. However, all data gathered are the intellectual property of Deakin University's Blue Carbon Lab. Co-opting or plagiarism of data is strictly prohibited.

DRUGS & ALCOHOL

Local regulations about the use, possession, sale, or purchase of alcohol or illegal drugs are applicable to all participants and project staff during the field trip.

DISCRIMINATION

Deakin University's Blue Carbon Lab does not discriminate based on race, religion, ethnicity, national origin, gender, sexual orientation, or any other reason prohibited by applicable law and respects participants' right to privacy.

RIGHT OF REMOVAL

Any participant found in violation of any of the policies described in this document is subject to removal from the team at his or her own expense.

GeelongPort

MORE INFORMATION

VISIT

engage.geelongport.com.au

bluecarbonlab.org/geelongport-citizen-science

CONTACTS

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