DRONE MAPPING
A DIFFERENT PERSPECTIVE

Introducing the TEC (Threatened Ecological Community) of Subtropical and Temperate Coastal Saltmarsh like you've never seen it before!

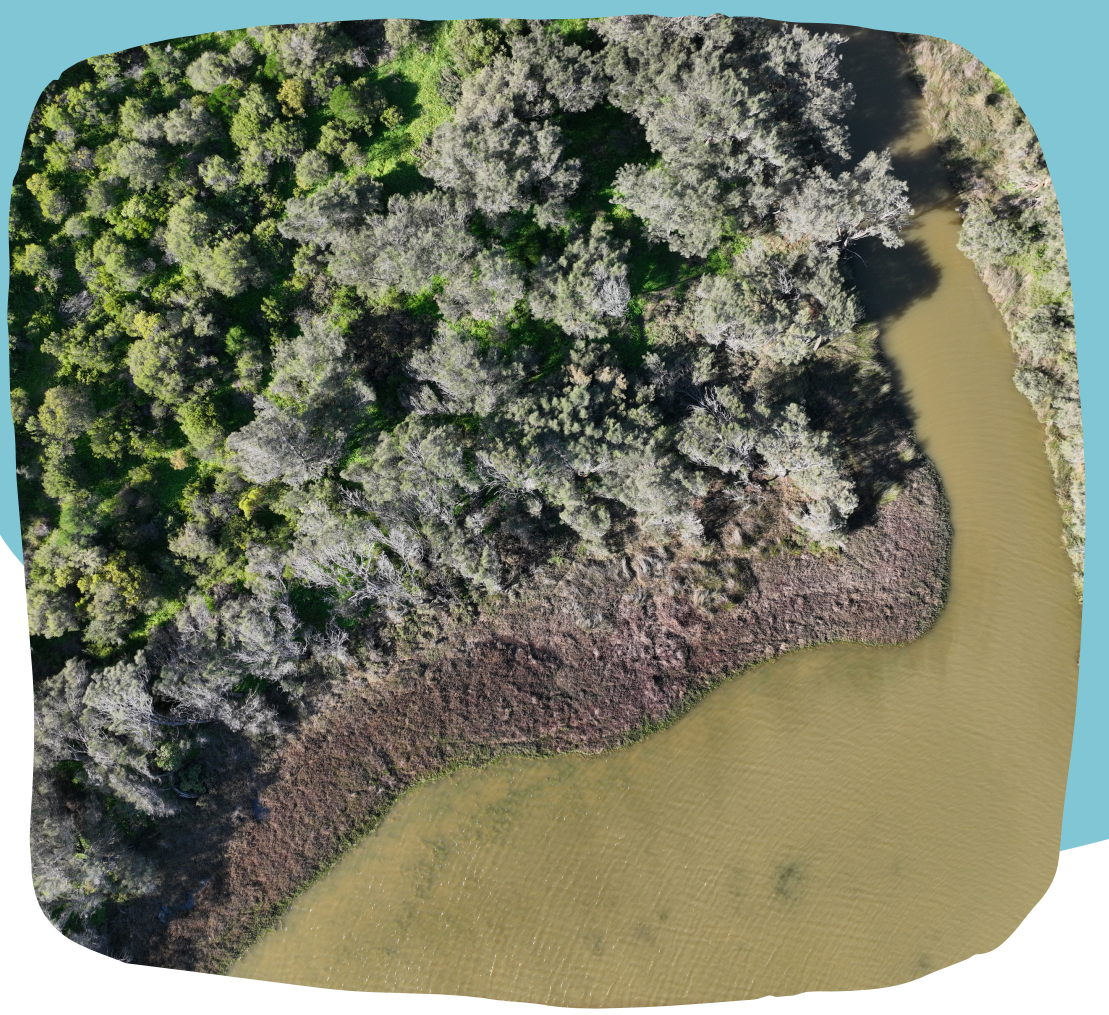
Eye in the Sky

Drone mapping technologies have come a long way in the last decade across the construction, agriculture and environmental industries, with demand for the high-definition, geo-referenced images mapping drones can provide.

Allowing easy access to areas that may be too difficult to reach on foot, drones are a practical and economical solution to quickly capturing aerial imagery of an area of interest.
Some drones are designed specifically for mapping, with built-in software that allows operators to input a pre-determined flight plan of the area that they wish to capture. With the press of a button, the drone will automatically complete the route, taking images as it goes!

Post-processing is as easy as uploading images to one of many photo-stitching programs, which create what is called an 'orthomosaic'; one large, composite image of an area comprised of many individual images.

Images are geo-referenced, meaning that the orthomosaic can be used for further GIS (Geographic Information System) analysis. This also means that accurate area or distance measurements can be made on top of the crisp, clear orthomosaic, opening up a world of new possibilities for spatial data collection!



The Deal on Drones

Drones can be a valuable tool for capturing environmental data from new and exciting perspectives, however, there are strict rules about collecting these images. For example:

- Drones must fly ≤120m and kept ≥30m away from people.
- Drones must be kept within visual line-of-sight and landed immediately if found to be a danger to interested birds (eg. birds of prey).
- Drones must be flown away from populous areas such as beaches, parks and events.
- Drones can only be flown during daylight hours (unless you posses a special licence).
- In Australia, drone operation is regulated by the Civil Aviation Safety Authority (CASA)

The Value of Drone Mapping

Mapping coastal saltmarsh with drones is a fast, cost-effective way to assess saltmarsh extent and condition. Given most areas of coastal saltmarsh TEC in the NAR remain unrecorded, drone mapping presents a perfect opportunity to put this TEC on the map!

Drone imagery can provide incredible resolution, usually ~2cm per pixel, meaning researchers are able to identify coastal saltmarsh in areas that are inaccessible on foot. It also saves time in the field, with a 15-minute flight able to capture ~20ha and a battery lasting ~45 minutes!

Drone mapping analysis programs allow for shapes and lines to be added to a map, allowing confirmation that areas of saltmarsh vegetation meet the TEC size requirements of >0.1ha.

Viewed from above, the impact and extent of pedestrian and 4WD access becomes clear, making way for the prioritisation of heavily degraded areas.
This perspective can also show the impact of weeds or litter, and helps to better determine saltmarsh extent, especially when canopy cover from trees comes into consideration (canopy cover must be <50% to be classified as the TEC).

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