

Drone use in Antarctica

Commercial vs Recreational Drones

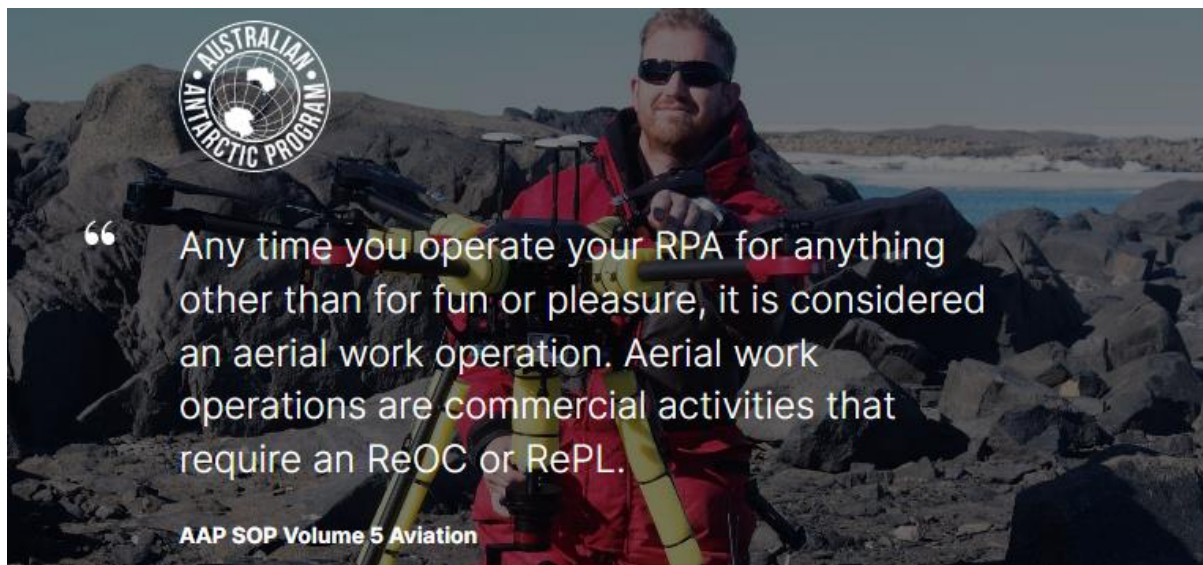
Operating drones within the Australian Antarctic Program (AAP) falls broadly into two categories:

1. Commercial RPA operations
2. Model Aircraft / Recreational drones



The term **Remotely Piloted Aircraft (RPA)** is used to reference any uncrewed aircraft used for a **commercial, operational, survey or scientific task**, and must be operated by a qualified drone pilot (RePL) under a remotely piloted aircraft operator's certificate (ReOC).

The term **Model Aircraft** is used to reference any uncrewed aircraft used for **sport or recreation** purposes only. In Antarctica, activities defined under RPA operations cannot be undertaken as a recreational drone operation.



There are a number of procedures and notifications to be undertaken pre-flight, during and post-flight to meet the **three tiers of governance** that must be complied with in order to operate safely and correctly, including:

1. Civil Aviation Safety Authority (CASA)
2. Department of Climate Change, Energy, the Environment and Water (DCCEEW)
3. Australian Antarctic Division (AAD)

The operation of all UAS within the AAP must comply with:

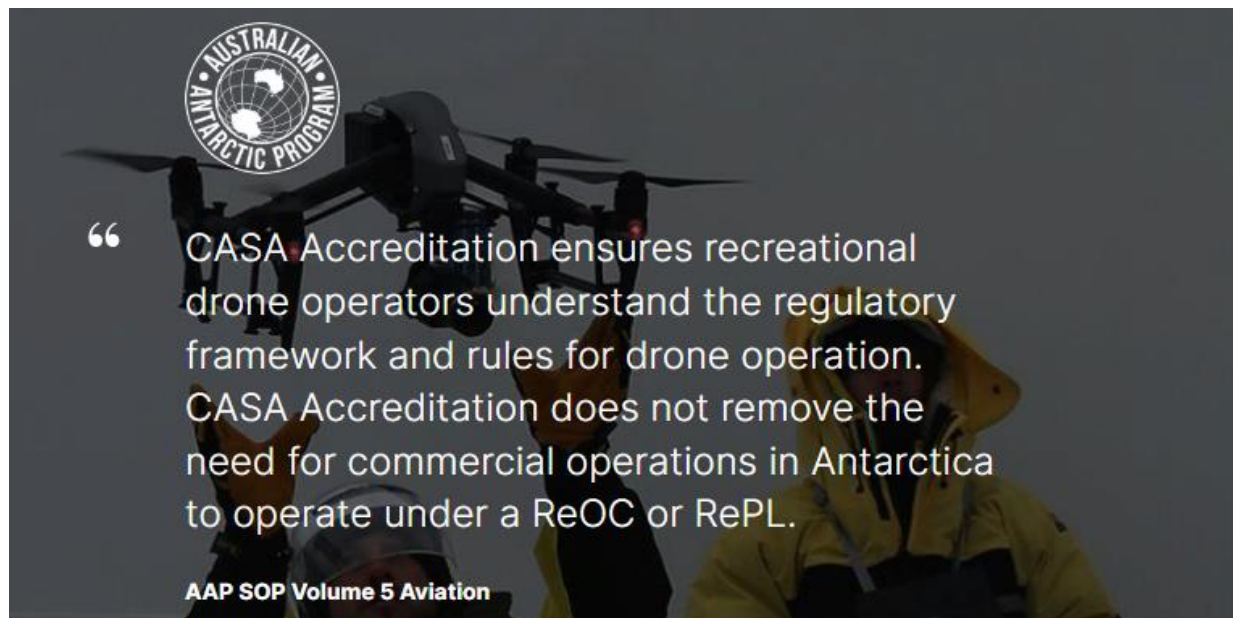
- Australian legislated rules and regulations, including any conditions on a RPA operator's certificate (ReOC) or Remote Pilots License (RePL)
- Any conditions or requirements imposed on UAS operations by the DCCEEW and Australian Antarctic Division
- Any conditions or restrictions under the environmental authorisation. These will vary depending on the classification of the UAS, the intended use and location of the operations

For more information relating to operating a drone commercially (for work purposes), refer to Operations Manual Volume 5 – UAS Standard Operating Procedures.

Civilian drone operations are currently restricted to within the 12 nautical mile territorial limit of Australian Territory, including Australian Antarctic Territory. No drone operations will be permitted outside of 12nm of the coast.

Recreational Qualifications and Requirements

All recreational / model drone operators are required to obtain **CASA Operator Accreditation**.



All drones operated recreationally, no matter the size or weight, **must be registered with CASA**. **CASA Operator Certificates** are required to be provided to the AAD prior to any recreational drone operations.

Certificates are to be emailed to: drones@aad.gov.au

CASA Rules and Operating Conditions

Drone operations are regulated under Part 101 of the Civil Aviation Safety Regulations:

- [Part 101 of CASR Unmanned aircraft and rockets\(opens in a new tab\)](#)

CASA manages the risk posed by remotely piloted aircraft operations through licencing, certification and operational rules. Different rules apply depending on the size of the drone and the operational profile.

In Antarctica the AAP uses the rules for recreational drones as the baseline for all drone operations, regardless of use and are outlined as the **Standard Operating Conditions (SOC)** in the **Operations Manual Volume 5 – UAS Standard Operating Procedures**.

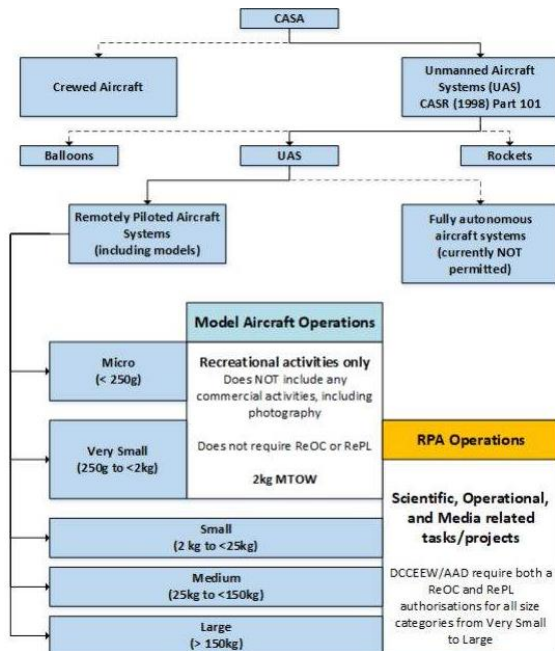
Recreational drone use is a privilege and Australia is the **ONLY** national Antarctic program that allows recreational drone use. Breaches such as flying over people, beyond visual line of sight or in an unsafe manner have occurred in past. Continued breaches of the rules will see recreational drone use within the AAP discontinued.



It is your responsibility to know and comply with all the rules when operating a drone in Antarctica.

AAD Rules and Conditions

Due to the nature of the Antarctic environment, the AAD imposes additional rules and conditions:



- All flights, commercial or recreational, are required to be approved on a day-by-day basis by the Station Leader or Operations Coordinator
- All flights must have an onsite compass calibration completed before flight and be operated in GNSS assisted mode
- UAS operations must not operate within the environmental separation distances of static wildlife concentrations without prior authorisation (e.g. environmental approval as part of an ASAC-approved science project). Dynamic wildlife, in particular, birds on

the wing, present a special case. UAS operations must be aborted if the birds present a significant risk of collision (e.g. bird attacking UAS)

- UAS operations must not occur within 100m of any environmentally sensitive areas without prior authorization (e.g. Antarctic special protected areas or Antarctic special management areas)
- Operations must not occur in wind speeds greater than that which is specified by the manufacturer. If a manufacturer's maximum wind speed is not specified, the maximum operational wind speed shall be limited to 20 km/h (11 knots)
- Operations must not occur in temperatures lower than that which is specified by the manufacturer. If a manufacturer's minimum operating temperature is not specified, the minimum operating temperature shall be set at -10 degrees C
- All drone operations are required to have a post flight debrief, conducted by the Station Leader or Operations Coordinator
- Drones are not permitted to be operated using first person view (FPV) goggles or headsets due to the possibility of a loss of situational awareness. Operations must be conducted within visual line of sight (VLOS)

Recreational / model drones are required to follow these and all standard flight rules and conditions.

Environmental Authorisations

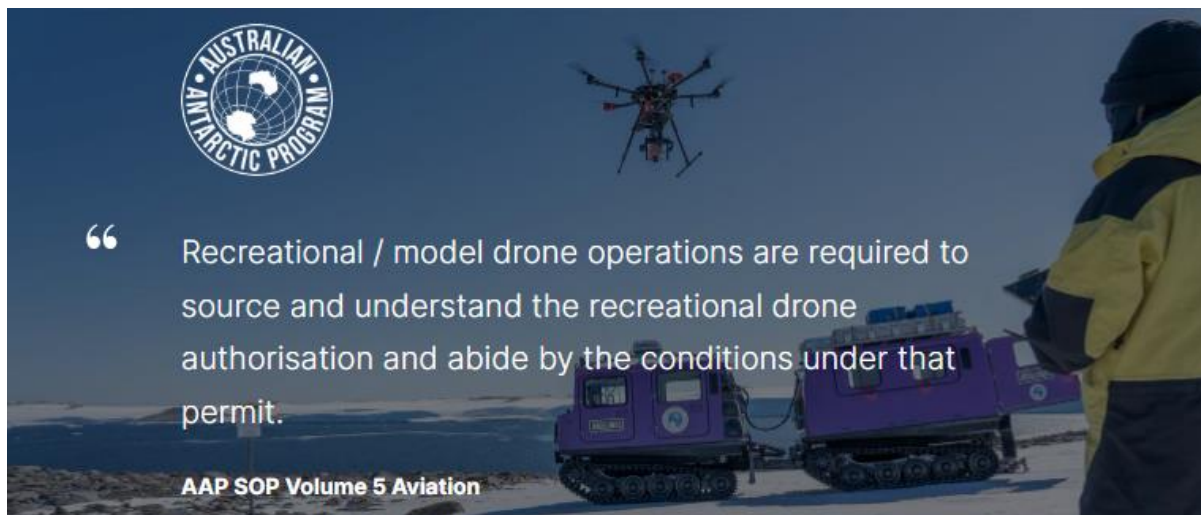
Macquarie Island

Drone operations on Macquarie Island are governed by the Tasmanian State Government. Recreational drones are not permitted on Macquarie Island.



Antarctica

Individuals wishing to fly a **recreational / model drone** are not required to apply for an environmental authorisation. Environmental authorisation is issued by the **Antarctic and Environmental Regulation Section** to the Australian Antarctic Program, which covers all recreational / model drone use. However, individuals must read and adhere to the Environmental Authorisation conditions at all times.



Strict environmental rules apply to drone operations, in particular the separation distances from wildlife and environmentally sensitive areas (i.e. Antarctic special protected areas or Antarctic special management areas).

Operating a Model Aircraft in Antarctica

Before you can fly a model aircraft or drone recreationally in Antarctica, there are a number of things you need to do.

Pre-departure

1. Ensure the drone you're planning on taking is suitable for Antarctica (e.g. capable of operating in GNSS assisted mode, meets the temperature and wind minimums)
2. Register the drone with CASA
3. Obtain CASA Operator Accreditation
4. Provide copies of your drone Registration and Operator Certification to the AAD via email: drones@aad.gov.au
5. Inform your Station Leader of your intention to operate a drone
6. Complete and provide a **Model Aircraft Preliminary Notification** to your Station Leader and send a copy to drones@aad.gov.au ([opens in a new tab](#)) and eia@aad.gov.au ([opens in a new tab](#)) (refer to Volume 5, UAS SOP, Appendix C)
7. Ensure you have downloaded and read the following documentation:
 - AAD Operations Manual Volume 5 - UAS Standard Operations Procedure
 - Drone Environmental Policy
 - Recreational Drone Environmental Authority

In Antarctica

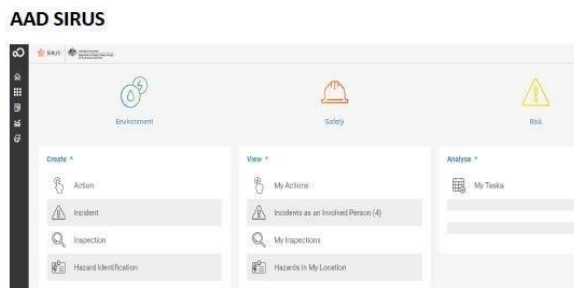
1. Notify your Station Leader (SL) or Operations Coordinator (OPSC) that you wish to fly your drone. You will need to do this before every flight, ideally 24hrs in advance
2. Prior to your first flight you will need to ensure your drone's compass is calibrated to allow for GNSS assisted operations. If the calibration is unsuccessful, you will **NOT** be able to fly unless you hold a **Remote Pilot Licence (RePL)**
3. Complete an **Air Task Risk Assessment (ATRA)** with the Operations Coordinator or Station Leader prior to every flight (an ATRA may cover a single or multiple flights in a day). Depending on when and where you're intending to fly, you may be required to

notify station comms when you start and finish your flight(s). Approval may not be given if there's an operational reason not to, such as crewed aircraft operations. This will be at the OPSC / SLs discretion

4. On completion of your flights, you will need to provide the OPSC / SL with a **UAS Post Flight Report** (Volume 5, UAS SOP, Appendix D)
5. Finally, report any **incidents or accidents** to the OPSC / SL (see Section 9.1, Volume 5, UAS SOP)

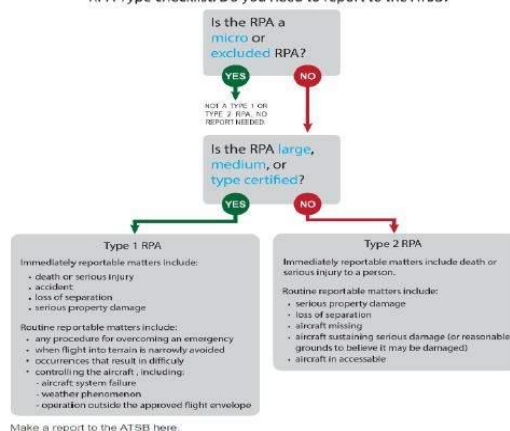
Incidents and Reporting

It is everyone's responsibility to report any breaches, incidents or accidents. All must be reported as soon as possible to the Station Leader / OPSC.



RPA checklist

RPA Type checklist: Do you need to report to the ATSB?



Make a report to the ATSB [here](#).

Incidents involving drones, recreational or RPA, must also be reported in the AAD's SIRUS / IHIS incident reporting systems. In addition, you must notify the DCCEE Chief Remote Pilot via email at drones@aad.gov.au [\(opens in a new tab\)](#)

All errors, failures, incidents and accidents must be recorded for analysis and evaluation. In addition to the above internal reporting, the Transport Safety Investigation Regulations 2021 also require the reporting of certain transport safety occurrences to the ATSB as either immediately or routine reportable matters, this includes requirements for operators of certain types of remotely piloted aircraft (RPA).

Please review Section 9.1, Volume 5, UAS SOP for more details, or visit the ATSB website for more information or report an incident:

www.atsb.gov.au/reporting-requirements-rpa

Conclusion

You must understand your obligations when it comes to operating drone.

For more information on operating drones and access to the policies and procedures, then go the AAD website - Expeditioner Hub - Important Reading - Remotely piloted vehicles (drones) in Antarctica.

www.antarctica.gov.au/antarctic-operations/expeditioner-hub/ [\(opens in a new tab\)](#)