

### 3. Securing UAV Flight

#### Securing UAV Flight Authorization and Permits in the Pacific

Flying UAVs requires a thorough understanding of local and national civil aviation regulations. Many governments now provide specific provisions for UAV operations, including permits and licenses that must be obtained before even entering the country. To learn about countries' specific requirements and rules for flying UAVs, the Global Drone Regulations Database is a good starting point.<sup>1</sup>

New Zealand regulations are the most prevalent in the Pacific. Many countries in the region base their regulations on the New Zealand Civil Aviation Authority (CAA) UAV regulatory framework (see Box 1) and modify them for local contexts. Some Pacific countries, such as Fiji, take a hybrid approach and reference aspects of Australian regulations along with New Zealand's. **In general, familiarity with New Zealand or Australian regulations will be beneficial for UAV pilots planning to fly in the Pacific region.**

The Airshare website<sup>2</sup> offers an excellent entry point to learn about regulations in New Zealand's controlled airspace. In addition to an online learning module, Airshare also provides a decision tree (1) that allows UAV pilots to navigate through the different conditions under which the UAV flight is being planned and thus identify the approvals required to fly under those conditions.

In many countries, flight authorizations are granted relatively easily if flights are conducted within the visual line of sight in uncontrolled airspace where there are least restrictions, and below 400 ft (or 120 m). For the simple flight authorization, UAVs should weigh less than 15 kg; should stay clear of all manned aircraft, persons, and property; and should remain outside of airspace restricted areas and the 4 km radius of any aerodrome – flying under these conditions makes the flight qualify under the Part 101 rules under New Zealand regulations. In Tonga, pilots operating under these conditions can fly once the UAV is registered with the Tongan CAA without requesting authorizations for each flight.

If a flight goes beyond the Part 101 rules (e.g. fly above 400 ft), the pilot and their organization must apply for Part 102 exposition. For the field testing in Tonga, a Part 102 exposition was obtained to fly above 400 ft and in controlled airspace. Details on how to obtain Part 102 expositions can be found on Airways website<sup>3</sup>.

#### **Box 1. New Zealand CAA Part 101 Rules for Persons Operating Gyro gliders and Parasails, Unmanned Aircraft, Kites, and Rockets**

1. They may not operate an aircraft that is 25 kg or larger, and they must ensure that it is safe to operate.
2. They must at all times take all practicable steps to minimize hazards to persons, property, and other aircraft.
3. They may fly only in daylight.
4. They must give way to all crewed aircraft.
5. They must be able to see the UAV with their own eyes (i.e., not through binoculars, a monitor, or smartphone) to ensure separation from other aircraft (or they may use an observer to do this in certain cases).
6. They must not fly their aircraft higher than 120 m (400 ft) AGL (unless certain conditions are met).
7. They must have knowledge of airspace restrictions that apply in the area in which they will operate.
8. They may not fly closer than 4 km to any aerodrome<sup>4</sup> (unless certain conditions are met).

<sup>1</sup>Global Drone Regulations Database, <https://www.droneregulations.info>.

<sup>2</sup>Airshare, <https://www.airshare.co.nz>.

<sup>3</sup><https://www.caa.govt.nz/unmanned-aircraft/intro-to-part-102/>

<sup>4</sup>See Airshare, "4 Things You Need to Know about Flying Near an Aerodrome,"\*\* <https://www.airshare.co.nz/must-know/things-to-know-flying-near-an-aerodrome>.

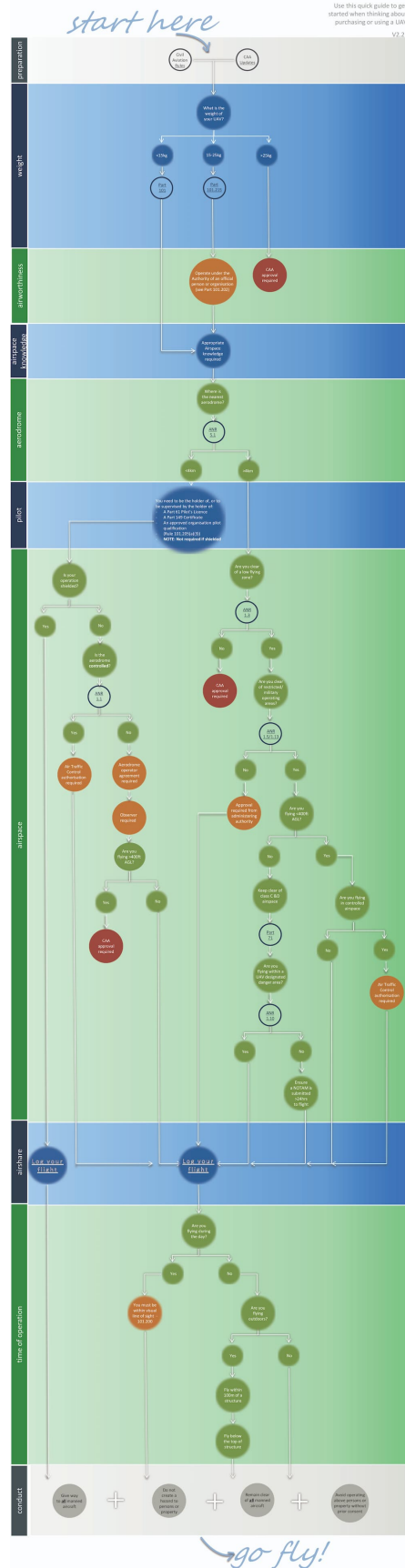


Figure 1: uav-chart  
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9. When flying in controlled airspace, they must obtain an air traffic control (ATC) clearance issued by Airways (via Airshare<sup>5</sup>).
10. They may not fly in special-use airspace (e.g., military operating areas or restricted areas) without the permission of the area's controlling authority.
11. They must have consent from anyone they wish to fly above.
12. They must have the consent of the property owner or person in charge of the area they wish to fly above.

To supplement these official regulations, the Humanitarian UAV Network (UAViators), a global volunteer organization of humanitarian UAV pilots, developed a code of conduct and a set of UAV mission best practices (uavcode.org) that should be incorporated when planning UAV mapping activities, particularly in the context of humanitarian projects.<sup>6</sup>

The permit application process in Fiji is described in annex 1.

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<sup>5</sup>See Airshare, "My Flights," <https://www.airshare.co.nz/my-flights/plan-a-flight>.

<sup>6</sup>See UAViators (n.d.) for the code of conduct and UAViators (2015) for a guide to best practices.