

**Maunakea Observatories Policy for the Use of Drones/Unmanned Aircraft Systems (UAS) on lands managed by the University of Hawai'i within the Maunakea Science Reserve.**

**June 20, 2018; December 20, 2018**

**Purpose:**

The Maunakea Observatories recognize that the operation of Unmanned Aircraft Systems (UAS) also referred to as "drones" are popular for recreational, scientific, and educational usage. This policy establishes minimum requirements for the safe operation of unmanned aircraft systems on Maunakea for official Observatory business and shall be a reference for MKSS, OMKM and Maunakea Observatories to use to assist with compliance with Federal Aviation Administration, state laws and administrative rules, and Observatory policies.

**Scope:**

This policy applies to all members of the Observatory community, including but not limited to employees, students, vendors and any other individuals who are operating a UAS as part of their employment or as part of any Observatory-related research or activity. This policy also applies to any person or entity not affiliated with an Observatory that may operate a UAS on lands managed by UH within the Maunakea Science Reserve. This policy also applies to the University of Hawai'i in its application of efforts to protect scientific resources on its managed lands on Maunakea, as well as protecting other resource values not addressed herein. This includes recreational and non-recreational aircraft. Any person operating a UAS within the Maunakea Science Reserve is personally responsible for complying with Federal Aviation Administration (FAA) regulations, state and federal laws, administrative rules, and Observatory policies.

**Definitions:**

*Model Aircraft:* Model aircraft are considered UAS but viewed differently by the FAA than other UAS and have different regulations. Launching or landing of model aircraft within the boundaries of the Maunakea Science Reserve is strictly prohibited.

*Maunakea Science Reserve:* means all real property, leased by, or otherwise subject to the control of the Office of Maunakea Management and identified as the Mauna Kea Science Reserve in the Mauna Kea Science Reserve Master Plan (2000, TMK: (3) 4-4-015:009).

*Unmanned Aircraft Systems (UAS):* A UAS is the unmanned aircraft and all of the associated support equipment, control station, data links, telemetry, communications and navigation equipment, etc., necessary to operate the unmanned aircraft. A UAS may have a variety of names including drone, unmanned aircraft vehicle, unmanned aircraft, quadcopter, quadrotor, etc. **FAA regulation applies to UAS regardless of size or weight.**

### Policy Detail:

1. Anyone planning to operate an unmanned aircraft system (UAS) in the Maunakea Science Reserve must first submit application to the OMKM. Applications must be submitted to OMKM at least 4 weeks prior to usage date or other time period as specified in administrative rules. OMKM will coordinate dates based on VLBA telescope schedule of maintenance days, concerns identified by VLBA, JCMT, and SMA, adjacent observatory(s) concerns, and concerns identified after consultation with Kahu Kū Mauna.
2. A notification will be sent back to the applicant and the applicant must respond in writing (email) to the notification confirming when they will operate, where and who will operate the drone. OMKM will in turn notify adjacent/all observatory(s).
3. The applicant will respond to OMKM via email within 24 hours of the scheduled flight to report back on the success or failure of the flight and to request an additional flight in the event of an unsuccessful flight.
4. Times of use must be specified in the application and is suggested to be between 11 am and 3pm.
5. Location: All observatory-sponsored flights are to be within the bounds of the lands managed by UH and within the Maunakea Science Reserve, normally within 100 meters of the dome.
6. Due to concerns over the sensitivity of the instruments at the summit data download features must be disabled during flight.
7. Altitude: No flights of greater than 100 meters above an observatory dome are to be allowed (when over a dome).
8. Drone must be certified or previously shown to be fully functional at 4200 m altitude.
9. Environmental conditions:
  1. Wind speed must be below 20 knots or 75% of manufacturers windspeed rating, whichever is less.
  2. Weather: Flights over observatory domes occur during clear weather only.
10. Usage by hobbyists is specifically forbidden by this policy.
11. For all proposals, permission must be sought in writing from all Observatories within 100m of the flight path.
12. The operator of *any* UAS must abide by all federal, state, and city laws.

- The operator must comply with all pilot and device registrations required by the FAA
  - The operator must avoid flying through restricted airspace
13. In operating a UAS for purposes of recording or transmitting visual images, operators must in addition to the above requirements, take all reasonable measures to avoid violations of areas normally considered private.
  14. A UAS shall not be used to monitor or record sensitive institutional or personal information which may be found, for example, on an individual's workspace, on a computer or other electronic displays.
  15. Operators must be trained in the use of the drone in which they will operate.
  16. Operators shall be mindful of the safety of people and risk of property damage and aware of potential failure modes for their systems. All built-in safety features shall be tested before flying.
  17. With third party use of a UAS for purposes associated with an Observatory facility, or project, the contractor must adhere to all FAA requirements and OMKM policies and provide OMKM with proof of insurance which shall include General Liability coverage of at least \$1,000,000 per occurrence and \$2,000,000 aggregate. OMKM retains the right to waive the insurance requirement.
  18. Operators must be in line sight during operation and not fly over crowds.

**Failure to follow this policy may result in disciplinary action and could lead to local and federal penalties.**

#### **Updates of the policy**

This policy may be updated in writing as necessary or appropriate in light of institutional experience and external regulatory changes.

#### **Additional Information:**

[https://www.faa.gov/uas/publications/model aircraft operators/](https://www.faa.gov/uas/publications/model_aircraft_operators/)

[http://knowbeforeyoufly.org/wp-content/uploads/2015/01/KBYF Brochure.pdf](http://knowbeforeyoufly.org/wp-content/uploads/2015/01/KBYF_Brochure.pdf)

B4UFLY smartphone app: <http://www.faa.gov/uas/b4ufly/>

<http://www.faa.gov/uas/faq/>