

NATIONAL PARK SERVICE

Reference Manual #60: Aviation Management

Chapter 12 - Uncrewed Aircraft Systems

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Prepared by the Branch of Aviation

Reviewed by the Chief, Division of Fire and Aviation Management

Signature / Date

Approved by the Associate Director, Visitor and Resource Protection

Signature / Date

12 Uncrewed Aircraft Systems

12.1 General

NPS policy memorandum 14-05, *Unmanned Aircraft - Interim Policy* has been rescinded. Policy from 14-05 and subsequent delegation memorandums pertaining to UAS are incorporated into this reference manual.

14 CFR 1.1 defines aircraft as any device intended to be used for flight in the air. The term "uncrewed aircraft" means a device used for flight in the air without direct human input from being onboard the aircraft. Therefore, Uncrewed Aircraft Systems (UAS) are considered aircraft regardless of size or weight. The "system" incorporates associated operational components including flight controller, flight software, communication radios, cameras, and sensors. UAS comprises all types of single-rotor, multi-rotor, fixed-wing, and vertical take-off and landing (VTOL) aircraft that meet this definition and are used for any purpose, from recreation to commerce.

Note: The terms Uncrewed Aircraft Systems and Unmanned Aircraft Systems in external documentation may be used interchangeably.

Since UAS operations are considered aircraft operations, they are subject to applicable CFRs, DOI DMs and OPM policies. Procurement and oversight of aircraft, including UAS, is a function and responsibility of OAS. See Chapter 12.4 for procedures regarding NPS employees utilizing UAS.

Best practices for avoiding impacts to natural, cultural, and historic resources when using UAS are available on the NPS webpage [Natural Sounds, UAS](#).

12.1.1 Restrictions

1. Personally owned UAS/remote control model aircraft may not be used by NPS employees to conduct government activities.
2. Possession of an FAA Part 107 Remote Pilot rating for small UAS by itself does not authorize NPS personnel to conduct UAS operations for the NPS.
3. Organizations or individuals whose interests support NPS administrative activities may offer to fly UAS missions (e.g., aerial surveys, mapping, LiDAR, infrared missions) at no cost to the NPS. NPS cannot accept these services unless they meet FAA, DOI, and NPS policies and are authorized by OAS via a cooperator Letter of Authorization or MOU.
4. All UAS operations in support of wildland fire will adhere to [NWCG Standards for Fire Unmanned Aircraft Systems Operations, PMS 515](#).

12.1.2 Required Compendium Closure Language

Each superintendent has the authority under [36 CFR 1.5](#), or [36 CFR 13.50](#) for Alaska, to close units of the NPS to launching, landing, or operating UAS that are not subject to the requirements outlined in RM-60. Any UAS approved in writing must comply with the approved aircraft requirements of [OPM-11](#).

Specific closure language and determinations (see below) shall be added to park compendiums about visitor use of UAS:

Launching, landing, or operating an uncrewed or remotely piloted aircraft from or on lands and waters administered by the National Park Service within the boundaries of [insert name of park] is prohibited except as approved in writing by the superintendent.

Park Compendium actions require a determination for each action. Superintendents will need to develop a determination regarding the appropriateness of UAS use to support the language above.

12.2 UAS Directives

UAS is a dynamic program area with rapidly evolving guidance and as legislation changes OAS will provide updated guidance.

1. [National Defense Authorization \(NDAA\) Act for Fiscal Year 2024 Title XVIII-Other Defense Matters, Subtitle B, Drone Security](#). This legislation may be superseded with updates and will be captured in [OPM-11](#).
2. **Presidential Memorandum**, February 15, 2015, [Promoting Economic Competitiveness While Safeguarding Privacy, Civil Rights, and Civil Liberties in Domestic Use of Unmanned Aircraft Systems](#) requires:
 - a. Data not essential to the mission of the NPS should be destroyed within 180 days.
 - b. UAS will only be used to collect data consistent with the authorized mission of the NPS. Any data-sharing agreements or policies, data-use policies, and record-management policies applicable to UAS shall conform to applicable laws, regulations, and policies.
 - c. UAS collected information can only be shared outside of the NPS if it helps to meet the authorized mission of the NPS.
 - d. It is prohibited to use UAS to collect, use, retain, or disseminate data in any manner that would violate the First Amendment or in any manner that would discriminate against persons based upon their ethnicity, race, gender, national origin, religion, sexual orientation, or gender identity.
3. **OMB Circulars**: The acquisition and long-term programmatic budgeting for UAS can be found in Chapter 2.1.1, *Aviation Directives*.
4. **Federal Aviation Regulations**: Regulations related to UAS operations are contained in [14 C.F.R. Part 107 and Part 91](#) and can be found on the [FAA's Uncrewed Aircraft Systems](#) website.
5. **Departmental Policy**: Applicable DOI policy can be found in [OPM-11, DOI Use of Uncrewed Aircraft Systems \(UAS\)](#), and [Secretarial Order 3379 Update](#) with the [OAS Information Bulletin 22-01](#).
6. **NPS Requirement**: The initiation of an NPS fleet UAS program requires advanced approval per the enhancement application as described in Chapter 2.2, *Enhancements, Enhancement Modifications, Waivers, and Exceptions*. The application is found in Appendix 6, *Enhancement Application*.
7. **UAS for Wildland Fire**: UAS use on wildland fires shall follow the requirements outlined in the [NWCG Standards for Fire Unmanned Aircraft Systems Operations, PMS 515](#).

12.3 UAS Operations Approval Within NPS Boundaries

There are several different ways in which UAS may be approved to take off or land within NPS boundaries. All entities taking off or landing within NPS boundaries must assume operational control of all flights. Reference [OPM-70](#) for the definition of operational control.

Note: NPS approval to take off or land within NPS boundaries does not relieve the remote pilot from adherence to any airspace requirements or restrictions applicable to the area of operation.

12.3.1 UAS Take-Off and Landing Approval

Table 1: UAS Mission Types, summary of UAS take-off and landing approvals within park boundaries

Mission Type	Required	Approval Granted By:	Comply with OPM-11 Aircraft Requirements
Life Threatening (emergency), Operational (urgent)	Documented Risk Assessment (e.g., GAR)	Superintendent (written or verbal)	Yes
Wildland Fire and Search and Rescue	Documented Risk Assessment (e.g., GAR)	Superintendent (written or verbal)	No
Administrative Use	PASP	PASP	Yes
End Product	Contract UAS flight safety plan	Signed contract	Yes
Fleet UAS	PASP	PASP	Yes
Cooperator Aircraft	Cooperator Letter of Authorization PASP	LOA	Yes
Contract for Flight Services	Contract/ PASP	Contract	Yes
Scientific Research and Collecting Permit (SRCP)	SRCP UAS flight safety plan	SRCP	Yes
Agreement/MOU	MOU/MOA/LOA UAS flight safety plan	Agreement or MOU	Yes
Special Use Permit (SUP)	SUP	SUP (RD signature required)	Yes

12.3.2 NPS UAS Internal Flights

12.3.2.1 Emergency: Life Threatening (Emergency) and Operational (Urgent) Missions other than SAR and Wildland Fire

Life-threatening (emergency) and operational (urgent) UAS missions must be approved by the park superintendent or their designee. [NPS RM-55, Incident Management Program](#) describes All-Hazard operations as incidents and events that are not related to wildland fire, fire use or prescribed fire. DM [350 DM 1.5, Aviation Management](#), defines "life threatening" and "operational" operations as:

1. **Life Threatening (emergency)** - Situations or occurrences of a serious nature, developing suddenly, unexpectedly and demanding immediate action to prevent loss of life.
2. **Operational (urgent)**- An unforeseen combination of circumstances that calls for immediate action but is not life threatening.

12.3.2.2 Wildland Fire and Search and Rescue Operations

Wildland fire and search and rescue operations are exempt from the provisions in the NDAA for fiscal year 2024; however, this legislation may be superseded and any updates will be captured in [OPM-11](#).

Wildland fire UAS operations are approved, and all wildland fire operations shall follow the [NWCG Standards for Fire Unmanned Aircraft Systems Operations, PMS 515](#).

Search and rescue operations must adhere to [RM-55, Incident Management Program](#).

12.3.2.3 Administrative Use

Administrative activities are those activities conducted under the authority of the NPS for the purpose of safeguarding persons or property, implementing management plans and policies consistent with regulations in 36 C.F.R. or repairing or maintaining government facilities. This may include data collection, natural, cultural, or structural assessments, monitoring for scientific study, All-Hazard incident, or law enforcement actions. Wildland fire and search and rescue in some cases may also be considered an administrative use of UAS.

12.3.2.4 Procuring Products Obtained by UAS Vendor/Contractor (End Product):

End product/service contracts are frequently awarded to accomplish field projects (e.g., animal capture, seeding, survey, aerial photography, LiDAR collection). In these cases, a contractor supplies all manpower and equipment to provide a "service" or "end product". Contractors may choose to utilize UAS to meet performance objectives. Contracts that utilize aircraft must comply with [OPM-11](#) aircraft requirements. [OPM-35](#) describes how to obtain an end product contract in more detail.

To ensure that NPS aviation operational control is not exercised for aircraft operations conducted under NPS end-product contracts, contact the PAM or RAM for specific language to include in the contract.

End product contracts require a UAS Flight Safety Plan be submitted as part of the contract. The minimum elements of a safety plan include:

- Project date(s) and time(s)
- Project description
- Operations location(s)
- Operations location map(s)
- UAS type and compliance with DOI requirements
- Point of contact (name and contact info)
- Emergency and contingency procedures
- Lost link/lost communications procedures and coordination with park requirements

Note: Pilots must possess an FAA Part 107 Certificate.

12.3.2.5 Fleet UAS Operations

Parks with an approved UAS enhancement are approved to conduct UAS operations through the aviation enhancement. A PASP is required for non-emergency UAS missions utilizing fleet UAS.

12.3.2.6 Cooperator Aircraft

Approving cooperator/affiliate UAS operators remains with OAS. See Chapter 16, *Cooperator Aircraft*, [351 DM 4](#), and [OPM-11, DOI Use of Uncrewed Aircraft Systems \(UAS\)](#) for additional information on cooperator aircraft. A PASP is required for non-emergency UAS missions utilizing cooperators. Cooperators with an approved LOA may be used in conjunction with an MOU/MOA or agreement. Contact your RAM for additional guidance.

12.3.2.7 Contract for Flight Services

Follow guidance in Chapter 15.

12.3.3 External UAS Requests

12.3.3.1 Authorization for UAS Operations for Scientific Research and Collecting Permits (SRCP)

Outside entities must have written authorization for launching, landing, or operating a UAS on NPS lands. Written approval to use a UAS may be made through a scientific research and collecting permit under [36 C.F.R. 2.5](#) (e.g. research permits). Unless issued in conjunction with an agreement or NPS contract that specifically states how the data will be requested or shared, data collection for the NPS may not be authorized through a SRCP. Permits authorizing UAS use must include a UAS Flight Safety Plan.

Specimen collection permits that involve UAS require a UAS Flight Safety Plan be submitted. The minimum elements of a safety plan include:

- Project date(s) and time(s)
- Project description
- Operations location(s)
- Operations location map(s)

- UAS type and compliance with DOI requirements as per [OPM-11](#)
- Point of contact (name and contact info)
- Emergency and contingency procedures
- Lost link/lost communications procedures and coordination with park requirements

Note: Pilots must possess an FAA Part 107 Certificate.

12.3.3.2 Agreements Incorporating UAS Missions

Agreements incorporating UAS missions include MOUs, MOAs, General Agreements, or Cooperative Agreements. These agreements are defined by [DO-20](#) and the aircraft must comply with [OPM-11](#).

Note: There are times these agreements may be considered administrative. Consult your superintendent for details.

For agreements incorporating UAS missions, other agencies are limited to other federal bureaus (e.g., DOI, Department of Homeland Security, or in limited cases state/local agencies).

1. The following paragraph should be included when developing new MOAs/MOUs or adjusting current MOAs/MOUs with other agencies:
When (insert name of entity) in the course of responding to an incident or in the course of approved work in (insert name of park unit) utilizes an aircraft, (insert name of entity) is responsible for complying with all federal, state, and local aviation regulations and will remain in operational control of their aviation operations. This MOU does not grant (insert name of park) the ability to request the use of the aircraft, pilot, or aviation support from (insert name of entity) for either emergency or non-emergency purposes or enter into operational control of the flight operations.

The addition of this language in a MOA/MOU relieves the park of an approval for the agency performing the UAS mission(s). Nothing in this language allows the parks to request the use of the aircraft or pilot for their administrative use.

2. For cooperative or general agreements, grants involving other agencies, or entities involved in research or scientific studies not covered by an SRCP. Superintendent written approval will be required prior to UAS missions. These flights may require a SCRCP and other compliance processes in addition to OAS approved cooperator aircraft and/or LOA.

Agreements and grants incorporating UAS require compliance with OPM-11 and the submission of a UAS Flight Safety Plan. The minimum elements of a safety plan include:

- Project date(s) and time(s)
- Project description
- Operations location(s)
- Operations location map(s)
- UAS type and compliance with DOI requirements
- Point of contact (name and contact info)
- Emergency and contingency procedures
- Lost link/lost communications procedures and coordination with park requirements

Note: Pilots must possess an FAA Part 107 Certificate.

12.3.3.3 Special Use Permits

A special use permit (SUP) that specifically authorizes launching, landing, or operating an uncrewed aircraft must be approved in writing by the Regional Director unless otherwise specified below. Superintendents should refer to their regional special use permit coordinator if they intend to seek approval for a special use permit. Recreational use of UAS other than those under subsection 4 below will not be approved. Under an SUP, data may not be requested, nor shared. Utilization of UAS under SUP may include:

1. Requests to fly UAS in conjunction with another special park use activity such as a special event or filming must be processed in accordance with Appendix 8, *Special Park Uses: Permitting for Uncrewed Aircraft*. Compliance with [OPM-11](#) is required.
2. An entity requesting to fly UAS in conjunction with another permitted activity such as a right-of-way permit or a utility easement. The park must be notified in advance of any aircraft operations and comply with [OPM-11](#).
 - a. Entities with authority and responsibility to provide certain community lifeline operations in a national park unit under a right-of-way permit may utilize a UAS while conducting those activities as long as appropriate language regarding UAS use is included in the operations and maintenance section of the original right-of-way permit signed by the RD or a timely renewal signed by the superintendent. Entities with authority and responsibility to provide certain community lifeline operations through a deed reserved right may utilize a UAS if appropriate language regarding UAS use is included in an operations and maintenance SUP signed by the superintendent.
 - b. Community Lifelines included in this allowance are electric utilities, linear communications, and overhead transportation.
 - c. If community lifeline UAS operations outlined in #2, are considered emergency or urgent operational, see 12.3.2.1. A permit may be issued by the Superintendent for the emergency or urgent operational

activity. Permits must be in writing and may be signed by the Superintendent. Compliant aircraft is required.

- d. Nothing in this language allows the park to request the use of the aircraft or pilot for its administrative use.
3. Activities involving UAS requests within the District of Columbia for infrastructure projects will be coordinated by USPP. Special Use Permits are required for launching, landing, or operating on NPS lands and will be signed by the Superintendent. Assistance on these projects will be provided by the WASO SUP program office.
4. Model aircraft/hobbycraft airstrips located within a park's boundaries shall be identified in the Superintendent's Compendium and recreational/hobbyist flights managed by a SUP issued to a local model aircraft community organization. These flights do not require [OPM-11](#) compliance, aircraft make/model, aircraft registration, or copies of licenses. Model aircraft/hobbyist operations are covered by the "Exception for limited recreational operations of unmanned aircraft" ([Title 49 USC 44809](#) and [FAA Advisory Circular 91-57](#)).

See Appendix 8, *Special Park Uses Permitting for Uncrewed Aircraft* and the Special Park Use Community of Practice SharePoint for additional requirements on Special Use Permits.

12.4 UAS Fleet Programs

Regional Aviation Managers must be included in the planning and initiation of all UAS programs within their region. Before purchasing a UAS, a park or program must have an approved Enhancement Application (Appendix 6) to start a new program. The procedure for initiating a new UAS program can be found on [InsideNPS, Aviation Management](#). Once the enhancement application is approved, the following must occur:

12.4.1 Acquisition

1. DOI approved UAS airframes shall only be purchased through OAS.
2. A fleet account must be established at OAS with funds for the aircraft purchase transferred via [OAS 93U, UAS Fleet Information Document \(FID\)](#) from the park/program to OAS. Once funds are deposited into an FID, they cannot be withdrawn, although funds can be transferred into another established fleet account.
3. An OAS-13U, [DOI Small UAS Acquisition Request Form](#) must be approved by the National UAS PM and submitted to the NAM with the following signatures:
 - a. Requesting Official: from the park or program.
 - b. Approval, Bureau Line Office: Park Superintendent or equivalent for park programs.
4. Parks/programs are highly recommended to acquire a minimum of two UAS airframes when starting a fleet program. They do not need to be the same make and model aircraft but must be able to accomplish the same missions.
5. Parks may purchase DOI approved sensors, tablets, and UAS parts directly from vendors.

12.4.2 Airframe

1. Registration: UAS must be marked in accordance with FAA/DOI requirements.
2. Maintenance: Will be in accordance with the approved manufacturer and DOI procedures established in [OPM-11](#). NPS UAS pilots must contact OAS UAS fleet manager to arrange for in-house or contract repair of damaged or inoperable UAS.
3. Inspection programs: UAS will be inspected in accordance with [OPM-11](#).
4. Modifications: Any modifications of the UAS airframe or sensor packages must be in accordance with the list of DOI approved modifications posted on the [OAS website](#).
5. Returning the UAS to service: May require coordination with OAS UAS fleet manager after an accident or incident. Ensure a SAFECOM is submitted.
6. Disposition/Transfer: OAS is responsible for disposing of UAS. Parks must coordinate with the national and/or regional aviation staff for possible reassignment to another park or other agencies before disposal.

12.4.3 Aviation Training

In making the decision to train NPS employees with UAS pilot duties, parks will submit a training nomination for to the RAM. All personnel in a UAS pilot-training program will operate under an approved enhancement (Appendix 6) in a park or program with a qualified PAM. Once a unit has an approved enhancement application, the RAM will prioritize and select for the following courses: Interagency and NPS A-450 Basic Remote Pilot Operators, S-373 UAS for Incidents, Advanced Mapping Workshop, and Aerial Ignition Academy. The RAM will notify the National UAS Specialist (NUAS) of the NPS student roster for their respective region. Line managers, supervisors, park aviation managers and pilots are required to meet the training outlined in [OPM-4, Aviation User Training Program](#).

12.4.4 Technical Oversight of Fleet UAS Program

The technical oversight of the UAS program resides with the RAM. In the event the RAM lacks the expertise, the oversight is delegated to a NAO staff member (e.g., the appropriate NAO specialist or manager). The oversight of fleet UAS pilots rests with the PAM.

12.4.5 Remote Pilot in Command

The Remote Pilot-in-Command (RPIC) has final authority and responsibility for the operation and safety of the UAS flight. To perform duties as a UAS pilot the person must:

1. Hold an [FAA Part 107 Remote Pilot](#) certification.
2. Complete the A-450, *Small Unmanned Aircraft System (sUAS) Basic Remote Pilot Course*. A-450 includes a written, oral, and practical flight exam.
3. Pass a DOI flight evaluation and possess DOI authorization OAS-30U, Pilot Qualification card for the make and model UAS to be flown. Qualification and authorization to fly one make and model of UAS does not constitute authorization to fly any make and model of UAS.
4. Some UAS missions may require more than one pilot, in which case the RPIC will be designated prior to the mission.
5. Failure to meet flight currency and proficiency and training requirements will result in the employee not being able to serve as a RPIC.

12.4.6 Visual Observer (VO)

A UAS VO is not required for every Part 107 operation but is highly recommended. UAS operations under a FAA/DOI MOU or FAA Certificate of Authorization (COA) may require a VO for UAS operations and best practice is for the VO to be a qualified UAS pilot. If a VO is utilized, mission specific training, mission expectations, and a briefing are required.

12.4.7 Flight Evaluations

A UAS RPIC must pass an initial qualification evaluation administered by a DOI approved inspector pilot. The evaluation will include written and oral evaluation of subjects covered in the A-450 course and a flight evaluation. Recurrent flight evaluations are required per [OPM-11](#).

12.4.8 NPS Flight Authority Authorization

The NAM will issue a NPS *Flight Letter of Authorization* for all NPS pilots recognizing the individual as authorized to fly for the NPS. Once issued, the letter remains in effect for the duration of the pilot's NPS career. NPS flight authority can be suspended or revoked by the NAM following an accident, incident with potential or actions which result in convening an NPS Pilot Evaluation Board per Appendix 10, *NPS Pilot Evaluation Board*.

12.4.9 Suspension/Revocation

The process to suspend or revoke privileges for UAS pilots applies in the same manner as crewed pilot procedures. See Chapter 10.2, *NPS Flight Authority Authorization*, 10.13, *NPS Pilot Evaluation Board*, 10.14, *Pilot Suspension, Revocation* and Appendix 10, *NPS Pilot Evaluation Board*.

12.4.10 Flight Operations

All aircraft under operational control of the NPS will comply with applicable CFRs, DOI and NPS aviation policy, DOI handbooks, and interagency guides as listed in Chapter 2, *Aviation Directives*.

UAS Flight Operations must include:

1. **Project Aviation Safety Plans.** Mission planning will be completed for all project flights except for those included in the AMP. See *Chapter 11.5, Project Aviation Safety Plan* and Appendix 3, *Project Aviation Safety Plan*. The UAS PASP shall contain applicable portion(s) of the Interagency Mishap Response Plan or other local standard operating procedures that apply in the event of an UAS mishap or emergency unless incorporated into the AMP.
2. **Risk assessment.** Aviation mission planning for all flights will include a risk assessment.
3. **Additional operations.** In addition to the A-450 qualification, operations such as wildland fire, extended line of sight (ELOS), or beyond visual line of sight (BVLOS, A-456), or make and model transition (A-454), require additional training and procedures.
4. **UAS preflight/post flight checks.** These will be conducted in accordance with the manufacturer's operating manuals, handbooks, and checklists.

5. **Required documents.** The following documents must be present during DOI Fleet Operations and available for inspection:
 - a. FAA Part 107 Remote Pilot License
 - b. DOI UAS Remote Pilot Qualifications Card OAS-30U
 - c. Aircraft FAA registrations
 - d. DOI Aircraft Card
6. **Crew duty time limitation.** Requirements for crew duty limitations can be found in [OPM-11](#), or the [Interagency Standards for Fire and Aviation Operations \(Red Book\)](#).

12.5 UAS Records and Reports

All NPS fleet and commercial UAS operations use must be reported. See Chapter 4, *Records and Reports*. UAS fleet aircraft use will be reported on an OAS-2U, Flight Use Reporting Form. NAO will compile a report annually, based on fiscal year, for fleet missions. At their discretion, RAMs may record and track commercial and cooperator UAS missions. These records will be retained for three years. After the three-year retention, records can be disposed of after submitting [DI-1941](#) and in accordance with [RMP-2020-03](#).

12.6 Aircraft Mishap Procedures

See Chapter 17, *Aviation Mishap Procedures* and [OPM-11](#)