

Guidelines for the Safe Flight of Unmanned Aircraft System / UAS (drones, radio-controlled aircraft, etc.)

The Ministry of Land, Infrastructure, Transport and Tourism / MLIT, Japan Civil Aviation Bureau / JCAB

In recent years, Unmanned Aircraft Systems / UAS that can fly and take photos by remote active control or autopilot have been developed, and the number of hobbyists and business users is rapidly increasing. The increased opportunities for the creation of new industries and the improvement in the quality of life are welcome.

On the other hand, the flight of such an Unmanned Aircraft System / UAS should of course not compromise the safety of manned aircraft, nor should it harm people, buildings, or vehicles on the ground.

For this reason, the Act Partially Amending the [Civil Aeronautics Act](#) (Act No. 67 of 2015) and the Act Partially Amending the Civil Aeronautics Act and the Act for Establishment of the Japan Transport Safety Board (Act No. 38 of 2019) established [rules concerning the flight of Unmanned Aircraft System / UAS](#). Users of an Unmanned Aircraft System / UAS [are requested to comply with the law and other related laws and regulations, and to make sure that the Unmanned Aircraft System / UAS fly safely without disturbing third parties](#).

1. Unmanned Aircraft System / UAS in the Civil Aeronautics Act

(1) What is an Unmanned Aircraft System / UAS?

- The term is defined as "airplanes, rotorcraft, glider, airship, and other equipment specified by Cabinet Order that can be used for air navigation and that cannot be boarded by a person structurally, those that can be flown by remote active control or autopilot (which refers to automatic control by a program) (excluding those specified by Ordinances of the Ministry of Land, Infrastructure, Transport and Tourism / MLIT as those whose flight are, in consideration of their weight and other reasons, not likely to compromise the safety of aircraft navigation and the safety of persons and properties on land and water)," and [drones \(multi-copters\), radio-controlled aircraft, pesticide-spraying helicopters, etc. fall under the definition](#).

(Examples)



(Drone (multi-copter))



(radio-controlled aircraft)



(pesticide-spraying helicopter)

- However, multi-copters and radio-controlled aircraft whose weight (the sum of the body weight and battery weight) is less than 100 grams are classified as "model aircraft" rather than Unmanned Aircraft System / UAS.
- In addition, an Unmanned Aircraft System / UAS which has a structure, performance and capabilities similar to an aircraft such as those which have been converted from an aircraft may fall under the category of aircraft (pilotless aircraft) under the Civil Aeronautics Act. In such cases, please contact us individually.
- **In principle, an Unmanned Aircraft System / UAS cannot fly unless it is registered.** For details of the registration system, please refer to the Unmanned Aircraft System / UAS Registration Portal Site (<https://www.mlit.go.jp/koku/drone/>) and the UAS Registration Handbook.
- The system for qualification of an Unmanned Aircraft System / UAS pilot and the certification of Unmanned Aircraft System / UAS issued by the government for flying UAS commenced on December 5, 2022. For details of the systems, please visit the Ministry of Land, Infrastructure, Transport and Tourism / MLIT website (<https://www.mlit.go.jp/koku/koku tk10 000003.html>). Please note that these systems are unique to Japan and you cannot fly the Unmanned Aircraft System / UAS under the qualification and certification systems of other countries.

(2) What is a model aircraft?

- Rubber-powered model aircraft, multi-copter and radio-controlled aircraft whose weight (the sum of the weight of the main body of the aircraft and the weight of the battery) is less than 100 grams are treated as "model aircraft" under the Civil Aeronautics Act, and the rules regarding the flight of an Unmanned Aircraft System / UAS are not applicable, but the provisions requiring permission from the Minister of Land, Infrastructure, Transport and Tourism (Article 134-3) are applicable for flights around airports or above a certain altitude.

2. Provisions of the Civil Aeronautics Act concerning flight rules for an Unmanned Aircraft System / UAS

The Civil Aeronautics Act stipulates the following basic rules for flying an Unmanned Aircraft System / UAS. In case of violation of these rules, there are provisions related to penalties, so you should fly the aircraft safely in compliance with laws and regulations.

For details of the basic rules, please refer to the Ministry of Land, Infrastructure, Transport and Tourism / MLIT website "Flight Rules for Unmanned Aircraft System / UAS (Drones, Radio-Controlled Aircraft, etc.)" (http://www.mlit.go.jp/koku/koku_tk10_000003.html).

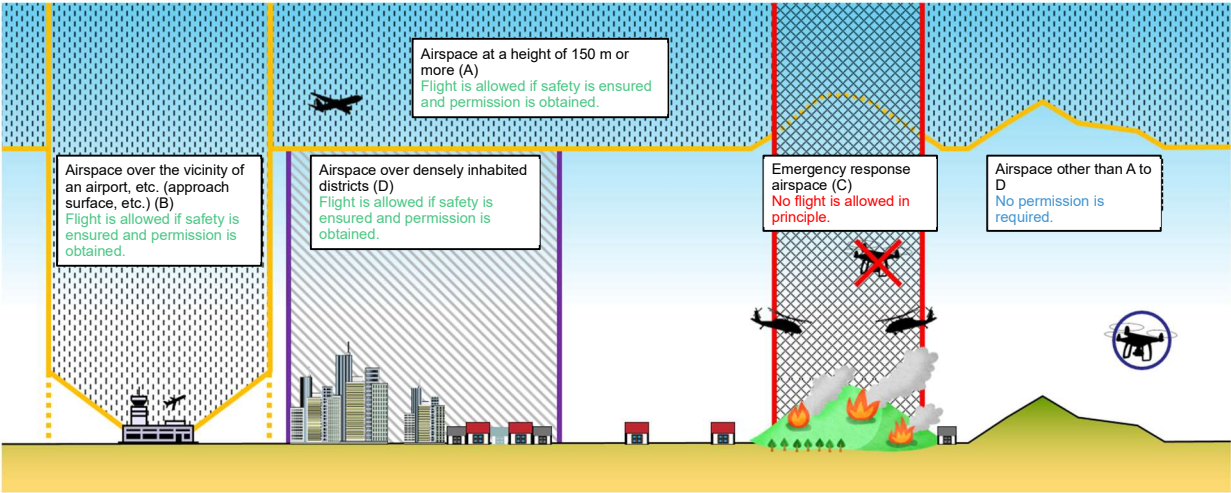
If you need to obtain flight permission or approval, you should apply to the Regional Civil Aviation Bureau (Tokyo or Osaka) or the Airport Office (Tokyo or Kansai) 10 business days prior to the flight (excluding weekends and holidays) using the online service "Drone/UAS Information Platform System (DIPS 2.0)" or the like. These rules are not applicable when you fly the aircraft in a space organized as an indoor space.

(1) Flight-prohibited airspace

In principle, it is prohibited to fly an Unmanned Aircraft System / UAS in the following airspace because there is a high risk of colliding with manned aircraft or causing harm to people on the ground if they fall.

If you intend to fly an Unmanned Aircraft System / UAS in these airspaces, you must take safety measures and obtain permission. (*Not required when flying them indoors.)

Even if it is your own private property, you are required to obtain permission if the airspace falls under the following airspace (A) to (D).

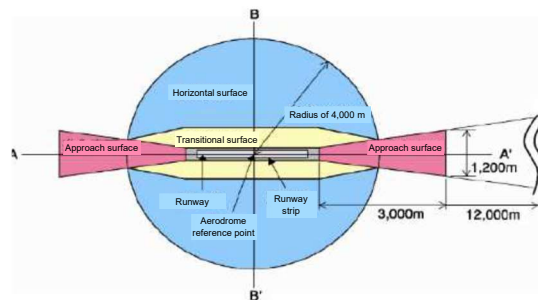
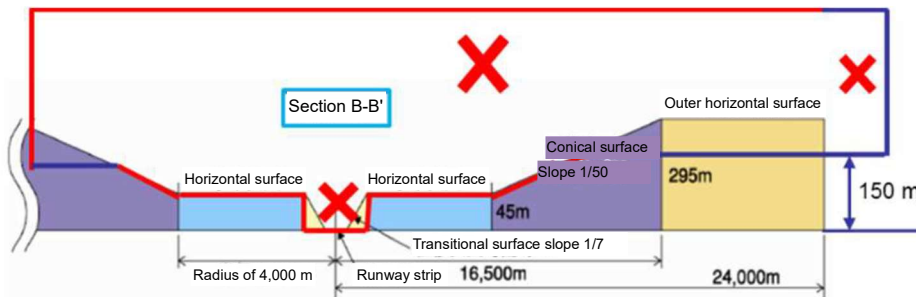
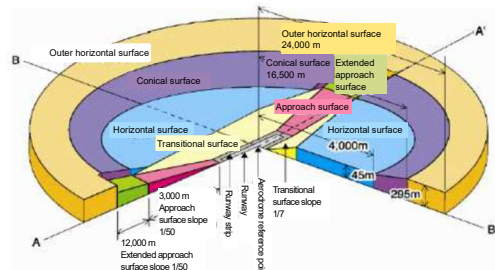
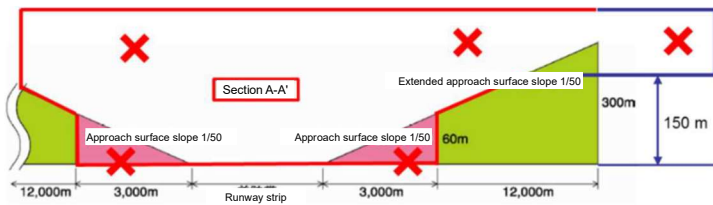


(A) Airspace 150 m or more above the land or water surface
(Excluding airspace other than those in (B) and (C) below and airspace within 30 m from properties on the ground or water)

(B) Airspace around the airport

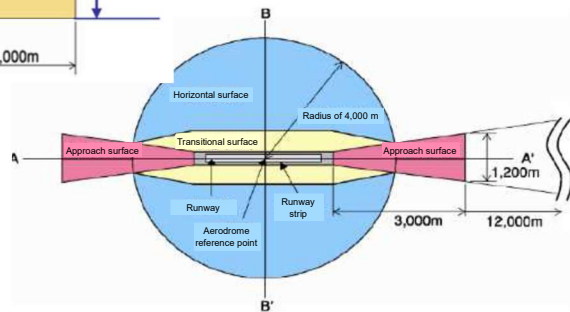
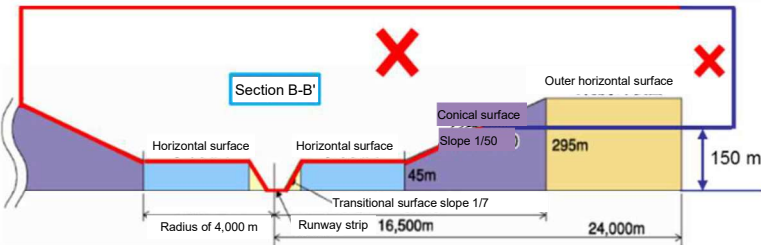
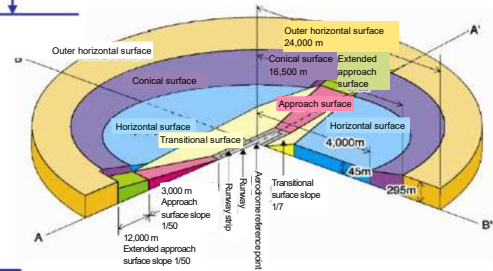
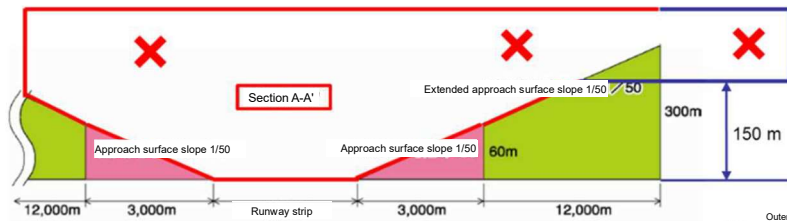
1) New **Chitose Airport, Narita International Airport, Tokyo International Airport, Chubu Centrair International Airport, Osaka International Airport, Kansai International Airport, Fukuoka Airport, Naha Airport**

Airspace above the approach surface, transitional surface, horizontal surface or extended approach surface, conical surface or outer horizontal surface, **airspace below the approach surface or transitional surface, or airspace above the site of an airport established in the vicinity of the airports**



2) Other airports, heliports, etc.

Airspace above the approach surface, transitional surface, horizontal surface or extended approach surface, conical surface or outer horizontal surface established in the vicinity of other airports, heliports, etc.



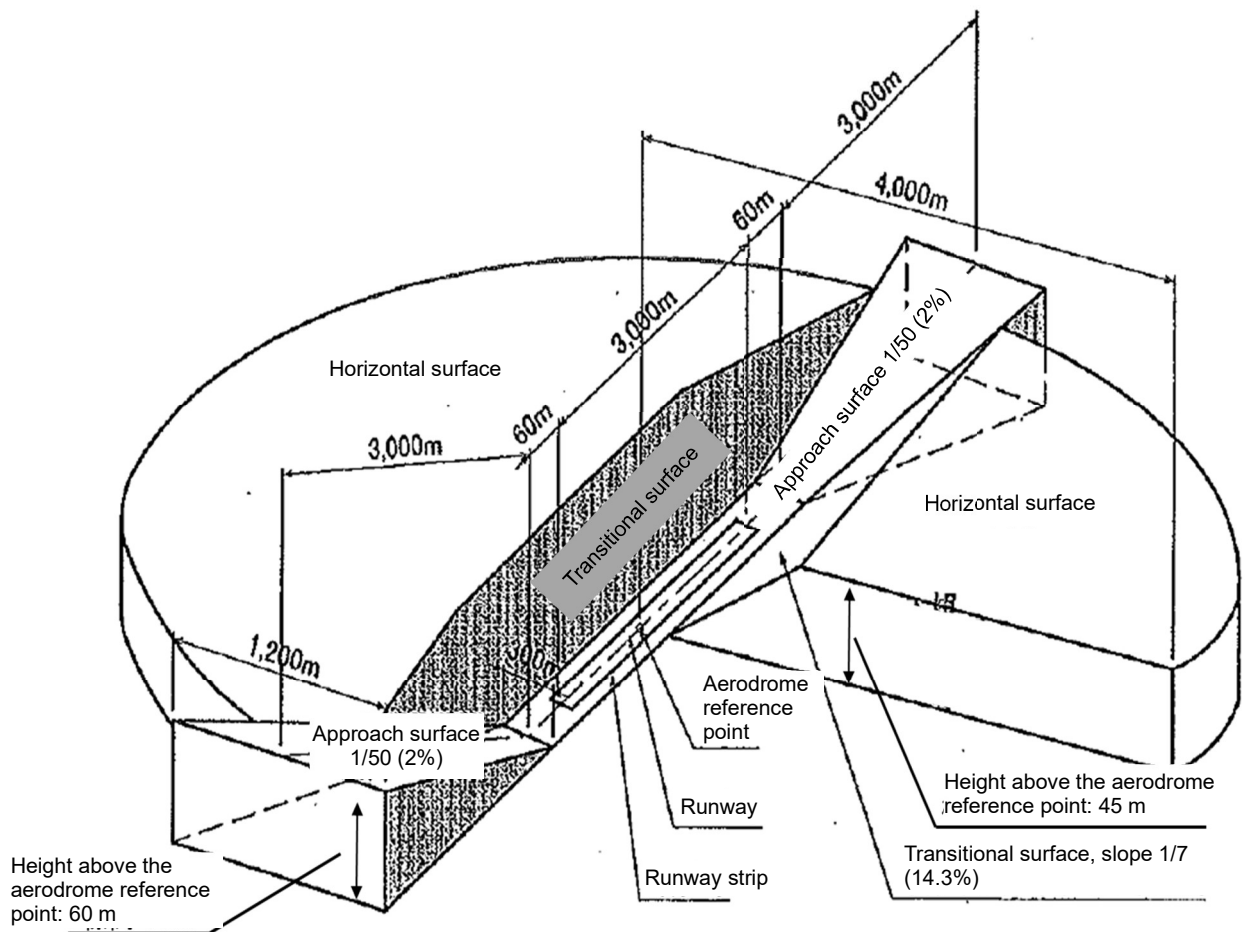
(i) Examples of approach surfaces at all airports, heliports, etc.

At all airports, heliports, etc., the following approach surfaces, transitional surfaces and horizontal surfaces are established within approximately 6 km from airports, etc.

- (*) You can check the details on the website of the Japan Civil Aviation Bureau / JCAB, but if the place you intend to fly the UAS is within the area or near the boundary of the area, please contact the administrator of each airport, etc.

Examples of approach surfaces at all airports.

In the case of a precision approach airport with a runway length of 3000 m



(ii) Examples of approach surfaces at Tokyo, Narita, Chubu, Kansai International Airports and airports designated by Cabinet Order.

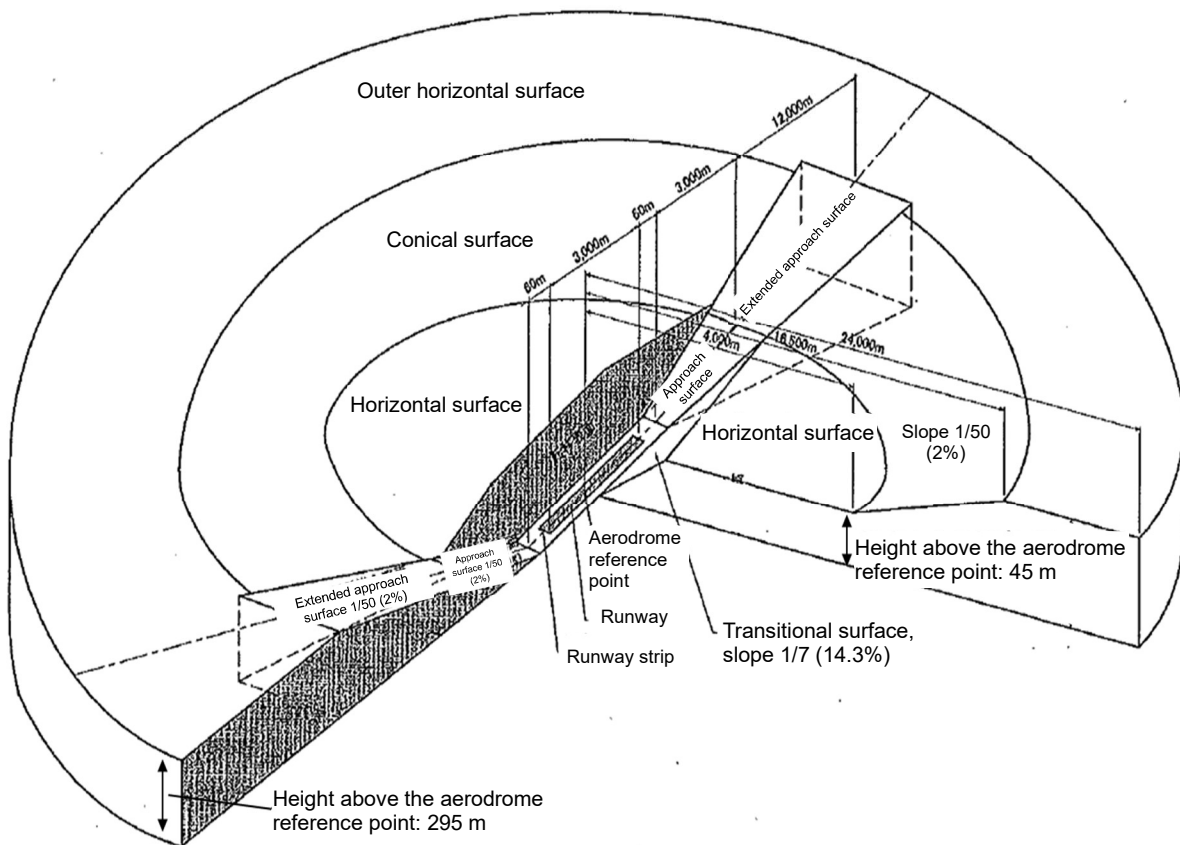
At Tokyo, Narita, Chubu, Kansai International Airports and airports designated by Cabinet Order (*), in addition to the surfaces (approach surface, transitional surface and horizontal surface) in (i), an extended approach surface, a conical surface and an outer horizontal surface are established within 24 km from the airport.

(*) Airports designated by Cabinet Order: Kushiro, Hakodate, Sendai, Osaka International, Matsuyama, Fukuoka, Nagasaki, Kumamoto, Oita, Miyazaki, Kagoshima, Naha

(*) You can check the details on the website of the Japan Civil Aviation Bureau / JCAB, but if the place you intend to fly the UAS is within the area or near the boundary of the area, please contact the administrator of each airport, etc.

Examples of approach surfaces at Tokyo, Narita, Chubu, Kansai International Airports and airports designated by Cabinet Order.

In the case of a precision approach airport with a runway length of 3000 m



(C) Emergency response airspace

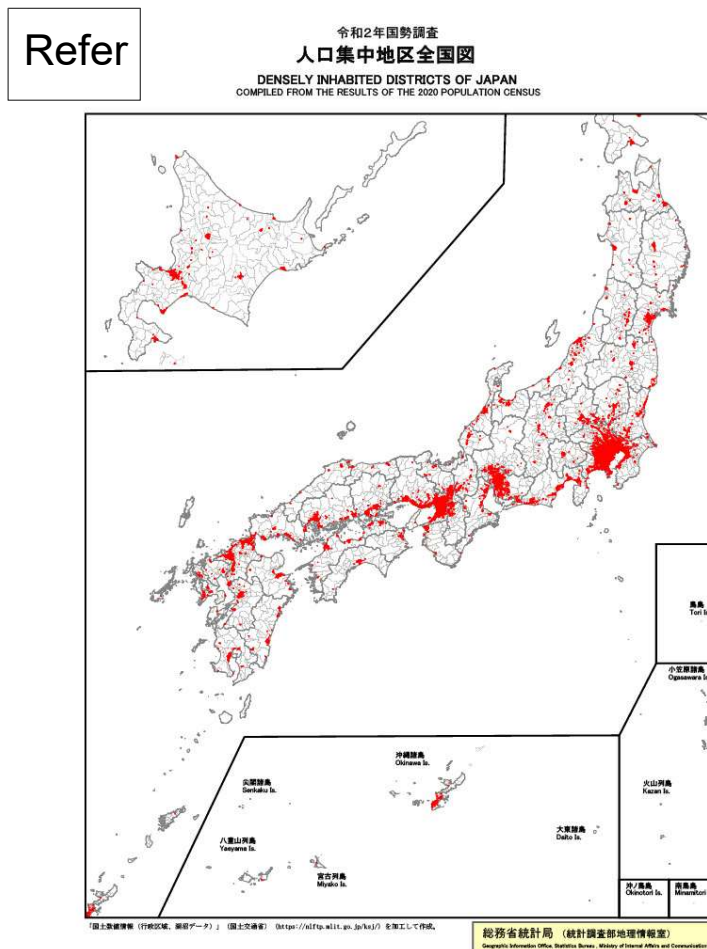
Airspace specified by the Minister of Land, Infrastructure, Transport and Tourism as airspace required to ensure the flight safety of aircraft performing search, rescue or other emergency services used by the Ministry of Land, Infrastructure, Transport and Tourism / MLIT, the Ministry of Defense, the National Police Agency, the prefectural police, or the fire fighting agencies of local governments or other relevant organizations (hereinafter referred to as "emergency response airspace".)

- * When an emergency response airspace is designated owing to a forest fire, etc., you can confirm it on the Internet or the Japan Civil Aviation Bureau / JCAB Unmanned Aircraft System / UAS X (formerly Twitter).
(https://www.mlit.go.jp/koku/koku_tk10_000003.html#alert)
(https://twitter.com/mlit_mujinki)

(D) Airspace over densely inhabited districts

Airspace over densely inhabited districts according to the results of the 2020 census

- * You can see the website of the Japan Civil Aviation Bureau / JCAB below to check if the place you want to fly the aircraft is a densely inhabited district.
(https://www.mlit.go.jp/koku/koku_fr10_000041.html#did)



(2) The mode of the flight

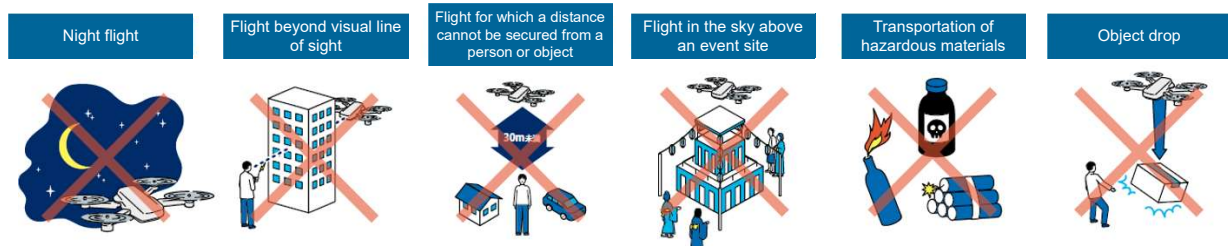
Regardless of the location, the following rules must be observed when flying an Unmanned Aircraft System / UAS.

- 1) You must not fly the aircraft in the state of having ingested alcohol, etc.
- 2) You must confirm that necessary preparations for flight are completed before flying the aircraft.
- 3) When the aircraft is likely to collide with an aircraft or another Unmanned Aircraft System / UAS, you must make the aircraft descend to the ground, etc.
- 4) You must not fly the aircraft in a manner that causes trouble to others such as causing unnecessary noise.
- 5) You must fly the aircraft during the day (daytime) (from sunrise to sunset).
- 6) You must fly the aircraft while continuously monitoring the Unmanned Aircraft System / UAS and its surroundings within visual range (with your naked eyes). (Examples of flight beyond visual line of sight: FPV (first person's view), monitor monitoring)
- 7) You must fly the aircraft while maintaining a distance (30 m) from a third party, a third party's building, a third party's vehicle, or any other property.
- 8) You must not fly the aircraft over places where many people gather such as festivals and fairs.
- 9) You must not transport hazardous materials such as explosives.
- 10) You must not drop objects from the UAS.

If you intend to fly an Unmanned Aircraft System / UAS without following the rules from 5) to 10), you must take safety measures and obtain approval.

Outer horizontal surface

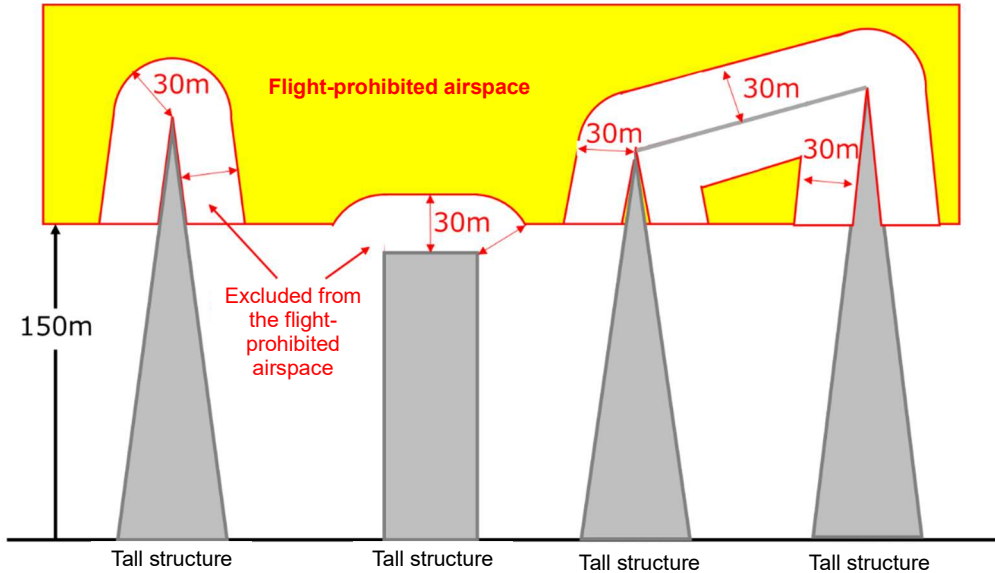
The mode of the flight requiring approval



(3) Exclusion of flight-prohibited airspace and unnecessary permissions and approvals

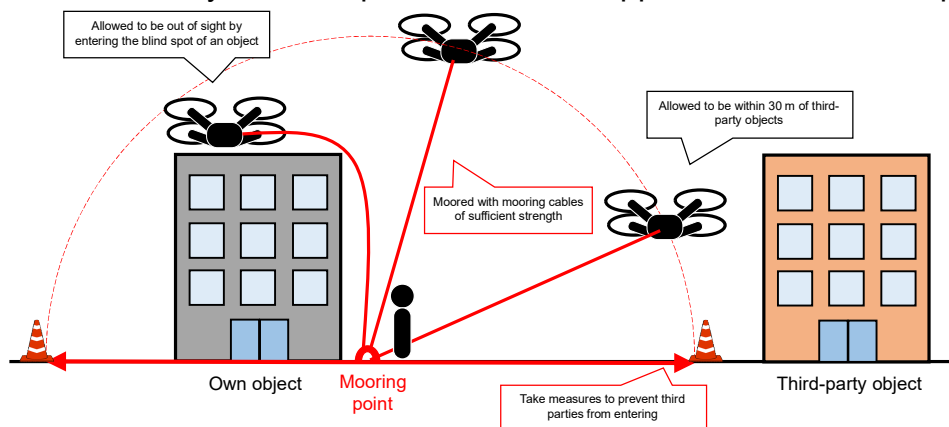
The following are not applicable to (1) and (2):

- Even if the airspace is 150 m or more from the ground or water surface, the airspace within 30 m from a property is excluded from the flight-prohibited airspace.



* Permission is still required for airspace around airports, etc. and emergency response airspace even if it is within 30 m from a property. In addition, if you need to fly the aircraft over a densely inhabited district, you need to go through the procedure.

- If you fly the aircraft moored with a sufficiently strong string (within 30 m) and take measures to control the entry of a third party into the range where the aircraft can fly, some of permissions and approvals will not be required.

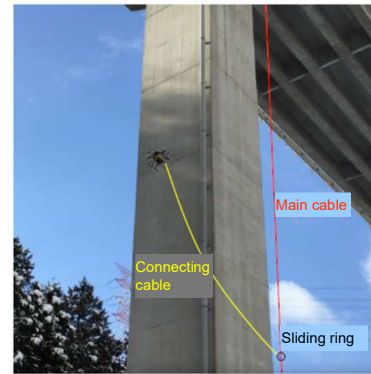


Permission and approval not required: Flight over the DID, night flight, flight beyond visual line of sight, flight less than 30 m of a third party, and object drop.

Permission and approval required: Flight around an airport, flight over emergency response airspace, flight over 150 m or more, flight over an event, and transport of hazardous materials.

- Signboards, cones, etc., indicating that entry by persons other than those concerned is restricted.
- Monitoring and oral warnings, etc. by assistants.

- As shown in the figure on the right, in the case of mooring with a main cable arranged along an object, etc. and a connecting cable that connects the Unmanned Aircraft System / UAS (the main cable and the connecting cable use a slide ring, etc.), the upper limit of 30 m applies to the connecting cable that connects the UAS.



- An act of flying an Unmanned Aircraft System / UAS by fixing a string, etc. to a moving object such as a car or an aircraft or by a moving person with a string, etc. (towing) does not fall under mooring.
- In the case of autopilot of a moored flight, when leaving the vicinity after taking measures to control the entry of a third party into the range where the aircraft can fly, please be sure to indicate the contact information of the person in charge in the vicinity in preparation for unexpected situations.
- Inspect the string used for mooring before use to prevent breakage during use.

(4) Category overview

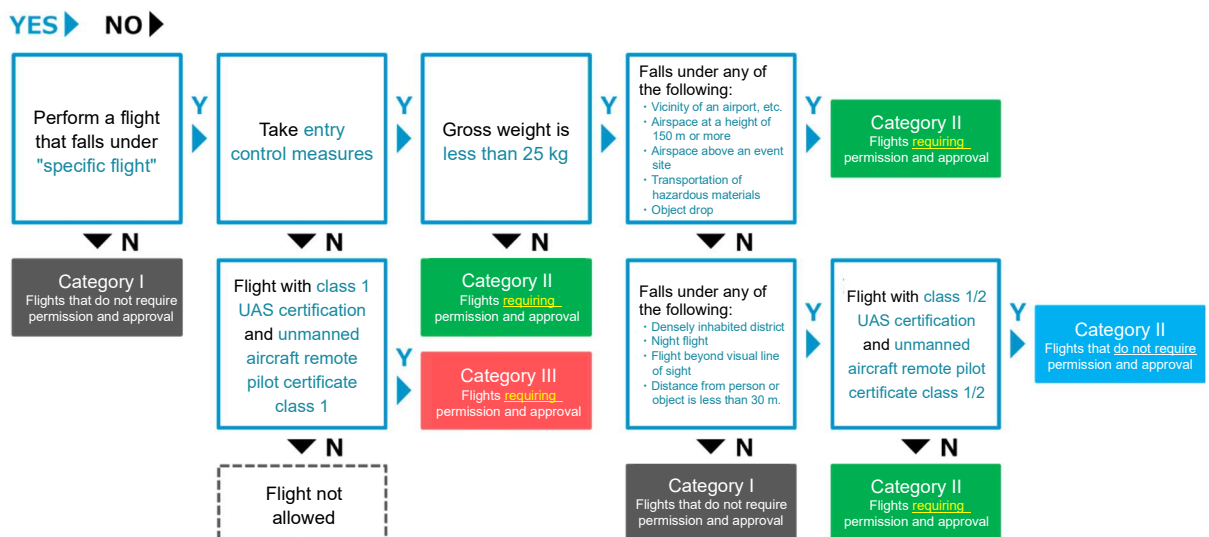
Flight configurations of an Unmanned Aircraft System / UAS are classified into the following three categories according to risk (Categories III, II, and I from high-risk) and procedures are required or not depending on the category. Specific flights described below refer to flights which do not fall under the flight over the flight-prohibited airspace and the mode of the flight described in (1) and (2).

Category III: Specific flights that are conducted without taking any entry control measures under the flight route of an Unmanned Aircraft System / UAS. (= specific flight over a third party)

Category II: Specific flights that are conducted with taking entry control measures under the flight route of an Unmanned Aircraft System / UAS. (= flight not over a third party)

Category I: Flight which does not fall under the specific flight. No flight permission or approval procedures are required under the Civil Aeronautics Act.

[Reference: Flight category determination flow chart]



* For details of the system, please refer to the following URL:
(https://www.mlit.go.jp/koku/koku_fr10_000042.html)

3. Points to note

In order to fly an Unmanned Aircraft System / UAS safely, it is of course necessary to comply with the Civil Aeronautics Act, but it is also necessary to pay more attention to safety depending on the surrounding conditions. Specifically, you should pay attention to the following points when flying the aircraft:

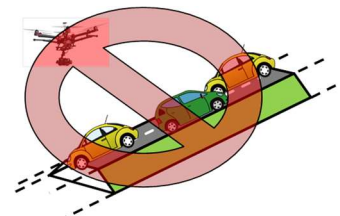
(1) Where you fly the aircraft

- Before flying the aircraft, please ensure that the airspace in which you plan to fly the aircraft is not an emergency response airspace.
- In the vicinity of airports, the flight-prohibited airspace is set in detail. As a general rule, do not fly an Unmanned Aircraft System / UAS in the vicinity of airports, etc., in order to avoid flying it suddenly into flight-prohibited airspace by mistake.
* If you want to fly the aircraft, use one that displays the flying altitude as much as possible.

- Helicopters and other aircraft may take off and land in places other than airports, etc. Do not fly an Unmanned Aircraft System / UAS in a location where it may collide with a moving aircraft.
- When an Unmanned Aircraft System / UAS falls owing to mishandling or the like, there is a risk of serious harm if there is a third party below. Do not fly the aircraft over a third party (except Category III flights). Do not fly the aircraft over places where there is a lot of third-party traffic, places where many unspecified people gather such as schools, hospitals, shrines and temples, tourist facilities, etc.
- If an Unmanned Aircraft System / UAS falls on an expressway or Shinkansen, etc., it could have a serious impact on traffic and lead to an extremely dangerous situation. Do not fly an Unmanned Aircraft System / UAS over or around them.



- Railroad vehicles, automobiles, etc. may suddenly appear at high speed from tunnels and other places outside of visual range. Therefore, expect their speed and direction and fly the aircraft always keeping the required distance (30 m).



- In the vicinity of facilities such as high-voltage lines, substations, radio towers, and radio facilities, and in places where many people use electronic devices that emit radio waves such as Wi-Fi at the same time, fly the Unmanned Aircraft System / UAS keeping a sufficient distance because there is a concern that it may become uncontrollable owing to radio interference.

(2) When you fly the aircraft

- **Do not fly an Unmanned Aircraft System / UAS when you have ingested alcohol, etc.** because normal maneuvering may be impaired.



- Since an Unmanned Aircraft System / UAS is easily affected by wind, etc., **you must confirm the following before you fly the aircraft:**





- **Are the weather conditions safe to fly?**
- **Is there any damage or failure to the aircraft?**
- **Does the battery have enough charge and fuel?**

It is essential to fly after confirming that there are no obstacles to flight and that the necessary preparations for flight have been completed.


- Keep in mind to fly the aircraft **securing enough space free from obstacles around you**. Especially when the flight speed of an Unmanned Aircraft System / UAS is high, you should keep the distance from people and objects longer than the legal limit (30 m).
- **If the aircraft is equipped with a device with remote ID functions and you can check its operation independently,** check whether it is operating normally.
- **If it is found that many people gather at the place where you fly the aircraft,** do not fly the Unmanned Aircraft System / UAS because there is a risk of injury to third parties if the Unmanned Aircraft System / UAS falls.
- In order to avoid approach or collision with an aircraft, **do not fly an Unmanned Aircraft System / UAS when an aircraft is confirmed.**
- In order to avoid approach or collision with another Unmanned Aircraft System / UAS, **fly the aircraft keeping a safe distance from it when another Unmanned Aircraft System / UAS is confirmed. If there is a risk of collision,** **make the aircraft descend to the ground.**
- **Refrain from non-essential flights of an Unmanned Aircraft System / UAS when requested by the Ministry of Land, Infrastructure, Transport and Tourism / MLIT to refrain from flying the aircraft** in order to ensure the safety of search and rescue aircraft in areas affected by disasters.

- It depends on the type of Unmanned Aircraft System / UAS, but it is effective for ensuring safety to have an assistant monitor the surroundings while flying the aircraft.
- In order to clearly communicate to people around you that you are involved in the flight of an Unmanned Aircraft System / UAS, it is recommended that pilots and assistants wear clothing that can easily identify them as those involved in the flight of an Unmanned Aircraft System / UAS (such as wearing a reflective waistcoat).

(3) On a regular basis

- In the case of specific flights, in addition to daily inspections such as pre-flight inspections, you should **inspect and maintain the aircraft periodically** in accordance with the manufacturer's instruction manual to ensure that you can fly the Unmanned Aircraft System / UAS safely, and keep the aircraft in perfect condition by early replacement of parts and the like. 
- The records of flight, inspection, and maintenance in the flight logbook can be used to identify the cause of flight problems; therefore, **you should try to keep records in the flight logbook other than the specific flights in which it is obligated to keep a log.**
- During flight, it may become difficult to control the aircraft owing to gusts of wind, etc., or unexpected failures of the aircraft may occur. For this reason, **you should try to maintain your skills on a regular basis**, such as practicing for unexpected situations.
- Even if you fly an Unmanned Aircraft System / UAS with safety in mind, it may cause damage to people's bodies and property due to unforeseen circumstances. **It is recommended that you take out insurance** in case of such situations. In the unlikely event that an accident occurs, the liability relationship may become complicated and it may be difficult for the victim to prove the negligence of the person who is liable to pay compensation; therefore, it is desirable to take out insurance which provides sufficient compensation and prompt relief to the victim.
- If an Unmanned Aircraft System / UAS crashes, it may not only cause damage to people or objects on the ground but also cause a fire. **To prepare for initial fire extinguishing in the event of a fire, prepare and carry fire extinguishers according to the type of fuel and battery mounted on the Unmanned Aircraft System / UAS, the type of fire, etc.,** and establish a system that allows pilots and assistants to take appropriate measures in an emergency. In the event of a crash, try to mitigate damage and contact the relevant authorities such as the police and fire department as necessary. 

(4) Report on accidents, etc. by Unmanned Aircraft System / UAS

- In the unlikely event that the flight of an Unmanned Aircraft System / UAS causes death or injury, damage to objects, or collision or contact with an aircraft, any loss of control of the Unmanned Aircraft System / UAS (limited to a failure of the aircraft) or ignition of the Unmanned Aircraft System / UAS (limited to a fire that occurred during flight) must be reported to the Ministry of Land, Infrastructure, Transport and Tourism / MLIT (the government office that has obtained permission or approval or the government office that has jurisdiction over the flight route). 
- In the case of an accident in which a person has been injured, necessary measures must be taken to rescue the injured person and to prevent other dangers, so the details including the method of reporting are listed in "Reporting of Accidents, etc., and Obligation to Rescue the Injured" (https://www.mlit.go.jp/koku/accident_report.html), so please check it before starting a flight.

(5) Compliance with other relevant laws and regulations

- If you intend to fly an Unmanned Aircraft System / UAS over a river (including dams and their reservoirs), permission or application may be required, or the river administrator or the surrounding municipality may have established rules for river use. Therefore, please confirm in advance whether it is allowed to fly the aircraft in the area. For details, please contact the river administrator (*).
 - * For contact information on rivers managed by the Ministry of Land, Infrastructure, Transport and Tourism / MLIT, please refer to the following website.
[The Ministry of Land, Infrastructure, Transport and Tourism / MLIT website "Rivers of Japan"]
http://www.mlit.go.jp/river/toukei_chousa/kasen/jiten/nihon_kawa/index.html
- If you fly an Unmanned Aircraft System / UAS using radio waves, you are required to comply with the Radio Act. For details, visit the Ministry of Internal Affairs and Communications website (<http://www.tele.soumu.go.jp/j/sys/others/drone/index.htm>).
- In some cases, local governments prohibit the flying of drones over parks and other areas under their control based on local ordinances, etc., and in other cases, they may request the suspension of flying through oral or written administrative guidance. In some cases, administrators of shrines and temples, including important cultural properties, post signs prohibiting the flying of an Unmanned Aircraft System / UAS over their premises. If the owner of the land, etc. indicates that the flight of Unmanned Aircraft System / UAS over the land is prohibited, you should not fly the Unmanned Aircraft

System / UAS over the land (flying an Unmanned Aircraft System / UAS over a land owned by a third party may constitute a violation of property rights.)

- When shooting images using an Unmanned Aircraft System / UAS and publishing them on the Internet, pay attention to the privacy of third parties in accordance with the “Guidelines for Handling Images Captured by ‘Drones’ on the Internet” (the Ministry of Internal Affairs and Communications).
- Causing injury to the body or property of others by an Unmanned Aircraft System / UAS may be subject to punishment.

○ To ensure mutual safety between aircraft and other Unmanned Aircraft System / UAS

- To ensure mutual safety between aircraft and other Unmanned Aircraft System / UAS, it is obligatory to report flight plans using the flight plan reporting functions of the Drone/UAS Information Platform System (DIPS) (reporting is recommended for cases other than specific flights). There is no charge for use.
- The following information can be confirmed by utilizing the "flight plan reporting functions" of DIPS.
 - Flight schedule of other Unmanned Aircraft System / UAS in the vicinity of the planned flight location
 - Position information (*) and take-off and landing locations of aircraft flying in the same airspace as an Unmanned Aircraft System / UAS
 - Places where flying the aircraft is prohibited by local governments based on ordinances, etc.
- * If an Unmanned Aircraft System / UAS operator registers his or her flight plan, it becomes possible to ascertain and confirm the flight position information of an aircraft (doctor helicopter) close to the area.



- Furthermore, by registering flight plans in advance with the "flight plan reporting functions" of DIPS, in addition to managing your own flight plans, information can be provided to other Unmanned Aircraft System / UAS operators and aircraft operators, and mutual safety can be ensured; therefore, even if a flight does not fall under a specific flight, you should proactively report the flight plan.

- * Online services are also available from tablets and smartphones.
- * For more information about the service and specific operations, refer to the following URL: (<https://www.ossportal.dips.mlit.go.jp/portal/top/>)

If you have a tablet or smartphone, you can also access it here. →



○ For those who fly an Unmanned Aircraft System / UAS as a business

- When you fly an Unmanned Aircraft System / UAS in business such as video recording, you are likely to fly it repeatedly and continuously. Therefore, it is necessary for you to take responsibility as a business operator for safe operations.
- As long as you fly an Unmanned Aircraft System / UAS as part of your business, there is a strong need to improve your skills and ensure the reliability of the Unmanned Aircraft System / UAS you use.
- It may be difficult to ensure flight safety depending on the content of the ordered work such as filming, and in such a case, it is also important to inform the client of the safety difficulties and gain their understanding.
- Companies and other organizations that intend to develop business using an Unmanned Aircraft System / UAS have formed an organization to exchange information, formulate guidelines, and engage in training and certification of flight operations and safety. It is also effective to obtain information necessary for establishing a safety management system for businesses using an Unmanned Aircraft System / UAS through such organizations.

○ For those who fly an Unmanned Aircraft System / UAS as a hobby

- Even if it is a hobby flight, it is a basic premise to fly the aircraft safely in compliance with laws and regulations. Please enjoy in compliance with the rules.
- A group of people who enjoy using radio-controlled aircraft as a hobby exchange useful information for flying an Unmanned Aircraft System / UAS, secure a place to fly the aircraft, and help purchase insurance. Such activities are also effective for the safe flight of an Unmanned Aircraft System / UAS.



○ For parents

- Even if a child flies an Unmanned Aircraft System / UAS, you must make him or her comply with laws and regulations and make sure that it flies safely without disturbing others.
- It is necessary for parents to make their children understand the rules and precautions and watch them fly the aircraft.