

# The JITI Journal

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## Welcome

*The JITI Journal is a bimonthly publication of the Japan International Transport Institute, USA (JITI), in which JITI shares information on transportation developments in Japan and elsewhere, as well as recent JITI programs. As a supplement to our regular events, we hope that the Journal likewise serves as a resource for the transportation community.*

In this issue, JITI deputy representative Tetsu Shimizu reports on how Japan is moving toward the safe operations of unmanned aircraft, such as drones. Additionally, JITI senior representative Taro Kobayashi brings us a short article on the many sights and tastes of Kumamoto, a prefecture in the Kyushu region of Japan, which was affected by earthquakes in 2016.

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### UPCOMING:

[JITI 2016 Aviation Tourism Seminar: Maximizing the Benefit of the New Haneda Daytime Services to Stimulate Business and Travel Demand Between Japan and the United States](#)

More information to follow. Please check back at our website or twitter for the latest updates on this, and other, events.

### PAST:

[JITI 2016 Self Driving Vehicle Seminar: The Future of Self Driving Vehicle Technology](#)



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## Upcoming Events

[JITI 2016 Aviation Tourism Seminar: Maximizing the Benefit of the New Haneda Daytime Services to Stimulate Business and Travel Demand Between Japan and the United States](#)

More information to follow.

Please check back with our website, or join our mailing list, to get the latest information on upcoming seminars and workshops.

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On May 18th, JITI hosted a seminar at the Mayflower Hotel in which experts from various automobile manufacturers, enforcement agencies, and the transportation sector at large discussed self-driving technology and its recent advancements, including: potential strategies to best apply the technology in the public sector, as well as ways to maintain the safety and security of roads, and the broader issues of cyber security and the potentials of this technology. The speakers also participated in a panel discussion and Q&A session with the audience. [Click here](#) for an overview, presentation materials, and bios of the keynote speakers.

### [JITI 2016 Drone Seminar: Strategies on Drone Application in the Transportation Sector](#)



On March 3rd, JITI hosted a seminar at the Ritz-Carlton Hotel in which experts from various drone manufacturers, enforcement agencies, and the transportation sector discussed future drone development, including potential strategies to maximize drone use, while maintaining the safety and security of national airspace. The speakers also participated in a panel discussion and Q&A session with the audience. [Click here](#) for an overview, presentation materials, and bios of the keynote speakers.

## Moving Toward Safe Operation of Unmanned Aircraft

*by Tetsu Shimizu*

Unmanned aircraft (UA), such as drones, are utilized in various fields including aerial photography, pesticide dispersion, and inspection of infrastructure. More utilization is expected in the future. Despite these positive uses of UA concerns about safe operation have risen.

This article introduces efforts to ensure the safe operation of UA in Japan.



Traditionally in Japan, the safe operation of UA has largely relied on voluntary safety rules established by hobbyists' associations or other related industries, as Civil Aeronautics Law (CAL) regulated only the flights of UA which might affect the flight of manned aircraft in certain airspace, for example model aircraft operation around airports.

More recently, however, everyone can purchase and operate multi-copter type UA, the so-called drones, before learning about safety rules, as they are, in general, easier to operate than conventional model aircraft. Therefore it became difficult to ensure safe operations of UA by relying on operators' voluntary effort. In addition, a drone carrying traces of a radioactive material was found on the rooftop of the Prime Minister's Office on April 22nd, 2015. Because of this, CAL was amended to incorporate general operational rules on UA on December 10th, 2015.

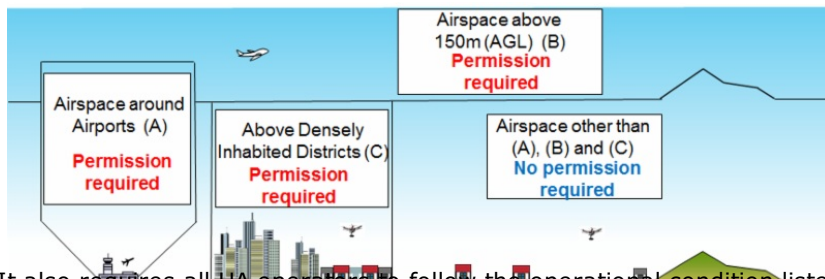
The amended CAL defines "UA" as any airplane, rotorcraft, glider, or airship which cannot accommodate any person on board and can be remotely or automatically piloted (Excluding those lighter than 200 grams, which is about 0.44 pounds, including the battery).

It requires any person who intends to operate a UA in the following airspace to obtain permission from the Minister of Land, Infrastructure, Transport and Tourism, to ensure the safety of manned aircraft and persons and/or properties on the surface, i.e. ground or water.

(A) Airspace above 150 meters (about 490 feet) above the surface of the ground or water.

(B) Airspace around airports. (Specifically, airspaces above the approach surface, horizontal surface, transitional surface, extended approach surface, conical surface, and the outer horizontal surface. The first three surfaces are established within 6 kilometers (about 3.7 miles) in general from each airport. Other surfaces are established within 24 kilometers (about 14.9 miles) from specific airports, including Tokyo, Narita, Chubu, Kansai, Kushiro, Hakodate, Sendai, Osaka, Matsuyama, Fukuoka, Nagasaki, Kumamoto, Oita, Miyazaki, Kagoshima, and Naha.

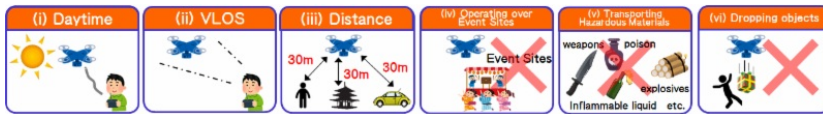
(C) Airspace above the Densely Inhabited Districts (DID) defined and published by the Minister of Internal Affairs and Communications. (Those areas in which the population density is larger than 4,000 people per square kilometer (about 10,360 people per square mile) are defined as DID in general.)



It also requires all UA operators to follow the operational condition listed below, unless approved by the Minister of Land, Infrastructure, Transport and Tourism.

### Conceptual Airspace

- (i) Operation of UA in the daytime.
- (ii) Operation of UA within Visual Line of Sight (VLOS).
- (iii) Maintenance of 30 meter (about 98 feet) operation distance between UA and persons and/or properties on the surface of ground or water.
- (iv) Do not operate UA over event sites where many people gather.
- (v) Do not transport hazardous materials such as explosives by UA.
- (vi) Do not drop any object from UA



Source: MLIT

Although CAL does not require an airworthiness certificate for the UA nor a pilot license for the UA operator, the Civil Aviation Bureau (JCAB), one of the bureaus of MLIT, verifies function and performance of the UA, aerial experience, knowledge and capability of operator, and measures to be taken to ensure operational safety of the UA, before issuing permission and/or approval.

During the first six months since the amended CAL came in to force, JCAB received 6,093 applications and issued 4,643 permissions/approvals.

JCAB publishes detailed instruction on how to fill out the application form and shows samples of supplemental document, so that those who are not familiar with administrative procedures can prepare their application packages easily.

In addition, JCAB provides guidance materials which contain tips and other information for operational safety of UA, Q & A on legislations and rules, a map of the airspace where the permission is required, etc. through its website at [http://www.mlit.go.jp/koku/koku\\_tk10\\_000003.html](http://www.mlit.go.jp/koku/koku_tk10_000003.html) (in Japanese) and <http://www.mlit.go.jp/en/koku/uas.html> (in English, some information is omitted).

The image shows a screenshot of the Japanese Civil Aviation Authority (JCAB) website. Several blue callout boxes point to specific sections of the page:

- What's New**: Points to the top news section.
- Guidance Materials**: Points to a section with various icons representing different types of drone operations.
- Map of the Airspace where Permission is Required**: Points to a map of Japan showing red and green zones.
- Q & A**: Points to a section with a question mark icon.
- List of Permission/Authorization**: Points to a list of drone categories.
- Instruction for Applicants**: Points to a document icon representing application instructions.
- Legislations**: Points to a section with a scale icon.
- Information on Accident, Probable Cause, and Preventive Measures**: Points to a section with an airplane icon.

Prepared by author using MLIT's data.

Finally, JCAB asks operators of UA to report when an accident occurs. JCAB does not aim to penalize such operators but utilize the information to consider further policymaking and/or rulemaking. JCAB also publishes gathered accident information, including probable cause and preventive measure, after its review and de-identification. JCAB believes such information is useful for other operator to enhance operational safety.

## Cheer up Kumamoto!

by Taro Kobayashi

This year, a strong earthquake centered in Kumamoto Prefecture in Kyushu occurred on the evening of April 14th, followed by an even stronger one on the night of April 16th. The area between Kumamoto City and Mount Aso was most affected by these earthquakes. Several dozen



lives were lost, thousands of buildings and many roads were damaged, and landslides occurred. After the earthquake, Japan received a lot of support from foreign countries, regions, and international organizations, including great assistance from the U.S. Forces in Japan. As a Japanese person, I would like to express sincere thanks to all the helpful support from abroad.

Kumamoto holds many sightseeing spots, including Kumamoto-jo Castle, which is more than 400 years old, and is counted among the three finest castles in Japan. Many tourists visit Kumamoto every year, both Japanese and from abroad. However, since the earthquake occurred just before the long consecutive holidays in May, when many people would have normally visited the area, the number of tourists who has greatly decreased. For the restoration of Kumamoto, I would like to encourage people outside the area to visit and to stay, eat, and do anything they can help. In this article, I am going to introduce some attractive sightseeing spots and foods in Kumamoto.



<https://pixabay.com/photo-1096822/>

### **Kumamoto-jo Castle**

- Kumamoto-jo Castle is located in the center of Kumamoto City. From the top floor of castle tower, we can look over a magnificent view, including the center of Kumamoto City, as well as distant Aso area. The castle tower was rebuilt in 1960 after burned up during the civil war in 1877, but some original buildings such as Uto Turret and the Turrets in Higashi-Takenomaru are still extant. Thirteen of them are designated as Important Cultural Properties. The stone walls, which are one of the main characteristics of Kumamoto-jo Castle, are mostly the original ones, but most of the walls fell down after the earthquake.



### **Aso Area**

- Mt. Aso is located at the center of Aso-Kuju National Park in Kumamoto, which lies in the center of Kyushu. The mountain is a typical complex volcano composed of an outer rim with a total circumferential length of 128 kilometers, a caldera (circular volcanic basin) with three municipalities inside, and five mountains (Aso Gogaku) on the central plateau, including the active Mt. Nakadake. Since the figure of "Aso Gogaku" looks like Buddha sleeping on his back, that is called "Aso no Nehanzo", which means the image of the Buddha immediately after his death.



### **Minamiaso Railway**

- Minamiaso railway runs through the caldera in Aso area within an hour. Its trolley train is unusual as it has one locomotive at each end and three special passenger cars with no windows in between. Because of the earthquake, many rails and bridges are suffering



from serious damage, so early restoration should be expected.



### **Kurokawa Onsen (Spa Resort)**

- Kurokawa Onsen is one of the most famous spa resorts in Kumamoto. It is located in the north side of Mt. Aso, and its history goes back about 300 years. Kurokawa Onsen became more popular in 1980's with a concept of "the spa town with a collection of Roten buro (open-air baths)." It is famous for its "Nyuto Tegata" idea. If you get "Nyuto Tegata", ticket for spa, you can visit three Roten buro of any hotels in Kurokawa Onsen.



### **Food Culture**

- Kumamoto is rich with clean natural ground water which has given rise to delicious natural agricultural products grown, nurtured livestock products produced that are shipped throughout all of Japan. "Kumamoto-Ramen", "Basashi", thinly sliced raw horse meat, and Karashi Renkon, mastered-stuffed lotus root are very famous local gourmets in Kumamoto. In addition, Kumamoto is the largest production center of watermelon in Japan. Among the areas in Kumamoto, Mashiki-machi that suffered the biggest damages by the earthquake is one of the largest production centers. It is a good news that Mashiki-machi already started shipping watermelons to the market.





### **Kumamon (Mascot of Kumamoto)**

- Kumamon is a mascot created by the government of Kumamoto Prefecture. It was created in 2010 for a campaign to appeal Kumamoto after Kyushu Shinkansen opened. For its unique and pretty character, Kumamon became nationally popular, and in late 2011, was voted top in a nationwide survey of mascots, known as "Yuru-Chara". After the earthquake, Kumamon is one of the symbols of recovery in Kumamoto and is encouraging people in Kumamoto.

What I introduced here are only a part of attraction in Kumamoto. If you have a chance to visit Japan, please extend your journey to Kumamoto, visit wonderful sightseeing places and eat great food. That should be a great help for the people in Kumamoto to restore from big damage of the earthquake.

## **Stay in Touch with JITI**

Please follow the Japan International Transport Institute Twitter feed at [@JITIUSA](https://twitter.com/JITIUSA). We look forward to providing you with the most up to date information on our organization and events.

*Thank you for reading the JITI Journal. Until the next issue, whatever your mode, travel safely!*

*The JITI Team*