

YAMBADAM

Yamba Dam



Ministry of Land, Infrastructure, Transport and Tourism Kanto Regional Development Bureau
Tone River Dams Integrated Management Office Yamba Dam Management Branch

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Tone River Dams Integrated Management Office website

<https://www.ktr.mlit.go.jp/tonedamu/>

Data such as dam volumes, river levels, rainfall, and snowpack, as well as live images of each dam, are provided in real time on the Tone River Dams Integrated Management Office website.



@mlit_yamba_D

Yamba Dam also uses X (formerly Twitter) to disseminate information about the dam.



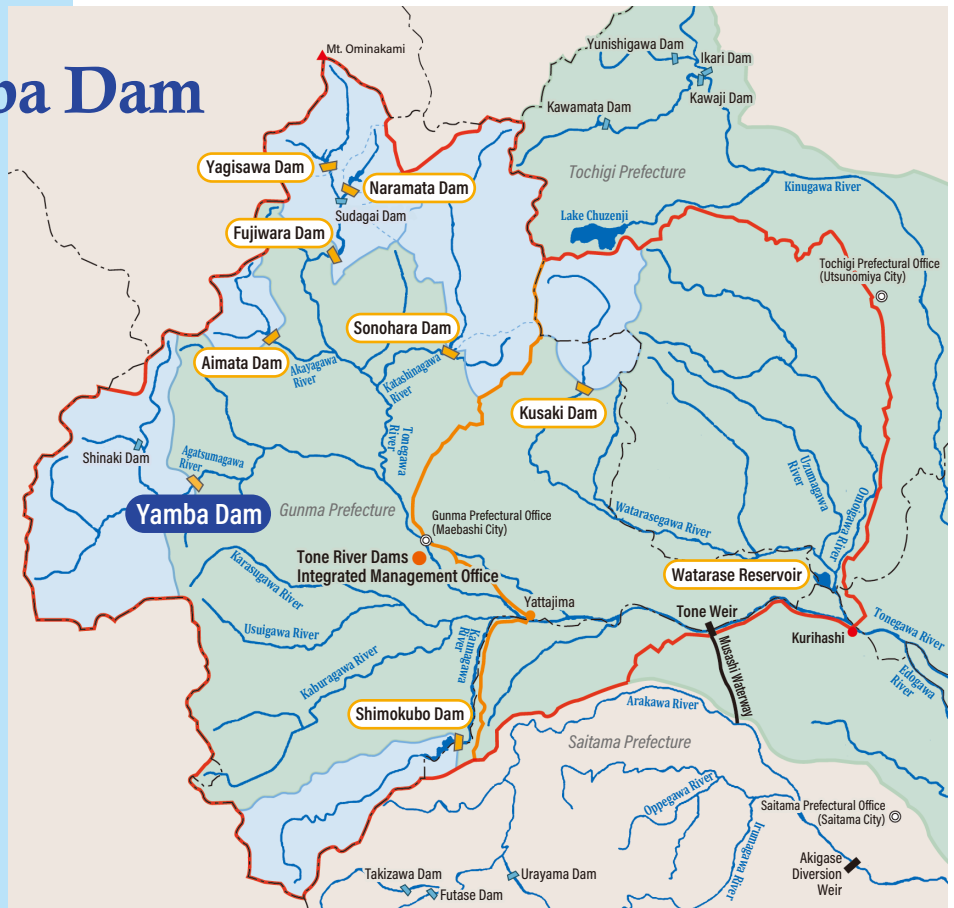
Overview of Yamba Dam

Yamba Dam is a concrete gravity dam located in Naganohara Town on the middle reaches of the Agatsumagawa River, a tributary of the Tonegawa River. It was completed at the end of March 2020 for the purposes of disaster reducing operation, maintenance of normal water flow functions, new urban water supply, and power generation.

There are many places of interest in the surrounding area. Those include Agatsuma Gorge, a national scenic beauty spot, downstream, and Kawarayu hot spring, which is said to have been discovered upstream by Japan's first shogun, Minamoto no Yoritomo.



Photo taken in October 2019, just after Typhoon No. 19.



Watershed area	711.4 km ²
Reservoir area	3.0 km ²
Active storage capacity	90 million m ³ (equivalent to 265,000 25-meter swimming pools)

Roles of Yamba Dam

Disaster reducing operation

The water level of the dam lake is lowered from July 1 to October 5, and when heavy rains such as in typhoons occur, water is released while storing water in the dam lake to reduce discharge downstream and prevent flood damages downstream from the dam.

* Using a flood control storage of 65 million m³, the design flood discharge of 3,000 m³ per second at the location of the dam is adjusted so that water is released at 200 m³ per second.

Maintenance of normal water flow functions

Efforts are made to secure volume of flow so as to preserve the scenery of Agatsuma Gorge, a national scenic beauty spot located downstream of the dam, and improve the flow conditions of the Agatsumagawa River.

* The reservoir has a usable water capacity of 25 million m³ during the flood period from July to October 5 and 90 million m³ during the non-flood season from October 6 to June for reasons such as to secure flow to supply water in the area along the Tonegawa River and to preserve the river environment.

New urban water supply

Maximum supply of 22,209 m³/s is possible as new urban water supply for Gunma Prefecture and downstream prefectures.

Water for waterworks (maximum 21,389 m³/s)

Gunma Prefecture, Fujioka City, Saitama Prefecture, Tokyo Metropolitan Government, Chiba Prefecture, Kitachiba Water Supply Authority, Inba District Wide-Area Municipalities Affairs Association, Ibaraki Prefecture

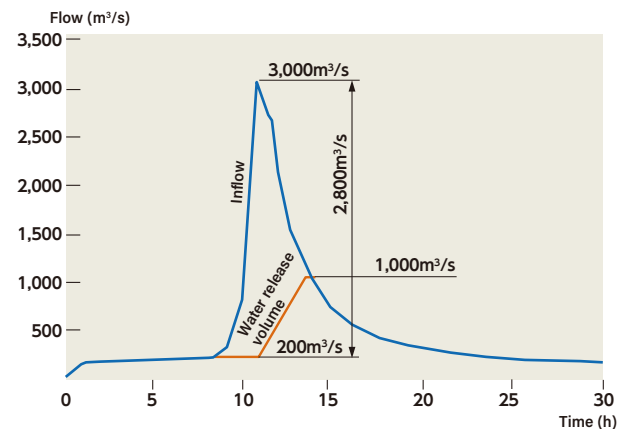
Industrial water (maximum 0.82 m³/s)

Gunma Prefecture, Chiba Prefecture

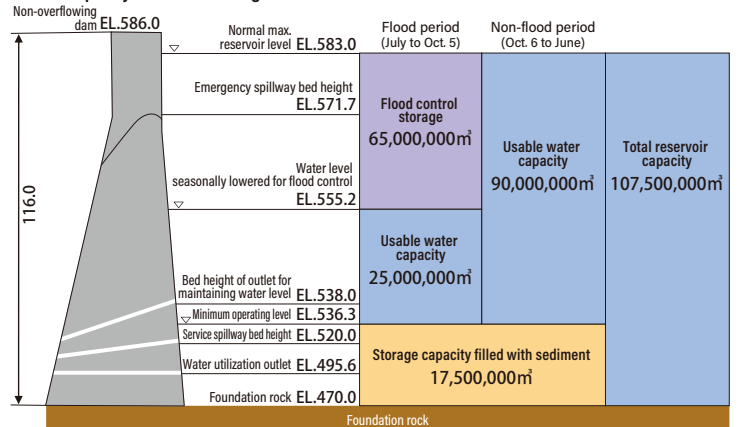
Power generation

The Yamba Dam Power Station, which will be constructed downstream of the dam by Gunma Prefecture, will generate electricity at a maximum output of 11,700 kW.

Flood control diagram

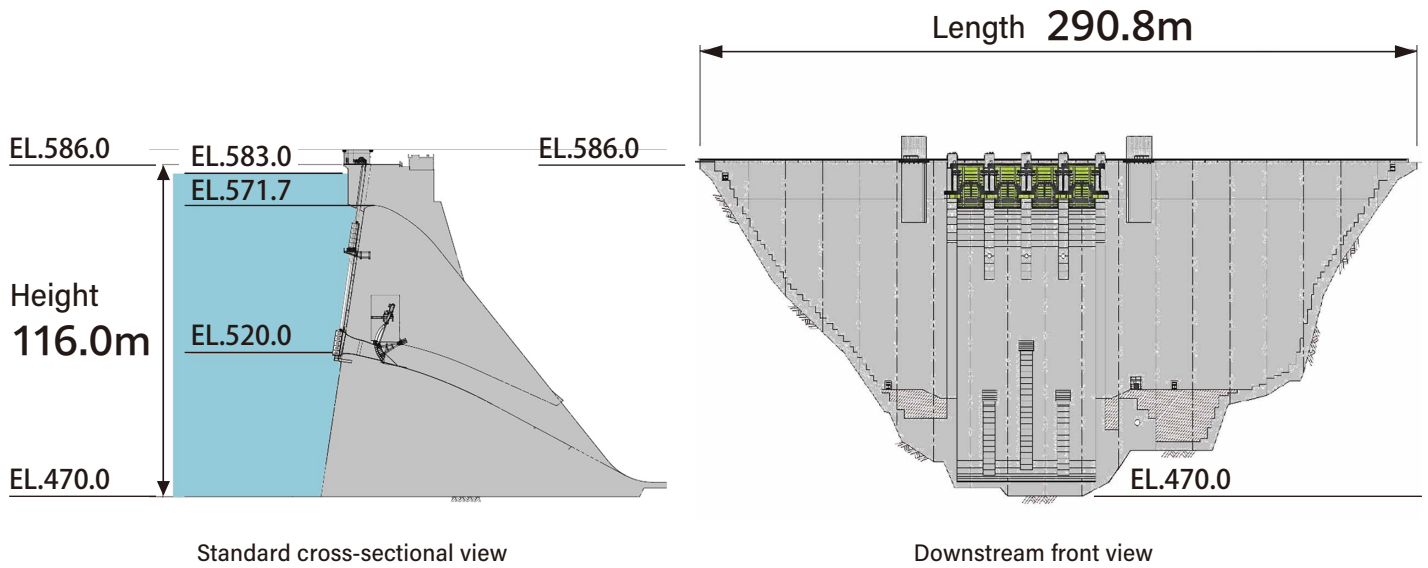


Capacity distribution diagram

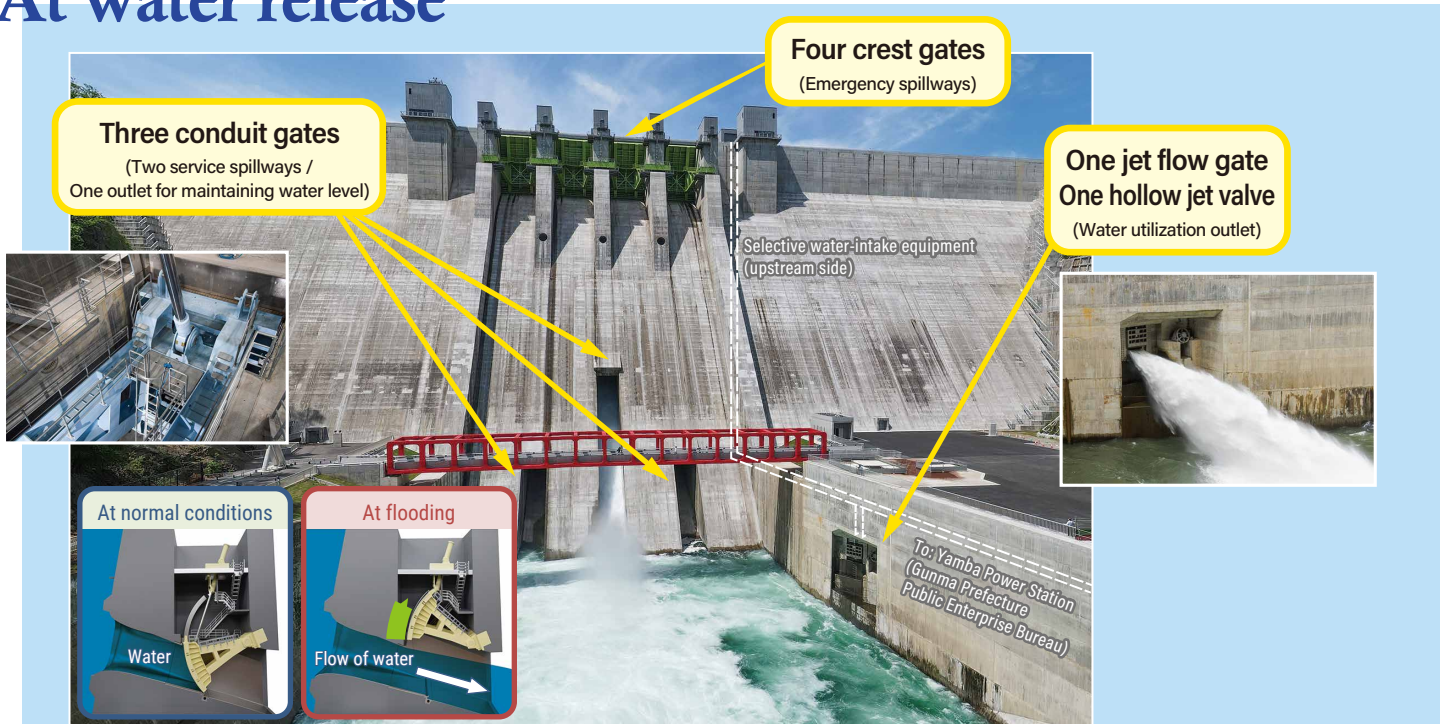


Size of Yamba Dam

Dam form	Concrete gravity dam
Dam volume	991,000m ³
Dam height	116.0m
Dam length	290.8m



At water release



When releasing water...

When water flows through conduit gates and crest gates, speakers (water release alarm station) and warning vehicles are used to inform people near the river of the danger that the water level of the river is about to increase. When releasing water from the dam, the amount of water released is increased gradually in order to suppress the rapid rise in water levels downstream. In addition, water release alarm display equipment notifies the public that water is being released.



Water release alarm station



Water release alarm display equipment

Dam Management

Yamba Dam is managed on a daily basis to ensure that its purposes are sufficiently achieved through maintenance and inspection of the dam's body and outlets such as gates as well as equipment for rainfall, water level, and alarms, and by properly operating the gates during floods.



Operation room

Dam Operation

The operation room at the management branch consolidates information on rainfall and water level, and that observation data is used to operate the dam.

Facility inspections

The outlets, observation equipment, and the like are inspected daily to ensure that there are no abnormalities.



Dam body inspection

(Dam body observation instruments)



Gate inspection

(Conduit gate)



Telecommunication equipment inspection

(Backup generator)



Reservoir inspection

(Lake surface patrol)

Features of Yamba Dam

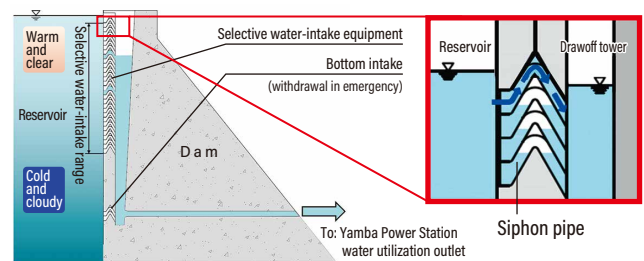
Flood control storage/Catchment area

Yamba Dam has the largest flood control storage and catchment area of all the dams on the upper reach of the Tonegawa River.

Name of dam	Flood control storage (10,000 m ³)	Name of dam	Catchment area (km ²)
Yamba Dam	6,500	Yamba Dam	711.4
Shimokubo Dam	3,500	Sonohara Dam	607.6
Yagisawa Dam	2,210	Fujiwara Dam	401.0
Fujiwara Dam	2,120	Shimokubo Dam	322.9
Kusaki Dam	2,000	Kusaki Dam	254.0
Sonohara Dam	1,414	Yagisawa Dam	167.4
Naramata Dam	1,300	Aimata Dam	110.8
Aimata Dam	940	Naramata Dam	95.4

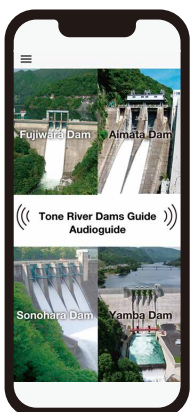
Selective water-intake equipment

A continuous siphon system with 29 layers of siphon pipe has been adopted for the selective water-intake equipment, and the 58 m intake range is the largest in Japan using this system.



Learn about the four dams of the upper reach of the Tonegawa River by smartphone app!

(Fujiwara, Aimata, Sonohara, and Yamba dams)



Voice guidance app

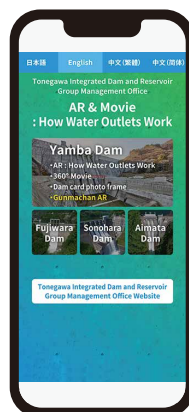
Audio and photo guidance is given for each of the four dams and nearby attractions.



iPhone



Android



Water release experience AR app

Experience water release in AR.

See movies of the dam interior too.



iPhone



Android



Experience here in AR!



Experience water release viewed from Yamba Momiji Bridge in AR!