

The Nasu irrigation canals provide water to Nasunogahara

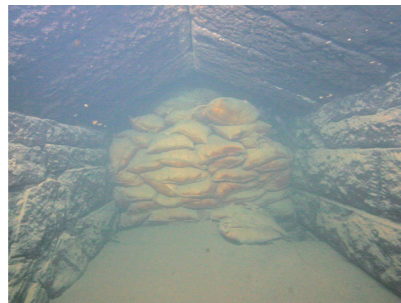
▼ The old water pump for the Nasu irrigation canals was built by tunneling through a steep cliff along the Naka River. A newer facility built nearby is currently being used.



The lack of water was a large obstacle to the development of Nasunogahara. Prominent locals lobbied the government to build the Nasu irrigation canals to provide water to the region.

History of the Nasu irrigation canals

People gathered from around the country to reclaim Nasunogahara during the Meiji era. But the area lacked water, and there wasn't enough drinking water to support a large population. Prominent locals such as Jousaku Innami and Takeshi Yaita lobbied the government, and a canal was built in 1882 to draw drinking water from the Naka River that flows to the northeast of Nasunogahara. But an even larger canal was necessary to bring enough water for agriculture. After further lobbying, the Nasu irrigation canals were built in 1885.



Jousaku Innami

Born in 1831 in what is now the city of Nikko. Served in various positions such as village head, and founded the Nasukaikonsha farm and became its first president in 1880.



Takeshi Yaita

Born in 1849 in what is now the city of Yaita. Served as village head and prefectural legislator before becoming the second president of Nasukaikonsha in 1888 and founding what would later become Yaita Farm.

◀ The tunnel inside the old water pump
The east tunnel (above) and west tunnel (below)



How were waterways built underground?

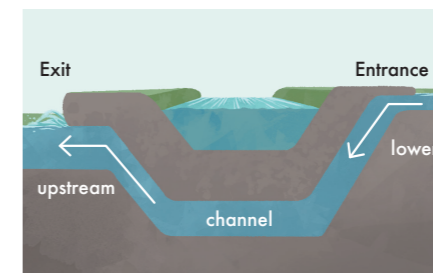
To draw water from the Nasu irrigation canals to each farm, it was necessary to build underground waterways across the Sabi River. This was done by taking advantage of the dry river. Rather than digging underground, riverbed rocks were moved, rocks were arranged in a pentagonal shape to create a tunnel, and then covered with the riverbed rocks. This created one single long, underground waterway.



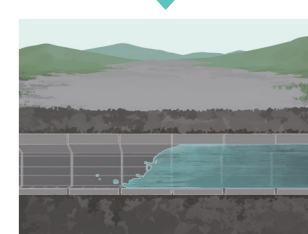
1 Stack rocks in a pentagonal shape to create a hollow tunnel.



2 Cover the rock tunnel with sand and gravel from the riverbed.



◀ A waterway passing under the Sabi River. The water is delivered by diverting the water through a U-shaped waterway where the water emerges in a vertical direction. (fusekoshi / siphon waterway).



3 Water flows through the completed underground tunnel.

The Nasu irrigation canals today

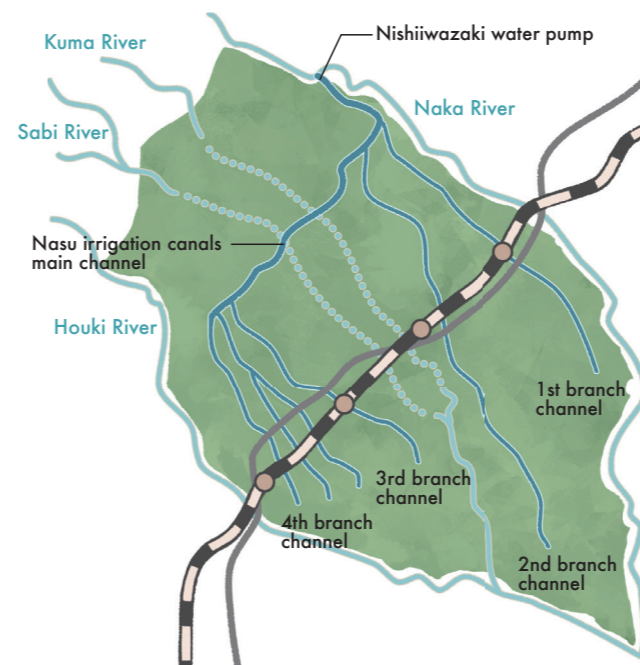
While the location of the water pump has changed a number of times, the Nasu irrigation canals are still in use today. Water carried by the waterways throughout the Nasunogahara region are still used for agriculture, industry, and hydroelectric power.



▲ The water pump for the Nasu irrigation canals that draws water from the Naka River. The former pump is on the cliffs to the right, and the facilities currently in use on the left were completed in 1976.

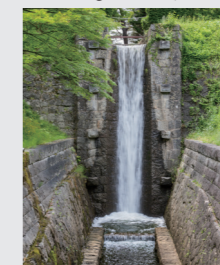
◀ A siphon exit where water emerges after passing through an underground waterway on the Sabi River. The water then flows along an aboveground waterway once more.

Canal map



The big three canals of Japan

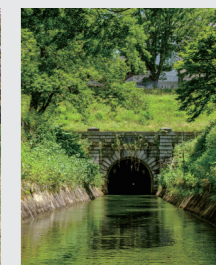
A canal is a waterway built to draw water from its source. The Nasu irrigation canals are known as one of the big three canals of Japan, together with Asaka Canal in Fukushima Prefecture and the Lake Biwa Canal that links Shiga and Kyoto Prefectures.



Asaka Canal



Nasu Irrigation Canal



Lake Biwa Canal