

Hijikawa Arashi Storm

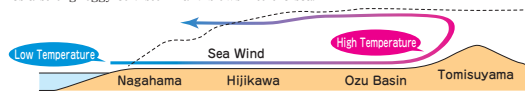


What is Hijikawa Arashi Storm?

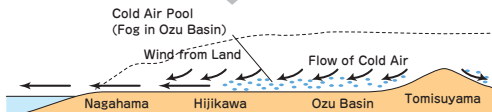
Hijikawa Arashi is a cold foggy wind which occurs between fall and winter at night and early mornings around the mouth of the Hijikawa River in Nagahama, Ozu City, Ehime Prefecture. On some sunny mornings, strong cold air is created in the upper stream of the Hijikawa River in the Ozu Bonchi Basin and it blows along the river, accompanied by fog. It looks as if a swift current is flowing out of a foggy lake, swallowing the town with roaring sounds. The spectacular scene of foggy wind blowing into the sea often reminds people of the wonder of nature.

How does the Storm Occur?

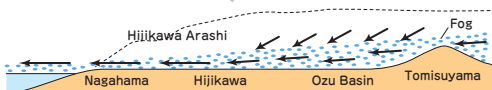
The Hijikawa River is the largest first class river in Ehime, it is 103km in length and has a basin area of 1,210km². It runs near the Ozu Basin at the upper part of the stream and flows into the Iyonada Sea. Hijikawa Arashi is created due to the difference in air temperature and pressure between the land and the sea. The humid air in the Iyonada Sea flows into the Ozu Basin in the day time. Between fall and winter on a clear night, the humid air pooled in the basin is cooled during the night, and in the early morning, this cold air along with a high pressure system starts to move towards warmer areas. However, because of the geographical features of the Hijikawa area, where mountains were close to the river, the air can only flow along the river to the Sea. The air along with the high pressure system becomes a strong foggy cold storm and blows into the sea.



1 During day time, wet air accompanied by high pressure flows back from the Iyonada Sea to the Ozu Basin.



2 Air flowing back from the Iyonada Sea into the land cools down and stays in the basin during the night.



3 In the early morning, which is the coldest time of the day, cold air flows out from the Ozu Basin along the Hijikawa River in a strong foggy storm and blows out into the sea.

Hijikawa Arashi Forecast Group Home Page (Japanese Only)

A local group of people in Nagahama Cho post information on Hijikawa Arashi on a website. Please check out the weather forecast on Hijikawa Arashi.

脇川あらし予報会

検索

<http://www.arashi-nagahama.com/>

To Nagahama Ohashi



Access to Nagahama

- By Train**
 - From Matsuyama Sta. to Nagahama Sta.: appx. 1 hr.
 - From Iyo-Ozu Sta. to Nagahama Sta.: appx. 30 min.
- By Bus**
 - Transfer at Ozu/ From Ozu to Nagahama: appx. 30 min.
 - From Matsuyama to Ozu (Express: 1 hr. 10 min.)
 - From Ozu to Nagahama (Local: 30min.)
- By Car**
 - From Matsuyama via National Highway 378 (appx. 40km): 50min.
 - From Matsuyama Expressway Ozu Interchange (IC): 20min.



Important National Cultural Property Nagahama Ohashi Bridge Details

| | | | |
|-------------------|---|-------------------------|---|
| Name | Nagahama Ohashi Additional National Cultural Property Designation: Antique Electric Machine Components | Size | Length 232.3m Width 6.6m |
| Number of Bridges | 1 | Construction | Start November, 1933 Completion August, 1935 |
| Date Designated | 12/10/2014 | Party Ordered | Ehime Prefecture |
| Location | Okura & Nagahama, Nagahama Cho, Ozu City, Ehime Prefecture | Engineering & Design | Jun Masuda (Masuda Bridge Construction Office) |
| Ownership | Ehime Prefecture & Ozu City | Supervisor | Ryoichi Takeda |
| Structure & Style | Steel Movable Bridge Steel Plate Girder (2) Steel Warren Truss (5) Iron Concrete Bridge Pier (6) Iron Abutment (2) Machine Components Used for Moving the Bridge | Contractor | General Contractor: Hosono Gumii & Co., Ltd. Truss Steel Manufacturing: Ando Tekkojo Movable Steel Parts & Machine Components Manufacturing: Osaka Tekkojo Electrical Component Manufacturing: Meidensha |
| | | Total Construction Cost | 280,000 Yen |
| | | Notes | Open at 1:00pm Sundays |

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Exploration of Cultural Properties in Ozu City ③

Nagahama Ohashi Bridge

Important National Cultural Property



Birth of a Movable Bridge



Nagahama has grown to be a pivotal port town which has connected sea and river freight transport since the Edo feudal period. Traditionally ships gathered around the mouth of the Hijikawa River to load and unload their cargo.

Except for temporary floating bridges which were occasionally used, boats were the only transportation method available between Nagahama Cho on the right bank and Kushu Village on the left bank of the river, and thus building a stable bridge was a long term dream for the local people.

Nagahama Ohashi was constructed as a part of a public works project to connect the Prefectural Road from Nagahama to the Kawanoishi (Yawatamah City) Line and Nagahama to the Gunchu (Iyo City) Line to help boost the economy.

The bridge was designed by Jun Masuda, who was considered to be a pioneer bridge-building consultant. He had designed many movable bridges in various styles using advanced design techniques that he had learned in the U.S. Considering such things as the number of ships passing through the river to a timber collection point upstream (an inlet of the river called Ego), geographical features, and costs, he concluded the best option would be to build a movable bridge, which opened on one side. With total construction costs of approximately 280,000 yen, (modern equivalent of approximately 2 billion yen), the bridge was completed in August, Showa 10 (1935) using the latest construction techniques. Examples of this are the construction of a foundation called caisson technique, and building techniques using floating boats and differences in tide levels.

Before Nagahama Ohashi was Completed



Floating Bridge during the Construction
Photos: Provided by Fusao Hosono



Transfer of Girders by Pontoons
Photos: Provided by Fusao Hosono



Opening of the Bridge

Hyotaro Nishimura Leader of Nagahama Ohashi Construction



Hyotaro Nishimura (1884 - 1935) served as Mayor of Nagahama Cho for 5 terms (21 years and 5 months) from the age of 30 through age 51, when he passed away. While in office, he was elected as an Ehime Prefectural congressman and engaged in the politics of Ehime for 17 years.

There were many twists and turns including political disputes before the Nagahama Ohashi construction was started. Congressman Nishimura was greatly credited with achieving completion of the bridge. In addition, he played a great role in establishing infrastructure such as the opening of Ehime Railway, renovation and reconstruction of Nagahama Port, building of new waterworks and construction of an aquarium. People describe Mr. Nishimura, saying "No one before or since has paralleled him."

The Only Movable Road Bridge Still in Use in Japan



There are only three movable bridges still in use in Japan. Among those, two are railway bridges and Nagahama Ohashi is the only road bridge. Nagahama Ohashi is a movable bridge, whose girder opens on one side. To move the heavy 54t girder smoothly, a heavier 82t weight called a counterweight is used.

Originally the bridge was painted in dark gray but after the War, it was repainted in red. Since then it has been called "the Red Bridge" and is admired by local people. There are no longer big ships passing along the river so the bridge is opened only once a week for check up purposes.

Antique Electric Machine Components for Moving the Bridge

In Heisei 12 (2000), the operation compartment was rebuilt and the machine components for opening the bridge including the motor were replaced. These old machines are now exhibited at the Nagahama Communication Center and show the long history of the bridge.



Nagahama Bridge Survives Threats of War and Removal



Bullet Marks left by Grumman Aircraft Attacks

Nagahama Ohashi went through many hardships since it was first completed in Showa 10 (1935). It was attacked during World War II. In the end of the war, it was attacked by U.S. military Grumman aircraft and was temporarily unable to be operated. Bullet marks on several areas of the bridge tell how hard the war was on the area.

In Showa 52 (1977), to cope with an increase in the traffic and to improve the local traffic infrastructure, a new Nagahama Ohashi Bridge, 333m in length was constructed at a lower stream along the river. The old bridge was scheduled to be taken down. However, due to citizens' protest, the mayor at the time negotiated with the Prefecture to keep the bridge for the local community's general use.

Nagahama, One of the Three Largest Timber Collection Points in Japan



Timber Collection Point



Rafting



The Inlet of the Hijikawa River Flourishing with Ships



Old Nagahama Ohashi

Nagahama was known as one of the three major timber collection points in Japan together with Shingu, in Wakayama and Noshiro, in Akita. Timber sent on rafting from Sakaishi and other areas up stream on the Hijikawa River were collected in *Ego* and shipped through timber markets one after another.

Nagahama played an important role in the timber industry in western Japan in the beginning of the Taisho period and long after. Many timber buyers came from all over western Japan including Kagawa, Hiroshima and Oita to bid on timber. It was said that the market price of timber in the Nagahama market determined the average prices of timber throughout western Japan.

In the beginning of the Showa Period, half the amount of all timber traded in Nagahama were exported to Taiwan, Manchuria and other areas in the Korean peninsula via trading firms. As for domestic use, Nagahama timbers were described as *small timbers of Iyo* and sold for use as construction materials and "mine supports in northern Kyushu and Ube, Yamaguchi. ^{Mine} supports are timbers used to support the tunnels in a mine.

After World War II, Nagahama flourished because of the high demand for timber used for reconstruction in the aftermath. However, gradually cheap foreign timber began to come into the domestic market and the amount of timber traded in Nagahama dropped to half of what it once was. In addition, large sized trucks began to be used for transportation instead of rafts, and timber factories moved from the river side to places further inland. As a result, the timber industry in Nagahama declined. A large part of *Ego*, which was used as a timber collection area, was reclaimed and is now used as a playground of Nagahama Junior High School.

