

# Major disasters in the drainage area

The Matsumoto Sabo covers three drainage areas in its sabo works. Specifically, they include the Himekawa River that runs from the northern part of Nagano prefecture through the southern part of Niigata prefecture almost along the Itoigawa-Shizuoka tectonic line, the Takasegawa River that has its source in Mt. Yarigadake and runs down the steep slope of valleys, and the Azusagawa River that flows into Taishoike Pond from Mt. Yarigadake all the way through the eastern foot of the peaks of the Hodakas and joins Shihorisawa that is extremely devastated by the eruption of Mt. Yakegadake. These three drainage areas have suffered a sediment-related disaster caused by their own shapes and geological characteristics. The mountains in the upper reaches of the river become devastated, and discharge a large quantity of sediment into the Honkawa River, which in turn becomes debris flow after a torrential downpour, or is dams up the river, and the dam breaks to cause flood.

## Major disasters in recent years

- 1584 - Great eruption of Mt. Yakedake. The Nakao Pass exploded, and a debris flow flowed down all the way to the Kamisaka district from the crater.
- 1735 - A landslide occurred on the east side of Waritani volcano. The Extrusion was formed near Kamikochi spa.
- 1746 - Mr. Yakedake erupted, and a great earthquake hit the country.
- 1757 - Mt. Togihata collapsed, and stopped water for two days; then, it flowed out all at once, and caused a great deal of disaster to the lower reaches.
- 1802 - Kakunodaira was devastated. Landslides buried six houses.
- 1887 - Myosaizeki dam was breached, and a large collapse occurred.
- August 23, 1890 - A great flood occurred in the Azusagawa River.
- 1896 - A collapse of Mt. Mukai at Kakunodaira in Nagawa Village occurred. Six houses were buried. Twelve lives were lost. Matsumoto suffered a great flood damage.
- July 15, 1902 - A flood occurred in the Himekawa River. Mt. Kozuchi in Minamiotari Village collapsed.
- 1909 - Mt. Yakedake erupted dozens of times.
- August 11, 1910 - A flood damage was caused by the Takasegawa River and the other small rivers. A flood in the Himekawa River caused a flood damage to the whole area along the river.
- August 8, 1911 - A great collapse of Mt. Hieda occurred, which dammed up the Hime- kawa River.
- July 22, 1912 - A great torrential downpour caused damage to the whole area along the Himekawa River.
- June 4, 1915 - Taisho Pond appeared upon great eruption of Mt. Yakedake.
- July 9, 1917 - A deluge in the Matsukawa River and the Hirakawa River caused a great deal of damage.
- April 1923 - A torrential downpour caused a flood to the Himekawa River. The Kuruma district was washed away by the flood.
- August 20, 1924 - Two places of the embankment in the site of Nechimura Village broken. A flood washed away the area for about 130 hours.
- July 9, 1931 - A deluge in the Matsukawa River and the Hirakawa River caused a great deal of damage.
- July 11, 1934 - An embankment in the Hirakawa River collapsed, and caused a great deal of flood damage to the Kitashiro district.
- May 23, 1936 - A thaw collapsed Mt. Kazefukidake. Debris flows occurred for three days.
- June 28, 1936 - An embankment in the site of Ueno in Nechimura Village was broken by some 150m.
- April 21, 1939 - Mt. Kazehari in Minamiotari Village collapsed, and dammed up the Himekawa River.
- 1945 - An autumn rain front and a typhoon caused a great deal of flood damage to Nakawa Village.
- October 3, 1945 - A debris flow hit Shimashimadani.
- June 1946 - The Hirakawa River and the Matsukawa River flooded after the torrential downpour.
- June 29, 1946 - A landslide occurred near Kuruma and Johoji.
- July 28, 1948 - A thunderstorm caused a debris flow to flow out of Mt. Kazefukidake, and dammed up the Himekawa River.
- September 26, 1953 - A Koyanai embankment in Nechimura Village was broken by 60m.
- July 10, 1959 - The Hirakawa River and the Matsukawa River flooded. The total amount of damage reached 45 million yen. Service on the Oito Line was suspended.
- September 26, 1959 - Typhoon No. 15 collapsed the Matsukawa embankment.
- June 23, 1961 - A seasonal rain forest caused a great mud avalanche to hit Zenrokuzawa.
- June 17, 1962 - Mt. Yakedake erupted.
- 1963 - The areas along the Azusagawa River and the Honkawa River were inundated by the flooding after the localized torrential downpour.
- July 7, 1964 - A seasonal rain front caused the Nechigawa River to flood. The amount of damage reached 180 million yen.
- August 29, 1964 - A debris flow occurred in Urakawa. Aggradation occurred by 12 to 20m. The Himekawa River and the Honkawa River were dammed up, which caused a great deal of damage.
- May 8, 1965 - A landslide occurred in the upper reaches of the Urakawa River, and dammed up the Himekawa River and the Honkawa River. Service on the Oito Line was suspended. The bridges were washed away.
- July 13, 1965 - The Nechigawa River flooded after the localized torrential downpour. The amount of damage reached 260 million yen.
- September 18, 1965 - Typhoon No. 24 hit the drainage area of the Nechigawa. The amount of damage reached 2.2 billion yen.
- 1966 - A mud avalanche occurred in the Urakawa River.
- 1967 - A great landslide collapse of Mt. Akahage in the Odokorogawa River caused a great deal of damage.
- August 9, 1969 - A localized torrential downpour caused a flood. The amount of damage to the basin area of the Nechigawa River reached 490 million yen.
- August 11, 1969 - A great flood of the Takasegawa River was caused by an autumn rain front. The flood submerged Kuzu spa.
- July 3, 1975 - A debris flow hit Hachiemonsawa and Shirosawa after the localized torrential downpour.
- June 19, 1978 - A mud avalanche caused by an autumn rain front hit Genmonsawa, Zenrokusawa, and Shirosawa.
- June 26, 1978 - A flood caused by a torrential downpour collapsed the Suishingu bridge in Hakubamura Village.
- August 23, 1979 - Typhoon No. 11 caused debris flow to occur in Kamikochi. A debris flow occurred in the Urakawa River, too.
- May 12, 1981 - A large-scale debris flow occurred in the Urakawa River, and arrived all the way at the Himekawa River.
- June 23, 1981 - The Himekawa River was swollen, and collapsed the Otari bridge.
- August 23, 1981 - typhoon No. 15 caused a sediment-related disaster to Nigorizawa, Shiraisawa, and the Nakamatagawa River.
- September 28, 1983 - A localized torrential downpour occurred in Nagawa Village because of typhoon No. 10. The amount of damage reached 5.6 billion yen.
- March 8, 1991 - A large-scale landslide occurred in Hisui valley.
- October 18, 1991 - A landslide occurred near Sarunagidomon in the Azusagawa River.
- April 8, 1992 - A large-scale debris flow occurred in the Urakawa River. The sabo dam stopped it.
- July 11, 1992 - A localized torrential downpour triggered by a seasonal rain front caused damage one after another to the area centering on Otari Village and Itoigawa City. The Oito Line was hit hard.
- December 6, 1996 - A collapse in the upper reaches of Gamaharazawa caused a debris flow. Fourteen lives were lost. Nine people were injured.
- September 15, 1999 - An erosion collapse at the exit of Kama tunnel of the Prefectural Route Kamikochi-koen isolated 1,300 people.



June 4, 1915

## Great eruption of Mt. Yakedake

The great eruption of Mt. Yakedake. A mudflow following the collapse dammed up the Azusagawa River, and caused the breach and the flood to the river. The sediment that flowed down the slope during that time dammed up the Azusagawa River to give birth to Taishoike Pond in Kamikochi.



Before the disaster  
(Photos taken by Mr. Yamamoto in Omachi City)



After the disaster  
(Photos taken by Mr. Yamamoto in Omachi City)

August 11, 1969

## A torrential downpour triggered by a seasonal rain front caused a debris flow in the Takasegawa River

A stationary seasonal rain front that stayed over the southern part of Niigata prefecture and the northern part of Nagano prefecture stepped up its activities, and triggered a torrential downpour for 38 hours until early morning of the 13th day centering on the Joetsu district. A large-scale localized torrential downpour occurred in the Takasegawa River with the land devastated in the upper reaches. The Kuzu spa was washed away almost completely (see the photo on the right). The Nekohana sabo dam at Genkyu in Omachi City suffered a collapse.



August 22, 1979

## Torrential-downpour disaster caused by typhoon

Kamikochi suffered a torrential downpour whose maximum precipitation per hour was 50mm and continuous precipitation was 285mm under the influence of typhoon No. 11. A large quantity of sediment generated a debris flow, which cut off the Prefectural Route Kamikochi-koen. The route was closed to all vehicles. As the result of it, 3,000 tourists were kept confined for a week.



July 11, 1995

## Deluge of the Himekawa River caused by torrential downpour during last stage of the rainy season

A torrential downpour occurred during the last stage of the rainy season, and a heavy rain fell that recorded the total precipitation of 400mm locally. The surface of a mountain collapsed all over the drainage areas of the Himekawa River. A debris flow occurred in 38 locations of the Himekawa River system, which cut off the route. Four hundred and twenty-five households in 19 villages became isolated from the outside. Service on the JR Oito Line was suspended over a long period, too. Moreover, the sediment flowed into the Honkawa River from its branches, and became accumulated. For this reason, the river bed rose by more than 10m at the location that was hit hardest. A deluge flowed down the Honkawa River accompanied by a large quantity of sediment, which broke the embankment of Itoigawa City in the lower reaches. Fifty-four houses were destroyed either completely or partially. Four hundred and fifty houses were inundated either above the floor level or below the floor level. Thus, the area suffered a great deal of damage.



September 28, 1983

## Nagawa Village isolated from the outside by the localized torrential downpour

The rain that kept falling day after day under the influence of typhoon No. 10 recorded the maximum precipitation per hour of 37mm and the total precipitation of 289mm. The collapsing sediment and the woody debris that flowed out from the upper reaches broke the embanks on both sides of the main Nakawa River. The public facilities and the houses were washed away, and the route was cut off. The Village was isolated from the outside. The amount of damage reached 5.6 billion yen.



December 6, 1996

## Disaster caused by a debris flow at Gamaharazawa

A large-scale debris flow occurred at Gamaharazawa. People engaged in the sabo, erosion control, and bridge works were caught in the debris flow. Fourteen lives were lost, and it was a terrible disaster.

## Aggradation in the upper reaches of the Azusagawa River

Upon formation of Taishoike Pond after the Azusagawa River was dammed up by Mt. Yakedake erupted in 1915, the sediment discharged from the Azusagawa River became cut off completely, which aggravated silting up in the upper reaches, and the caused the aggradation.

The photo shows the Shirosawa bridge near the juncture at Shirosawa in the upper reaches of the Azusagawa River. It is obvious that the aggradation occurred even during a brief period from 1992 to 2000.

### Shirosawa bridge near the juncture at Shirosawa



Photo taken in 2000



Photo taken in 1992