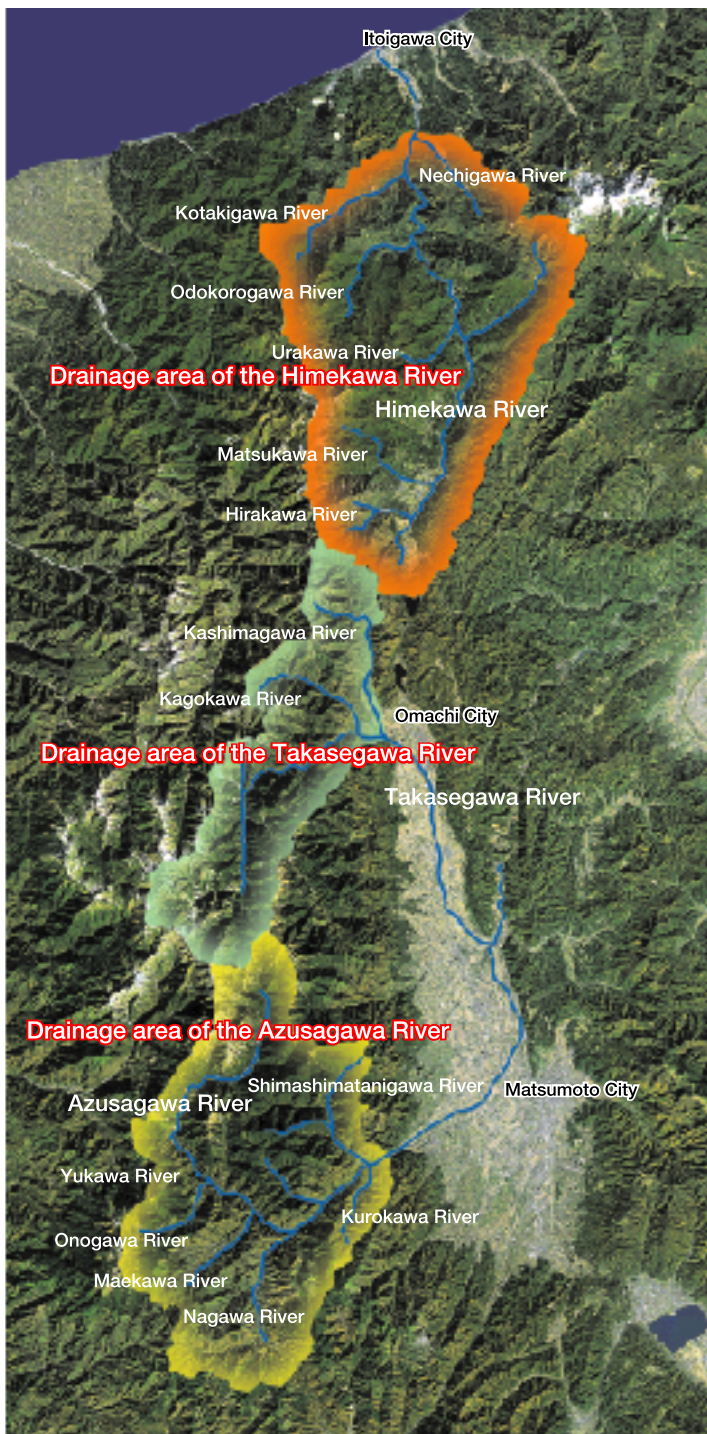


# Three drainage areas within the jurisdiction



## Drainage area of the Himekawa River

Length of river channel: 46km  
Catchment area: 691.2km<sup>2</sup>  
(upper stream of Yamamoto bridge)  
Average bed slope: 1/16

## Alluvial fan developed because of many rapids and branches

The Himekawa River has its source in the southern part of Hakuba Village. Gathering many small branches together, it runs from the northern part of Nagano prefecture through the southern part of Niigata prefecture all the way to the Japan Sea. The upper reaches of the river are the steep mountain area. The branches with heavy sediment discharge form a lot of alluvial fans. In the middle reaches, Mt. Hieda that is the site of great collapse discharges a large quantity of sediment. The Himekawa River that runs almost along the "Itoigawa-Shizuoka tectonic line" is one of the fastest flowing rapids in Japan with incessant occurrence of disasters.



## Drainage area of the Takasegawa River

Length of river channel: 31km  
Catchment area: 350 km<sup>2</sup>  
(upper stream of Takase bridge)  
Average bed slope: 1/13

## Nature of the rock vulnerable to weathering and steep slope

The drainage area of the Takasegawa River is made up of three drainage areas including the Honkawa River that flows out of Mt. Yariadake plus two other branches. The geological features in the drainage area are mostly the granite that is vulnerable to weathering. Moreover, the forests are hard to grow on the mountain ridge in the upper reaches of the river, and the rocks are exposed. For this reason, the shallow landslide and the torrent erosion are in progress. Weathering through the action of a hot spring is added to this, and the sediment is discharged repeatedly during every rainfall accompanied by the steep slope of the canyon, which often causes a disaster.



## Drainage area of the Azusagawa River

Length of river channel: 50km  
Catchment area: 559 km<sup>2</sup>  
(upper stream of Shinbuchi bridge)  
Average bed slope: 1/20

## Sediment accumulation in the devastated upper reaches

Five branches join the Azusagawa River that has its source in Mt. Yariadake. The mountainous region in the upper reaches is extremely devastated by the volcanic eruption and through the action of a hot spring, etc., and a large quantity of sediment is accumulated there. The ejecta from Mt. Yariadake have often flowed down the slope as debris flow. Besides, the granite in the drainage area has weathered considerably, which makes the area vulnerable to a disaster when coupled with the lay of the land where many small-scale valleys develop.