

The Tone River

The Tone River is Japan's second-longest river (322 km). It is fed by almost 800 tributaries and provides approximately 80 percent of the water for Tokyo and its surrounding four prefectures—one of the largest metropolitan areas in the world. The Tone River has even been called “Tokyo's water jug.” This crucial river originates on Mt. Ōminakami (1,831 m), approximately 33 kilometers from the center of Minakami.

The tremendous volume of the Tone is the result of two factors: heavy precipitation (rain and snow), and the large catchment area (the area that funnels water into the river). In the case of the Tone, both of these factors are the result of the shape and location of the mountains. Mt. Tanigawadake is part of the Echigo Mountain Range, which stretches from Gunma Prefecture to Fukushima Prefecture and is known as “Japan's backbone.” The range acts as a watershed between the Pacific Ocean and the Sea of Japan. Rain or snow that falls on the northwest side of the mountains drains into the Sea of Japan, and any precipitation on the southeast side flows into the Tone River and eventually into the Pacific Ocean. In total, the Tone River's catchment area is 16,840 square kilometers, the largest in the country.

A lot of rain and snow falls on the Echigo Mountains. When the warm, moisture-laden winds that blow in across the Sea of Japan hit the mountains, they are forced upward, causing them to condense and drop that moisture as rain or snow. As a result, Minakami receives abundant snowfall—over 100 snowy days a year, on average—and the horseshoe-shaped topography of the eastern Tanigawa Mountain Range funnels that water into the Yubiso River, one of the main tributaries of the Tone River. Because the Yubiso is not regulated by dams, its flow is greatly affected by current conditions such as weather and temperature. In early summer, when the Yubiso is most greatly fed by snowmelt, the resulting surge produces approximately a tenth of the water from the Tone River that is used in Tokyo.