## Kiyotsu Gorge: Beauty Shaped by Earth and Snow

The clear snowmelt waters of the Kiyotsu River flow down from the heights of Mt. Kaminoai and Mt. Shirasuna to join the Shinano River in the heart of Tokamachi. Along the way, the waters have formed one of the largest, most visually striking canyons in Japan: Kiyotsu Gorge. It was designated a National Natural Monument and a Place of Scenic Beauty in 1941 and is a symbol of the natural splendor of snow country.

The gorge stretches 12.5 kilometers through the mountains, with steep, V-shaped porphyrite cliffs as high as 300 meters bracketing the river. The repeating, linear pattern of the cliff walls is the result of columnar jointing, a type of rock formation sometimes created when magma cools. The outer magma cools and contracts faster than the interior, forming cracks that extend perpendicularly from the cooling area. The cracks deepen as the cooling and contraction spread, eventually creating what look like endless rows of neatly arrayed hexagonal columns. At Kiyotsu, violent tectonic movements about 2.6 million years ago twisted and broke the formations as they were pushed to the surface.

Reaching these unusual formations was once possible only via a dangerous cliffside path. In 1988, it was closed to visitors after a rockfall raised safety concerns. However, in 1996 a 750-meter-long pedestrian tunnel was completed, offering views of the gorge from four lookout points. In 2018, the tunnel was renovated as part of the Echigo-Tsumari Art Triennale festival, becoming a popular attraction known as "Tunnel of Light." The tunnel's newly added art installations include subtly changing colored lights and a bubble-like restroom coated with special foil that provides users with privacy while giving a clear view of the surroundings. The most impressive installation is the final lookout, where burnished steel walls and a shallow reflecting pool allow visitors to step into the dramatically mirrored scenery of Kiyotsu Gorge.