



RIVERS and JAPAN

Since its inception in 1992, RIVERS and JAPAN has been discussing various aspects of a major dimension of the geography of Japan, and its rivers. Japan is a country of rivers, and the Japanese people have learned how to live in harmony with their rivers, loving them and respecting their power. The focus of this publication is wider than just the rivers of Japan, however; we also take pleasure in introducing our readers to the rivers and river-related life in various parts of the globe. The 21st century, "the century of water," has begun, and it is urgent for us to commonly possess the "wisdom of rivers," which includes attaining harmony in our relationship with rivers world-

wide and adapting suitable technologies to control and utilize them. One of the main activities of the 3rd World Water Forum to be held in Japan in March is for the people worldwide to acquire the "wisdom of rivers."

Through this publication, we hope you will touch even a part of Japan's "wisdom of rivers," which has been created from ancient times.

February 2003

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Director-General of River Bureau Ministry of Land, Infrastructure and Transport





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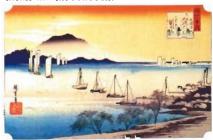
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COVER PICTURE



Kuro River (Kanuma City, Tochigi Prefecture)

BACK COVER PICTURE



"Sairboat at Yabase" from the series "Eight Sights of Omr" (Housed at the Otsu City Museum of History) This creation by Ando Hiroshige (also known as Utagawa Hiroshige-see page 20) is now about 160 years old. Yabase was a port on the shore of Lake Biwa (Shiga Prefecture). The woodblock print depicts the vessel entering the port, lowering its sails and waiting its turn to land.

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The Japanese archipelago is a narrow string of islands that extends north to south, crisscrossed by rivers.

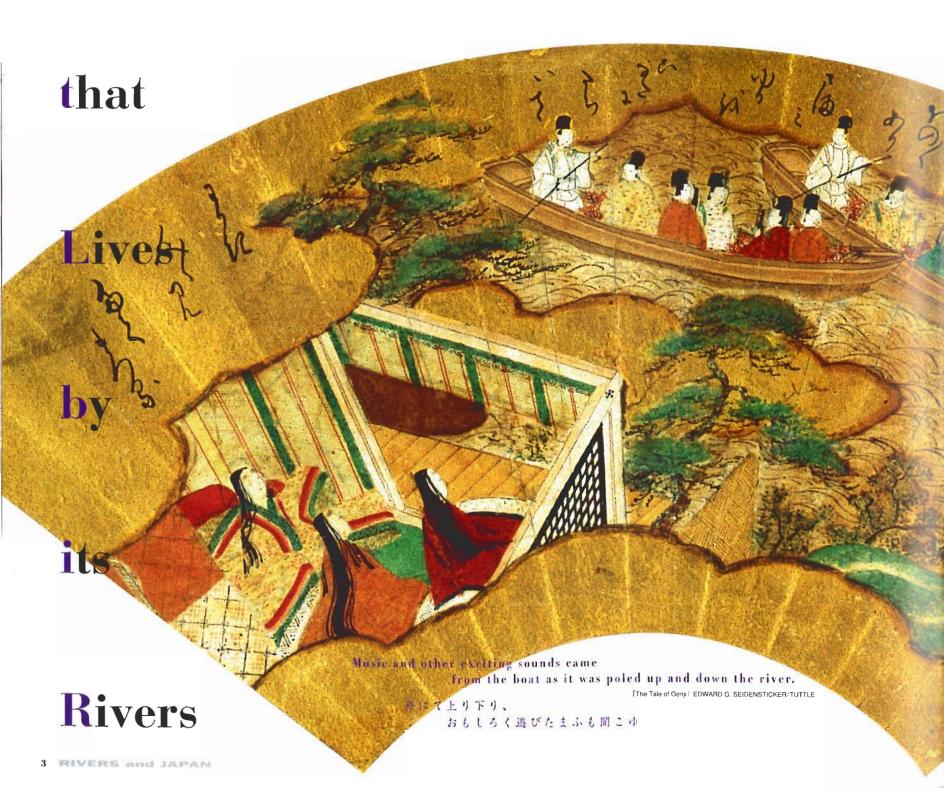
These rivers have enriched the soil and provided for the Japanese people since ancient times.

From a single drop high up in the mountains starts a flow that picks up life as it makes its way to the ocean.

Japan lives by its rivers, with landscapes and culture born of their richness.

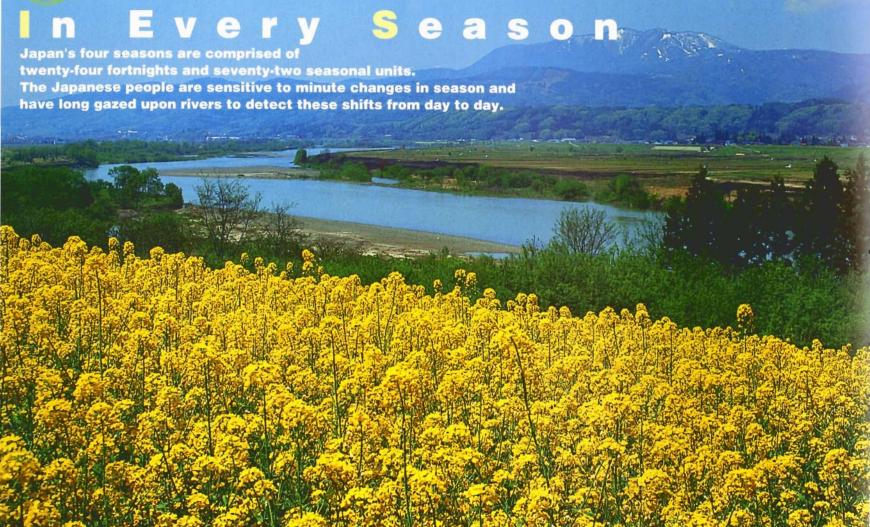
Over the ages, rivers always flowed through the cities

A comparison of the rivers of Kyoto, Japan's ancient capital, and the rivers of Tokyo, a city prospering for over 400 years





apan's Natural Landscape Spawned by its Rivers In recalling scenes of their youth in the countryside, many Japanese people think of rivers. Rivers always occupy a fond place in our hearts.





PRING

Against a backdrop of high moufficians. Chikuma River flows leisurely into a wide basin. This tranquil landscape, like a paint ing itself, has appeared often in fairfields like erature. The Nanohana (rape) blossoff!5 usher in the arrival of spring. (Chikuma River, Nagano Prefecture)

(Photo:liyama City)

In early spring, melting snow from the 1600-meter-high Mt. Kurikoma flows down a steep ravine into the Iwai River, which gains force as it flows to the ocean

(Iwai River, Iwate Prefecture) Photo:Naruaki Onishi/FRONT)



S U M M E R



This winding river flows into the basin that forms the Kushiro Marsh, and is protected by the Ramsar Convention. The red-crested crane and other water fowl can be seen inhabiting the reed-sedge grassland, along with other rare flora and fauma. (Kushiro Marsh, Hokkaido) (Photo:Masayoshi Kubota)



AUTUMN

This highland is located approximately 1400 meters above sea level. The rainwater that fills the spongy bog supports myriad forms of plant and animal life. When the short summer comes to an end, the leaves on the trees begins to turn color.

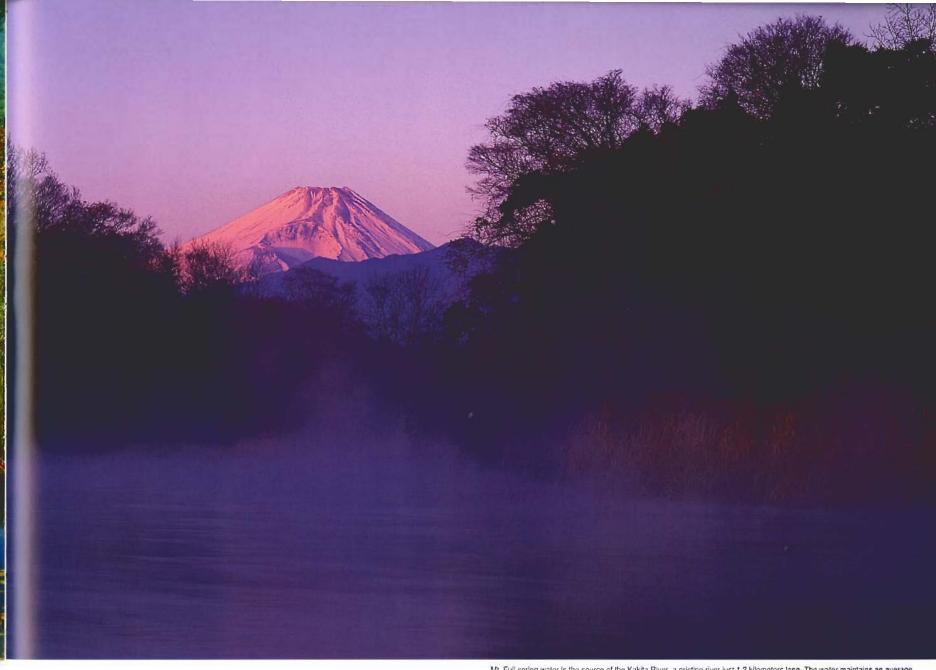
(Ozegahara Marsh, Gunma Prefecture, Fukushima Prefecture)

(Photo:Yasutaka Tanji)

A traditional method of fishing in autumn, netting the salmon as they swim upstream. For centuries the Miomote River has been protected to allow salmon to return to their spawning grounds.

(Miomote River, Niigata Prefecture)

(Photo:Murakami City)



WINTER



Reeds stretch for 10 kilometers from around the river's mouth, glowing golden brown in the warm sunlight. Come winter, locals will take skifts out on the water to cut back the reeds. (Kitakami River, Miyagi Prefecture) (Photo:Kitakami Town)

Mt. Fuji spring water is the source of the Kakita River, a pristine river just 1.2 kilometers long. The water maintains an average temperature of 15 C throughout the year. On cold winter mornings steam rises from the water, bathing the surroundings in an otherworldly aura. (Kakita River, Shizuoka Prefecture) (Photo:Shimizu Town)



A snowy scene on the upper reaches of the Mogami River in Shirataka Town. The Mogami extends for 229 kilometers and is fed by other rivers at several points, eventually flowing out to the Japan Sea. (Mogami River, Yamagata Prefecture) (Photo:Takao Olsuka)

Lestivals In the nature-worshipping tradition

In the nature-worshipping tradition of Japan there are many events held to express people's debt to and reverence for nature.

The observances related to rivers usually carry the meaning of "washing away impurities" or "sending off one's wishes," evidence of the sacred regard the Japanese people have for rivers (and water).





Nagashi-bina (Floating Paper Dolls) (Sendai River, Tottori Prefecture) Pairs of male and female folded paper "hina" dolls are floated down the river together with a flowering peach branch and rectangular rice cakes. Also symbolized by this ritual is a transference of defilements to the dolls that are then washed away. (Photo:"Nagashi-bina no Yakata,"Floating Paper Dolls Museum, Mochigase Town)



Lantern Floating (Asano River, Ishikawa Prefecture) Paper lanterns with a flame lit inside are floated down the river to console the spirits of the deceased. This ritual is observed throughout Japan toward the end of the summer, but here on the Asano River 1,000 lanterns are set afloat to mourn the local silk print craftspeople of the area. (Photo:Kanazawa City)



Onbashira Festival (Kami River, Nagano Prefecture) Onbashira restruct (Nami river, Nagario Prefectore) In order to replace the pillars of the Suwa Grand Shrine for its periodic rebuilding, men of the area traditionally went to the mountains, cut down huge fir trees, dragged them down the slope, and across the river. Ancient documents indicate that this festival was already being held around 798 A.D. (Photo:Chino City)



Kawase Festival (Arakawa River, Saitama Prefecture) Young men carry a "micoshi" portable shrine on their shoulders through the streets, then walk it into the river to "wash away calamity." Held every year in July, this is an exciting summer festival. (Photo:Chichibu City)

Oexistence A country with so many rivers, Japan's fate is tied to its rivers. The knowledge of each river's flow

and techniques used to control or cope with the rivers have created unique river views across the country.

> in a country noted for its steep gorge rivers. With its source in the 3,000 meter-high Japan Alps, the river plunges to the sea in just 56 kilome-ters. An erosion control dam was built to block the muddy overflow from fre-

quent flooding. (Joganji River, Toyama Prefecture) (Photo:Naruaki Onishi/FRONT)





Also known as "Nagarebashi," which means "a bridge that washes out," the bridge was designed to rise off its pillars in times of flooding and float downstream. The wooden bridge is 356.5 meters long and 3 meters wide, and remains standing today as built in 1953. (Kizu River, Kyoto Prefecture) (Photo: Naruaki Onishi/FRONT)

An erosion-control mattress made of burdled and latticed branches of various trees, packed with rocks. This traditional construction method was brought to Japan from Holfand in the late 19th century. The mattress helps to prevent flooding and provides a tranquil habitat for many water-dwelling plants and animals.

(Shinano River, Niigata Prefecture)

(Photo:Osamu Nobuhara/FRONT)

apan's Most Famous Rivers: The Three Brothers

Tone River ~ Bando Taro ~

利根川

~板東 太郎~

The Tone River flows through the fertile Kanto Plain. Residents of the river basin have built embankments, detention basins, and other levee works in trying to deal with this wild river. Thanks to these efforts over the centuries, the Tone River has become an important water source for the Tokyo metropolitan area.

Three of Japan's biggest rivers: the Tone River, Chikugo River, and Yoshino River. Each is the largest river in its region, and has brought sustenance to the people within its reaches. **But since ancient times** they have been nicknamed the "three naughty brothers" -- Bando Taro, Chikushi Jiro, and Shikoku Saburo-for their frequent flooding. Taro means the eldest son, Jiro and Saburo means the second and third sons, respectively. Take a look at these three powerful rivers that at times surge in such torrents that they swallow up human lives.





The Tone River, with the second largest catchment area of any river in Japan, originates in the snow-covered peak of Mt. Ominakami and stretches on for 298 kilometers. (Minakami Town, Gunma Prefecture) (Photo:Kishichiro Ito/FRICS JAPAN)



With the arrival of the fall season, and the melting of snows that remained on through summer, snow bridges emerge. The result is a spectacular sight, molded by the rich nature existing at the riverhead. (Gunma Prefecture) (Photo:Shigeo Takahashir/JOMO NEWSPAPER)



At its middle reaches, the Tone River gradually expands in girth. Winding through the deep canyons of the Oku-Tone region, streams of melting snow water join with underground water to create the Tone's flow. (Isezaki City, Gunma Prefecture) (Photo: JOMO NEWSPAPER)



The Tone River Mouth Weir and Hitachigawa Floodgate. Built to curb saline intrusion and supply water. (Tounosho Town, Chiba Prefecture and Hasaki Town, Ibaraki Prefecture) (Photo:Creative ADAC Inc.)



Past Choshi-Dhashi Bridge and nearing the river mouth, flocks of seabirds in flight come into view. (!baraki Prefecture). (Photo:Shinpei Asai)

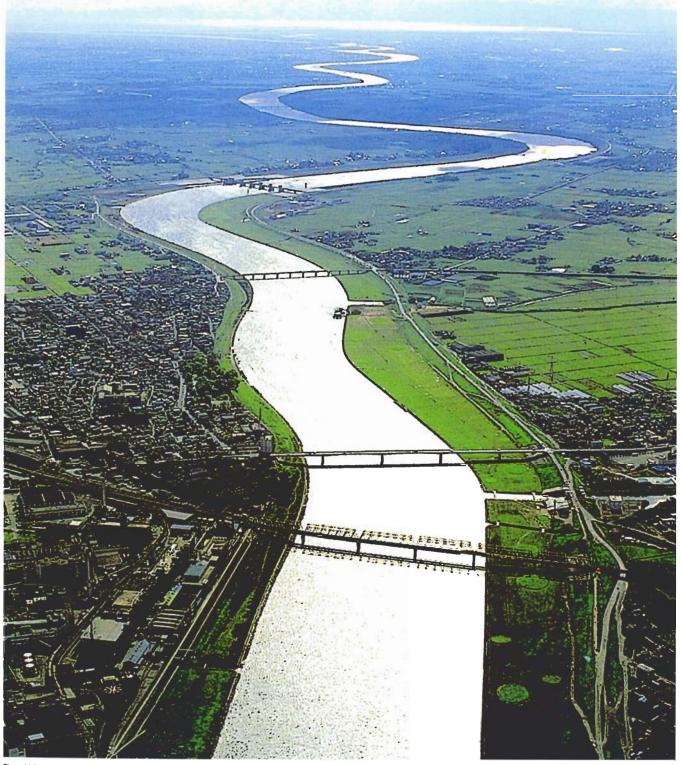


Typhoon Katherine (1947)

Typhoon Katherine wreaked the greatest flood damage in the history of the Tone River, with that legendary 1947 storm still talked about today. The photos are of Kurihasi Bridge over the Tohoku Main Line and the vicinity of Kurihashi Station submerged in the flooding. Over 300.000 homes suffered water damage in this disaster. (Photo:Creative ADAC Inc.)

Chikugo River ~ Chikushi Jiro~

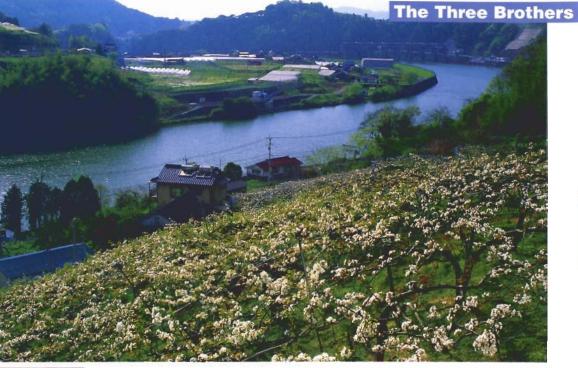
The largest river on Japan's main southern isle of Kyushu, which winds broadly to either side as it meanders along. These clear running waters, originating from the outer rim of Mt. Aso Crater and the Kuju mountain range, wind their way through green paddy field country, delivering fertile blessings before eventually emptying into the Ariake Sea. This river not only supports regional farming, but also provides a precious source of tap water to the residents of the greater Fukuoka City area.



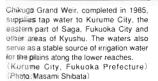
The middle reaches of the Chikugo River. The sight of these waters, literally snaking their way across the Chikugo Plain, is a verifable belt of light. Nourishing the paddies and fields along the way, the river truly grows on its own strength (Aerial shot above Kurume City, Fukuoka Prefecture) (Photo; Chikugo River Office, MLIT)

Ryumon Falls on the Matsuki River, a tributary of the Kusu River, which flows into the Chikugo River. This waterfall spills over from two different levels, and stands a total of 20 meters high and 40 meters wide. The photo is of the upper ledge of the falls. In the summer it provides a wonderful water playground for children, who delight in sliding down the cascade. [Kokonoe Town, Oita Prefecture) (Photo:Masami Shibata)





Early summer brings the bloom of pear tree flowers. The blessings of the river are imperative for the harvesting of these fruit trees as well. (Hita City, Oita Prefecture) (Photo:Masami Shibata)



Around the river's lower reaches, creeks

designed for irrigation, reservoirs and

drainage use are visible here and there. These creeks have helped to foster unique local communities and cultures for

the residents who dwell in their vicinity. (Saga Plain around 1990)

(Phato:Chikugo River Office,MLIT)





The training wall near the river mouth is a 6-kilometer-long stonewall constructed in 1890 under the direction of Dutch engineer J. de Rijke. It continues to play a key role in controlling sediment and securing routes for vessel passage to this day. (Kawazoe Town, Saga Prefecture; Ogawa City, Fukuoka Prefecture) (Photo:Masami Shibata)

The Great Flood of 1953

The area of Kurume City destroyed by the flood of 1953. Torrential rains exceeding 300mm in a single day caused the river to breach its banks in 21 different locations. Around 1,000 persons were confirmed dead or missing as a result of this flood, with some 45,000 homes suffering water damage.

(Photo:Chikugo River Office,MLIT)



osbino Blyer Shikoku Saburo

ino River originates around Mt. Ishizuchi and the Kamegamori Forest area on the Kochi and Ehime prefectures, it flows west-to-east across Stilkoku, following the ofonic Line, ending up in the Kii Suido, a channel between Shikoku and the maining volume of water carried by the river has since ancient times created fertile also given rise to floods.

The Oboke Canyon, situated roughly in the center of Shikoku Island and splitting the Ishizuchi and Tsurugi mountain ranges. For countless millenniums the Yeshimo Biver has sculpted the whitish-gray crystalline rock formations here, forging the special country along the way (Miyoshi County, Tokushima Prefecture (Photo Tatsuo Kurne)



The Yoshimo River flows along the Median Tectonic Line that reaches from the central region of Japan to the southern Islands of Shikoku and Kyushu. The image is a bird's-eye view of Shikoku from the northeast. (Image:Tokushima River and Highway Office, MLIT)



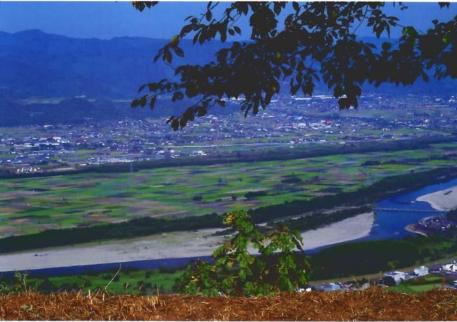
Rock treat fishing. A hand-steered boat, sharply arching at the stern, maneuvers its way through shallow waters to angle fairthis tasty river treat. (Handa Town, Tokushima Prefecture) (Photo: Tatsuo Kume)



The Yoshino River Bridge today - a structure completed in 1928 and extolled as the "Bridge of the Century:" As a Tocusor (transportation, it has made a great contribution to industrial progress in the region, Tokushima City, Tokushima Prefecture) (Photo:Tatsuo Kume)



Twilight at Kawashima Town, on the middle reaches of the Yoshino River. The gentle flow of the river rocks the community to sleep. (Kawashima Town, Tokushima Prefecture) (Photo: Tatsuo Kume)



Zennyuji Island, the largest island formed within the waters of the Yoshino River. Though people dwelled here in the past, today over 70 percent of the 500-hectare area is used to grow rice, vegetables and other crops. (Kawashima Town/Ichiba Town, Tokushima Prefecture) (Photo:Tatsuo Kume)

Typhoon No. 18 (1974) Damage

The history of flooding on the Yoshinol River can be traced back to the 9th century, based on the images of such disasters depicted in the drawings of that era. In more recent times, Typhoon No.18 in 1974 caused wide-spread flooding in areas lacking embankments, with major damage

following. (Waki Town, Tokushima Prefecture) (Photo:Tokushima River and Highway Office, MLIT)



Liver in Japanese Art:

Rivers are sometimes depicted in Ukiyo-e woodblock prints as beautiful natural scenes and at other times as places where people gather. From these artworks we can see how the Japanese people felt about rivers in ancient times.



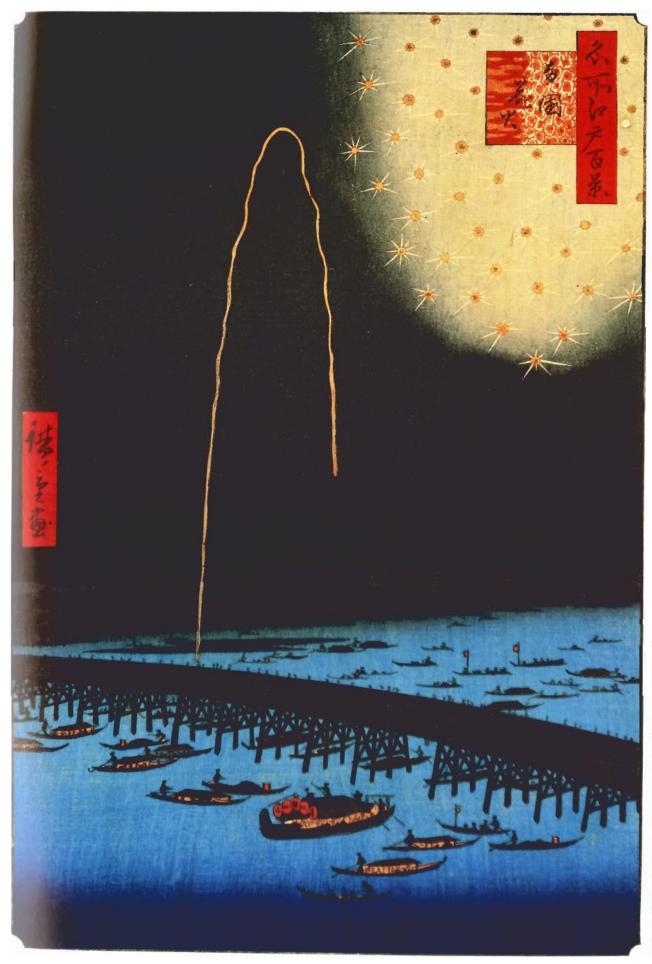
"The Moon Over the Yodo River at Settsu" from the series "Farnous Views of Snow, Moo and Flowers," Katsushika Hokusai (Housed at the Tokyo National Museum)
A work by Katsushika Hokusai (1760-1849), celebrated "Ukiyo-e" woodblock print artist of the late Edo period. During the Edo years, people often journeyed by boat between Kyoto and Osaka. Some would take night cruises on the Yodo River between the Fushimi quarter of Kyoto and Hakken-ya in Osaka, to relax and view the moon. (19th century)

"Sunset Over Ryogoku Bridge from Onmaya Riverbank" from the series "The 36 Views of

Mt. Fuji," Katsushika Hokusai (Housed at the Hagi Art Museum)

One scene from a series of woodblock prints depicting "The 36 Views of Mt. Fuji." In this selection, the exquisite blue image of Mt. Fuji is visible beyond Ryogoku Bridge in Tokyo. which stretches from the center to the left edge of the print. Appearing in the forefront is a ferryboat with samural warriors, vendors and other passengers onboard.

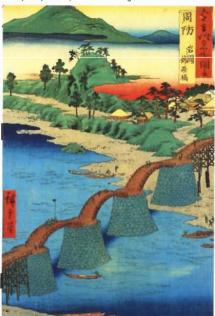




"Fireworks at Ryogoku" from the series "100 Famous Views of Edo," Ando Hiroshige (Housed at the Hagi Art Museum)
Ando (Utagawa) Hiroshige (1797-1858) was an ukiyo-e artist of the late Edo period, known especially for his land-scape prints. Ryogoku Bridge (over Sumida River, Tokyo) in this illustration attracted street shows and food stands, and was a lively area in Edo. Fireworks over the bridge in summer is a tradition that continues to this day.



"Kintai Bridge at Iwakuni in Suo Province" from the series "Famous Views in the Sixty-Odd Provinces." Ando Hiroshige (Housed at the Hagi Art Museum)
Bridges have long served as important transportation points, and been marvelled at and drawn by painters. The illustration shows Kintai Bridge that crosses Nishiki River in what is today Iwakuni City, Yamaguchi Prefecture. It is one of the three most famous bridges in Japan, made using traditional wood joinery techniques without a single nail.



ap of Rivers in this Book

Which river scenes have made the biggest impression on you?

Kushiro Marsh (Page 6)

Hokkaido

Registered under the Ramsar Convention in 1980. Located in eastern Hokkaido, the marsh covers an area of 18,000 hectares. The Japanese government has designated 5,500 hectares of the marsh as a natural monument. This low-lying alluvial plain provides the habitat for many rare species of plants and animals.

1 Iwai River (Page 5)

Iwate Prefecture

Tributary of the Kitakami River (length of main stream: approx. 36 km) The Genbi Gorge, with walls of welded tuff, is a famous sightseeing spot.

Kitakami River (Page 8)

Iwate, Miyagi Prefecture

Class A River (river system: Kitakami River;

length of main stream; approx. 249 km)

This area features a pristine view of the river valley for which it has captured the hearts of many persons of letters.



Mogami River (Page 8) Yamagata Prefecture

Class A River (river system: Mogami River;

length of main stream:approx. 229 km)

A flourishing shipping route in ancient times, today the river supplies water to the valley for use in agriculture and industry.

6 Miomote River (Page 7)

Niigata Prefecture

(river system: Miomote River;

length of main stream:approx. 48 km.)

The clear waters originate in the virgin forests of the Asahi Mountains, gain strength, and flow directly into the Japan Sea.

Shinano River (Page 12)

Niigata, Nagano and Gunma Prefectures

Class A River (river system: Shinano River:

length of main stream:approx. 367 km)

The longest river in Japan, it waters the rice-growing Echigo Plain.

1 Joganji River (Page 11)

Toyama Prefecture

Class A River (river system: Joganji River;

length of main stream:approx. 56 km)

One of Japan's foremost swift-current rivers that has caused much flooding since ancient times and has been the focus of numerous river training projects.

1 Asano River (Page 10) Ishikawa Prefecture

(river system:Ohno River;length of main stream:approx. 29 km.) Flows slowly through Kanazawa City where the castle town aura still remains. Also called "Onna River" for its "ladylike" nature.

Ozegahara Marsh (Page 7) Gunma, Fukushima, Niigata Prefectures

A highland marsh, with the Lake Oze-numa in its center, surrounded by 2,000-meter-high mountains. The entire area is designated a special natural monument.



(Page 5) Nagano Prefecture

Class A River (river system: Shinano river;

length of main stream:approx. 214 km)

This river originates at Mt. Kobushi in the Chichibu Mountains, and its name changes to Shinano River on the Niigata Prefecture side.

1 Kami River (Page 10)

Nagano Prefecture

Class A River (river system:Tenryu River;length of main stream:approx. 41 km.) Flows through the downtown area of Suwa City, Nagano Prefecture, and flows into Lake Suwa, which is 17 kilometers in circumference.

1 Tone River (Page 13,14)

Gunma, Saitama, Tochigi, Ibaraki, Chiba Prefectures

Class A River (river system: Tone River:

length of main stream:approx. 298 km)

The main stream and its tributaries total 800 and flow into the Pacific Ocean. The river basin is the largest by area in Japan.



(B) Arakawa River (Page 10) Saitama Prefecture, Tokyo Metropolitan Area

Class A River (river system: Arakawa River;

length of main stream:approx. 169 km)

River redirection was carried out in 1629 under the Tokugawa

shogunate, changing the river's course to its present direction.

Sumida River (Page 4,19,20) Tokyo Metropolitan Area

Class A River (river system: Arakawa River:

length of main stream:approx. 24 km)

The lower reaches of the Arakawa River. Runs through the "shitamachi" district of Tokyo, and is a constant figure in Edo culture.

(B Kakita River (Page 8) Shizuoka Prefecture

Class A River (river system: Kano River; length of main stream:approx. 1 km.)

Over one million tons of spring water gush up into this river daily, ranking it among the finest quality water rivers in Japan.

1 Yodo River (Page 19)

Osaka, Kyoto, Hyogo, Shiga, Nara, Mie Prefectures

Class A River (river system: Yodo River; length of main stream: approx. 75 km)

This river has served and supported the prosperity of the Kinki region since ancient times, when Kyoto was the capital of Japan.

Uji River (Page 3,4)

Kyoto, Nara Prefectures

Class A River (river system: Yodo River;

length of main stream:approx. 8 km)

The Yodo River, originating at Lake Biwa, is called the Uji River in the Kyoto area. Long ago the water could be scooped from the river for use in the tea ceremony.

(Page 12) **Kyoto Prefecture**

Class A River (river system: Yodo River:

length of main stream: approx. 89 km) Runs through the southern part of Kyoto Prefecture. Vast sediment flowing down from the upper reaches has caused flooding time and again.



(Page 9) Wakayama Prefecture

(river system: Koza River; length of main stream: approx. 60 km) Strangely shaped rocks and jagged peaks appear everywhere through the river valley. The river is adjacent to the southernmost cape in Honshu, Shiono-misaki.



D Sendai River (Page 10) Tottori Prefecture

Class A River (river system: Sendai River;

length of main stream:approx. 52 km)

The sand carried down the river from the Chugoku Mountains has formed the famous Tottori Sand Dunes.



1 Nishiki River (Page 20) Yamaguchi Prefecture

(river system: Nishiki River;

length of main stream: approx. 100 km)

Downstream stands a castle built by the old ruler of the region, seen majestically from the Kintai Bridge.

2 Yoshino River (Page 17,18) Tokushima, Kagawa, Kochi, Ehime Prefectures

Class A River (river system: Yoshino River: length of main stream; approx. 194 km) The longest river in Shikoku forms a broad tideland at the mouth on the Tokushima Plain.



Shimanto River (Page 6) Kochi, Ehime Prefectures

Class A River (river system: Watari River; length of main stream:approx. 196 km) Well known for its clear waters, with much nature remaining in the river valley.

Chikugo River (Page 15,16)

Kumamoto, Oita, Fukuoka, Saga Prefectures Class A River (river system: Chikugo River; length of main stream:approx. 143 km) The largest river in Kyushu, used since the Edo period for agricultural irrigation via canals.



Japan Rivers Data (as of April 2001)

Japan contains 109 Class A river systems (*1), containing major river watercourses 11,749 kilometers in total length. Of the rivers in Japan. 13,979 are designated as Class A rivers (*2).

- (*1) River system: Definition of all watercourse networks that belong to the same basin and empty into a single estuary.
- (*2) Class A rivers:Rivers located in river systems that are considered particularly important for national safety and the national economy.

