Transforming Tradition: Adaptive Learning in the Omiwatari Ritual Amid Climate Change

Supporting Material for Session 687: Transforming Tradition – Adaptive Learning in the Omiwatari Ritual amid Climate Change

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Note on terminology:
In this report, the term *Miwatari* is used in the text of Chief Priest Kiyoshi Miyasaka, following the traditional usage of Yatsurugi Shrine.
Elsewhere, the general term *Omiwatari*, as used in Japan's national climate impact assessment documents, is adopted.

Biography

Kiyoshi Miyasaka is the chief priest of Yatsurugi Shrine, where he preserves centuries-old traditions and leads rituals honoring Lake Suwa's *Omiwatari*—the sacred ice-ridge phenomenon. As both a spiritual leader and a climate observer, he and his followers document seasonal changes, protecting cultural heritage and ensuring that the *Omiwatari*'s significance is passed on to future generations.

After graduating from Kokugakuin University, he served at Fushimi Inari Taisha in Kyoto, Suwa Taisha, and Tegana Shrine before assuming his current position at Yatsurugi Shrine in 2020. His interests include reading historical documents and playing the *shinobue*, a traditional Japanese transverse bamboo flute. He also serves as a prison chaplain.

Yoshimi Fukumura is an independent researcher from Kobe, Japan. She earned her Ph.D. from the University of Tsukuba, specializing in adaptation pathways of intangible cultural heritage to climate change. She now works with local communities to explore climate adaptation pathways. Having experienced the 1995 Great Hanshin-Awaji Earthquake, she became aware of the importance of communicating scientific knowledge to enhance preparedness.

She founded the *Winter Cultural Heritage Network* and launched a nationwide project to document Japan's diverse snow and ice cultures, together with **Takaaki Yorimitsu**, renowned for his reflective journalism on post-Fukushima society, and **Tomohide Nomura**, a Nagano-based journalist who documents everyday lives and local traditions through long-term fieldwork. She also serves as a member of the Hyogo Prefectural Environmental Council.

Abstract Submitted for Adaptation Futures 2025

Yoshimi Fukumura

Introduction

Frames of reference are ingrained ways of perceiving the world, yet they must evolve for intangible cultural heritage to adapt to changes in society and the environment surrounding them. As climate change progresses, it is evident in Japanese Shinto rituals such as the *Omiwatari*, which depends on the formation of ice ridges on Lake Suwa during harsh winters. These ice ridges symbolize the local male god crossing the lake to meet his loved one and hold deep cultural and mythological significance. However, the *Omiwatari* has not occurred since 2018 due to warming winters, raising concerns about the future of this tradition. Central to understanding the *Omiwatari*'s history and its potential adaptation is the *Miwatari-chō* record—a document that has chronicled not only the formation of the ice ridges but also the region's environmental challenges since 1443.

Objectives

This study applies Mezirow's transformative learning theory to explore how the priest responsible for the *Omiwatari* tradition experienced a significant shift in his frame of reference. It examines how his perception of the tradition's value has evolved, enabling its adaptation to modern climate realities.

Methodology

Using the life story method, the study traced the priest's evolving understanding of the *Omiwatari* through in-depth interviews. The lead author documented his story, while co-authors collaboratively analyzed the data to identify how his frame of reference shifted over time to ensure interpretive analysis and academic rigor.

Findings

Initially, the priest exhibited limited interest in the *Omiwatari*, viewing it as merely a seasonal event. During his youth, his focus was on academic interests such as geography and history, unrelated to the family's Shinto role. However, this frame of reference began to shift following his father's death, when he assumed responsibility for the *Omiwatari* rituals. Faced with inquiries from local residents, he explored the history of the tradition and discovered the value of the *Miwatari-chō* record, which chronicles the occurrence of the ice ridges and the region's struggles with environmental challenges.

This discovery reshaped his understanding of the *Omiwatari* as not only a Shinto ritual but also a cultural, historical, and scientific asset. As the physical ice ridges ceased to form due to warmer winters, he also recognized the broader significance of the tradition, shifting his focus from the ice ridges themselves to the continued documentation of the *Miwatari-chō* record, which preserves evidence of the existence of local ancestors and the wisdom that sustained the community. To ensure the record's continuity, the priest introduced morning observation sessions to monitor and record temperatures at Lake Suwa, integrating this practice into the

Miwatari-chō. Over the past 30 years, these morning sessions have been embraced by the local community and are now recognized as an integral part of the *Omiwatari* tradition.

Significance of the work for policy and practice

This study demonstrates how a leader's shift in frame of reference can enable the transformative adaptation of intangible cultural heritage to climate change. By embracing a broader perspective, local leaders can ensure the continuity of traditions in ways that remain meaningful for future generations.

Full Script of the Presentation by Kiyoshi Miyasaka, Chief Priest, Yatsurugi Shrine

This is the complete English version of the presentation script originally prepared by Chief Priest Kiyoshi Miyasaka for Adaptation Futures 2025. Due to the limited of time, only selected parts were delivered during the live session.

Good morning.

My name is Kiyoshi Miyasaka. I am the chief priest of Yatsurugi Shrine in Suwa City, which is located in the center of Japan. Thank you for the invitation.

The Suwa Basin is surrounded by the Akaishi Mountains and Mount Yatsugatake, both about three thousand meters high. It has clear air, many hot springs, and clean water. There is Lake Suwa, which is 16 kilometers around and 6 meters deep. Suwa is surrounded by rich nature. The lake was formed by two large faults crossing. Around Mount Yatsugatake, many ruins from the Old Stone Age, about twenty-five thousand years ago, and from the *Jomon* Age, about ten thousand years ago, have been found. Since ancient times, people have lived with the mountains and the lake, creating faith and culture.

Winter in Suwa is very cold. When the temperature is minus 10 degrees for 3 or 4 days, the lake freezes, and the ice becomes 15 centimeters thick. With the change in temperature between day and night, the ice breaks with a loud sound at sunrise, and ice ridges run from south to north. This is called *Miwatari*.

People in the past believed it was the trace of the *Suwa Myojin* walking on the ice and prayed with awe and humble respect.

Records of the *Miwatari* are written in *Tosha Shinko-ki*, *Miwatari-cho*, and *Kojo-Miwatari Chushin-roku*, and they have continued for 583 years until today. It is a very rare document in the world. *Miwatari* is a wonder of nature beyond human power, and it shows the way of the old holy land.

I succeeded my father, who was also a priest, and since 1985 I have served in the *Miwatari* ritual. Parish members in Shibusaki, near the lake, watch the ice with me every morning from January 5 for 30 days.

When *Miwatari* appears, we begin three days of ritual preparation, placing *shimenawa* rice ropes at the doors of our houses. It is dangerous to go onto the ice right after it forms. The days of ritual preparation were born from the wisdom of our ancestors to avoid this danger.

On the fourth day, we dress in formal kimono, take down the *shimenawa* from our houses, place it on our shoulders, and gather at the shrine. We hold a safety prayer ritual and then go to Lake Suwa (Fig. 1). It is a holy moment. The morning sun shines on the *Miwatari* like a dragon.

Fig. 1. The photo shows the M*iwatari* ritual held on the frozen surface of Lake Suwa in Nagano Prefecture. At the center stands the chief priest of Yatsurugi Shrine, surrounded by parish members and local residents. Wearing *shimenawa* ropes symbolizes purification and devotion in serving the divine during this holy ceremony.

Fig. 2. The chief priest shows local residents an old map depicting the ice ridges that once formed across Lake Suwa. Beside them lies the *Kojo-Miwatari Chushin-roku*, the historical record of the *Miwatari* phenomenon. When the *Miwatari* appears, the priest foretells the fortune of the year by comparing two past records and interpreting the events written in them.

After the ritual on the ice, we return to Yatsurugi Shrine and host Hokokusai to report to our god. We then look at old records and make a fortune-telling about the year's weather and crops (Fig.2).

The result of the *Miwatari* is written in a document called *Miwatari Chushinjo*, and later offered to Suwa Taisha Shrine. They send the report to the Imperial Household and the Meteorological Agency. Until 150 years ago, it was reported to the Shogunate. A copy remains in the Ohori family of Suwa. Together with the documents kept at Yatsurugi Shrine, it shows the 538 years of *Miwatari* history.

At the end of the year, parish leaders write about weather, disasters, crops, rice prices, and life problems in *Kojo-Miwatari Chushin-roku*. The old records contain the names of ogamite, or the observers of *Miwatari*. The parish leaders of today sometimes find the names of their ancestors in the records, and they feel a strong connection. They renew their minds and perform the shrine ceremonies with respect for the long history and tradition of the *Miwatari*.

In history, sometimes the lake did not freeze and *Miwatari* did not appear. We call this *ake-no-umi*. People felt worry when the usual sign did not come. But they accepted the fact and still wrote the events of that year in the record. The spirit of the people who kept writing even when there was no *Miwatari* is noble.

One line in *Tosha Shinko-ki* says: "From 1507, no *Miwatari* for eight years, so no *Chushin* report." It tells of eight years in only one line. How to read this is not easy, but from the state of Suwa at that time, maybe it was not a period suitable for the ceremony.

On the other hand, Japanese researchers used classical literature about cherry-blossom parties to estimate the full-bloom dates and reported that in the early 16th century the blossoms came earlier than average. This needs more study, but perhaps it was indeed a warm eight years.

From 1443 to 1650, *Miwatari* appeared almost every year. During that time, *ake-no-umi* occurred about once every fifty years, so it was cold in most years. From 1651 to 1950, *ake-no-umi* appeared about once every ten years. But from 1951 to 2000, it occurred 22 times. From 2001 to 2025, it has occurred 18 times. This is unusual. In the past seven years, the lake has not even frozen. Following the previous year, we held only the *ake-no-umi* Hokokusai and wrote the result in the *Kojo-Miwatari Chushin-roku*.

One year is only a dot, but many dots make the line of history that reaches today. Whether *Miwatari* appears or not, we confirm the fact and record how we lived at that time. This is the way to pass down the *Miwatari* tradition. It is a blessing.

In recent years, COVID-19 shook the world. It changed how we pass on tradition, how people meet each other, and how our community lives. Eating together was stopped, and even gathering was limited.

During those years, the *Miwatari* watchings had to be in a small group. With care for infection, we kept watching the lake surface every morning. At 6:15, while it is still dark, about 13 staff, 10 general people, and 7 media members gather (Fig. 3).

Fig.3. Every morning from early January to early February, the chief priest and parish members of Yatsurugi Shrine observe the surface of Lake Suwa, whether or not the ice has formed. Local newspapers cover their observations, and people gather from across the region to follow the morning observations.

Each stands by the shore with their own thoughts. The full moon in the night sky shines on the water; the two lights meet, and it moves us. Soon the sky turns white, and the calm face of the lake appears. We measure air temperature, water temperature, and wind speed, record them, and widen our hope for tomorrow. At 7:05, the sun rises over Mt. Yatsugatake. The morning sun is warm on our cold bodies. We feel nature's gifts and its holy light, and all put our hands together to pray.

In the sacred morning light, I speak about stories of the lake and the ice, short poems made by people of old, and culture born from our climate and land. People think of these things and look at the lake. Every morning, someone gives warm coffee. Their kindness warms our cold bodies, and we talk about the ice. Every morning, one person paints on a canvas, using water from Lake Suwa to mix the colors. Friends who know each other come to enjoy it; each person stands by the shore in his or her own way, with the lake and the ice. Then we turn our hearts to local culture and history we had not noticed before, and we share the feelings of our ancestors.

Lake Suwa has a long history of floods. In *Miwatari-cho*, they recorded each year's bad floods and other natural disasters. The hunger after the big eruption of Mt. Asama from 1703 to 1704 was terrible. As more people died of hunger, the lord of Takashima gave two bowls of white rice to each person every day from New Year's Day to the 20th. When droughts continued, villagers climbed the mountain to pray for rain. On the ice of Lake Suwa, planes practiced takeoff and landing. When the lake was flooded, people cooked and lived in boats. These records are proof that our ancestors kept life going.

It goes without saying that our life today stands on past history. We cannot separate the past from the present.

Today, climate change is altering nature across the world. We see large wildfires, droughts, heavy rain and floods, glaciers breaking, sea level rising, and poor harvests. This is not someone else's problem. Each of us must think about how to live. In Japan, summer is hot and winter is cold. When it gets cold, Lake Suwa freezes and *Miwatari* appears. This is the natural order.

But since 1970, *ake-no-umi* has increased very fast. As the chief priest who continues the *Miwatari* ritual, I sometimes think my prayers may not be enough.

But I must also say, *ake-no-umi* is sounding an alarm.

Background of the *Omiwatari* Tradition

Geographical Setting of Suwa

Located in central Honshu and surrounded by the Yatsugatake and Akaishi mountain ranges, Suwa has long been shaped by its cold winters and the presence of Lake Suwa, a shallow basin lake that freezes in midwinter. The landscape, where mountains, forests, and water coexist, has inspired a worldview that reveres nature as both a living force and a spiritual presence.

History and People of Suwa

Archaeological findings indicate continuous human habitation in Suwa since the *Jomon* period, over ten thousand years ago (Nasu et al., 2015). The people of Suwa have lived closely with their natural surroundings, developing a cosmology that links mountains, forests, and water. The area is also known for the grand *Onbashira* Festival, held every seven years, in which giant logs are transported from the mountains to renew the pillars of Suwa Taisha Shrine — a sacred tradition that has continued for more than 1,200 years. These traditions express a deep respect for nature's cycles and a strong sense of community among the *ujiko* (parish members).

Form and Meaning of the *Omiwatari* Tradition

Each winter, when the lake freezes, temperature fluctuations cause cracks and ice ridges to form across its surface. This natural phenomenon, called *Omiwatari* ("the divine crossing"), has been regarded for centuries as the path of the Suwa deity walking across the ice. The priests and parish members of Yatsurugi Shrine observe and record the formation of these ridges, compiling detailed documentation known as the *Miwatari-chō*, a record that has continued for more than 580 years. The annual ritual blends spiritual reverence with careful environmental observation, symbolizing the interdependence of humans and nature in the Suwa region.

Fig. 4. After the *Hōkokusai*, parishioners burn the *shimenawa* ropes in the shrine precincts. These ropes are handmade each year at the end of winter by parish members, who learn the craft from the chief priest and senior parishioners as they pray for the appearance of the *Omiwatari* ice ridges. When the *Omiwatari* appears, they wear the ropes to take part in the ritual held on the frozen lake.

Even in years when the ice ridges do not appear—a condition known locally as *ake-no-umi* ("sea of dawn")—the ritual cycle continues. The *Hōkoku-sai* ceremony is held to report the absence of ice to the deities, the *shimenawa* ropes prepared for the ritual are ritually burned within the shrine precinct (Fig. 4), and a written record of the *ake-no-umi* year is bound into the *Miwatari-chō*. This practice ensures the continuity of the tradition and affirms the community's commitment to preserving its heritage despite climatic uncertainty.

Modernization and the Role of Sakuhei Fujiwhara

During Japan's modernization in the late nineteenth and early twentieth centuries, the *Omiwatari* ritual and its continuous recordkeeping were temporarily interrupted. However, Sakuhei Fujiwhara (1884–1950), a meteorologist born in Suwa and a *ujiko* of Yatsurugi Shrine, recognized the scientific value of these local observations (Fujiwhara, 1913). While serving at the Central Meteorological Observatory—today's Japan Meteorological Agency—he reinterpreted the *Miwatari-chō* as an early form of citizen science. Fujiwhara, who later became the agency's director, is also known internationally for discovering the Fujiwhara Effect, a dynamic interaction between two cyclonic vortices (Fujiwhara, 1921). His scientific vision of interconnected natural systems resonated deeply with the traditional observation of ice ridges on Lake Suwa.

Through his efforts, missing *Omiwatari* records were recovered and systematically compiled (Fig. 5), and a new reporting system was established in which Yatsurugi Shrine submitted annual observations to the Japan Meteorological Agency and the Imperial Household Agency—successors to the Tokugawa Shogunate's reporting structure (Miyasaka, 1992). This moment marked the historical fusion of traditional knowledge, citizen participation, and state science in modern Japan.

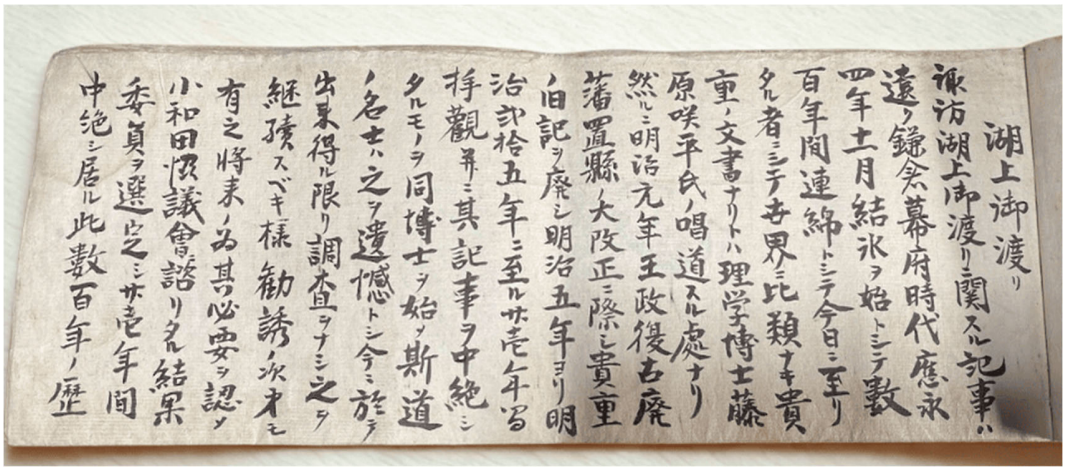

Fig. 5. Introduction of a supplementary booklet that records the results of interviews conducted to fill the missing data between 1872 and 1892, when the *Omiwatari* observations were suspended due to the abolition of feudal domains. The investigation was led by local notables, including Dr. Sakuhei Fujiwhara, a meteorologist.

Contemporary Suwa: Tradition and Innovation

Today, Suwa is also a center of advanced technology and intellectual culture. The headquarters of EPSON, a global leader in precision instruments and imaging technology, is located in Suwa—reflecting the region's longstanding tradition of meticulous observation of nature. Suwa is likewise the birthplace of Shigeo Iwanami, founder of Iwanami Shoten, one of Japan's most influential academic publishers. Through his efforts, Japan's modern publishing movement was

led by intellectuals from Nagano Prefecture. Even today, Nagano has the highest newspaper subscription rate in Japan. Despite a population of about 48,000, Suwa hosts several newspaper headquarters and branch offices, illustrating a strong civic literacy and a culture of record-keeping that resonates with the *Omiwatari* tradition. Suwa thus stands not as a relic of a primitive nature faith, but as a living region where traditional spirituality and modern knowledge coexist.

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Further Reading

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