

## Aftershocks Japanese Earthquake Prints: YouTube Video Transcripts/Subtitles/Closed Captions

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### YOUTUBE PLAYLIST

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### VIDEO TRANSCRIPTS/SUBTITLES/CLOSED CAPTIONS

#### [Aftershocks: Story 1 - Shaking Foundations](#)

**Video Title:** Welcome to *Aftershocks* Japanese Earthquake Prints with Dr Akiko Takesue and Yuko Shimizu

[YouTube Video Link/URL](#)

**Video Length:** 4:01

#### **Video Transcripts/Subtitles/Closed Captions:**

Welcome to the online exhibition of the album of earthquake prints in the Royal Ontario Museum's Japanese collection. This project is co-organized by the Japan Foundation,

Toronto, and the ROM. My name is Akiko Takesue, Bishop White Committee Associate Curator of Japanese Art and Culture here at the ROM.

Hello and konichiwa. I am Yuko Shimizu, Executive Director of the Japan Foundation, Toronto [2017–2022]. It is my pleasure to welcome you, all the viewers of this online exhibition, which we call internally “the catfish project.” I was posted to Toronto five years ago and was supposed to be celebrating 30 years of The Japan Foundation in Canada in 2021, but the pandemic changed all those plans. In spite of many cancellations, some things turned in collaborative directions, and the catfish project, an online collaboration with the Royal Ontario Museum, is no doubt one of the best.

As an international cultural exchange agency under the Japanese government, The Japan Foundation, Toronto has been conducting collaborative efforts with the ROM, closely or indirectly, for years. For the inaugural opening of the [Lee-Chin] Crystal in 2007, we had the Hiroshi Sugimoto exhibition. Over the years, a full production of Noh theatre was presented at the ROM, in addition to Japanese film screenings, musical performances, a tea ceremony, and Ikebana flower arrangements. We are enhancing our fruitful history of partnership to the next level in the cyberuniverse by presenting this online exhibition.

Here is the album. Gwen Adams, east Asian collections technician, is assisting me today.

This album was compiled in 1855, right after the big earthquake hit the city of Edo, today’s Tokyo. And this album is unique because we have a preface written by the contemporary collector, who collected at that time when the earthquake happened. And these prints were collectively called namazu-e, or catfish prints, because the catfish is associated with earthquakes in Japanese folk tales.

And these prints function as the source of information, what happened after the disaster, but also as a medium for people to express their diverse emotional reactions to the natural disaster and sometimes to satirize the social issues that became apparent after the earthquake, just like today’s social media.

As you explore these prints, look for prints that are humorous and lively with half-human catfish and layers of parodies, puns, and satires. And this sense of humour helped the Edo people to cope with the suffering and to make sense of the whole consequences as a continuation from nature to human and to society. For example, some people thought the earthquake was meant to happen to mend the social inequity.

In this online exhibition, you are going to see how citizens of Edo survived a natural disaster, the Great Ansei earthquake. Certainly, the attitude and the philosophy were a bit twisted, reflecting the highly matured urban culture of the era. Now, 160 years later, for all of us in

the global community, this program will be very exciting, so I encourage you to enjoy it to the fullest.

We hope you enjoy and find something new and exciting in this exhibition.

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**Video Title:** Hear from Dr Nathan Lujan, Curator of Fishes, Royal Ontario Museum

[YouTube Video Link/URL](#)

**Video Length:** 4:17

**Video Transcripts/Subtitles/Closed Captions:**

[On screen: There's plenty of fish, why catfish?]

...catfishes are amazing in large part because of their diversity. They're just incredibly biodiverse fishes. They span over 4,000 species that are globally distributed. They're on every continent except Antarctica, but there's actually a catfish fossil known from Antarctica. That diversity then provides a tool for us to understand larger questions about the origins of freshwater biodiversity and the function of freshwater diversity, the function of habitats like rivers, lakes, and streams that are really important to us, as sources of freshwater, as sources of food, as sources of recreation. So catfishes provide that diversity of catfishes provide, or make, or make catfishes a very valuable model for understanding those ecosystems.

They're also really bizarre. Catfishes are just incredibly diverse in form and shape, not just in numbers of species, but the different life histories they have evolved to occupy. So there are catfishes that feed at the surface, there are catfishes that feed in midwater. There are predatory catfishes, there are filter-feeding catfishes. There are catfishes that are parasites, that feed on the blood, scales, skin, and mucus of other fishes in their environment. So catfishes are really amazing in that regard, the variety of ways of making a living that they've evolved into.

[On screen: what makes a catfish a catfish?]

Catfishes are pretty easily distinguishable from all other fishes. They do not have scales. So they just have skin, or some catfishes have armoured plates on the outside, but no scales.

And then they have these barbels that are sensory structures near the mouth that help them taste and touch the environment that they live in and help them find food. And there

are three pairs of barbels possible: there's a nasal barbel on top of the mouth, maxillary barbels to the side of the mouth, and then mental barbels down below the mouth.

[On screen: what can we notice about catfish from Japan?]

... the Japanese catfish has a number of distinguishing features that are shared with other members of its family, the Siluridae. This species is *Silurus asotus*, the Asian or Amur catfish. The distinguishing features of the catfish in the catfish prints that really identify it immediately as a member of this family Siluridae, and really in the genus *Silurus* that includes this long, kind of, dorsum without a prominent dorsal fin, just this really tiny little dorsal fin. The small caudal fin, not a big tail fin, but then this really long anal fin. A big mouth, you see in a lot of images this big catfish mouth associated with these barbels, the maxillary barbels. So those are all distinguishing features that are present throughout the prints that make it quite clear what species the people in that time period were interacting with.

One of the distinguishing features of catfishes are just how sensitive they are to their environment. They have these barbels that help them taste and touch the environment. Some catfishes can actually sense electricity in the environment. And so major disruptions of the environment like an earthquake, we would expect that catfishes would be able to sense that vibration in the environment and to be sensitive. They also live in the bottoms of rivers in cavities that might be especially impacted by landslides resulting from an earthquake.

[On screen: what can we learn by studying catfish?]

I'm interested in the evolutionary origins, the contemporary ecologies, the diversity, and the conservation of mostly catfishes in South America. Really the entire river system, the freshwater ecosystem in South America, which is the most biodiverse freshwater ecosystem on Earth, but using catfish as a model for understanding the broader ecosystem. They provide an excellent kind of system to study as a subset of overall diversity that's a bit more manageable to get a handle on questions like the ancient history, origins, of biodiversity, how these ecosystems interact today, and the threats that they face from human impacts.

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**Video Title:** Hear from Kristen Bos, Indigenous feminist researcher

[YouTube Video Link/URL](#)

**Video Length:** 6:03

## Video Transcripts/Subtitles/Closed Captions:

[On screen: Made almost 200 years ago, these prints show a society recovering from disaster.]

Kristen Bos, Indigenous feminist researcher describes environmental justice; a tool to address human-made environmental damage.

My name is Kristen Bos. I am Métis—I was born, adopted, and raised here in Tkaranto, but my homelands are in northern Alberta in Treaty 8 Territory. I'm also an assistant professor at the University of Toronto Mississauga where I teach in the Historical Studies Department, as well as at the Women and Gender Studies Institute downtown.

Environmental justice reshapes our relationship with the natural world because it shifts our focus from viewing our environment as a resource, and as something that can and should be drilled, mined, or fracked, into a living relation that we have responsibilities to. Our environment, our waters, lands, and air should have rights and responsibilities to their being and their care. Their rights should be as strong as the corporations involved in environmental destruction.

[On screen: What connections can we notice between the disaster, society, and environmental justice today?]

What we can notice in the prints about Edo's society and their approach to environmental justice is that it looks a lot like an anti-imperial struggle. We can see that the earthquake was understood as a natural phenomenon that sought to re-balance their society—the government's corruption or mismanagement, or an increasing gap between the rich and the poor. Though this earthquake wasn't man-made, as climate change is today, turning our attention to the responsibility of the government in power is important during natural phenomena in the past or catastrophic climate change today.

As we see in this print *Damage of Disaster*, this print has the same role as news media today, as the image shows a realistic pictorial representation of the disaster, and the text in the background lists affected areas and the number of collapsed storehouses. It also announces the location of the five aid centres established by the government to help the affected people. So as these prints were artisan-made and circulated within community this looks a lot like mutual aid.

[On screen: How might environmental justice shape society's relationship with the natural world?]

I think about the relationship between data, pollution, and colonialism, I co-lead a lab, the Environmental Data Justice Lab, which is housed inside of the Technoscience Research Unit, which is an Indigenous-led lab where I am also the co-director.

And we are researching the history, operations, and pollution activities of the Imperial Oil Refinery in Canada's Chemical Valley.

Our research asks: how can we imagine—or rather, how can we reimagine pollution data?

So, right now, pollution data in Canada, how it's collected, how regulations are made and enforced are very much led by industry, or the polluters themselves. Our research considers what pollution data, and by extension, polluting practices might look like if we began with accountability to the land. Not as a resource, but as a relation.

We ask questions like, "What if industry and the government proactively learned about and followed Indigenous communities', in this case Anishinaabe, values in the collection, curation and response to pollution?" And "what if the purpose of pollution data was not to meet or hide from regulations, and consequences of those emissions, but to create and preserve a healthy environment for 7 generations in the future?"

I think the fight for environmental justice is part of the mending and healing process, but that we can't mend or heal while our lands and communities are still being impacted by environmental violence through extractive industries. What I do notice is that like environmental violence itself, the fight and any subsequent healing is going to be intergenerational, so it will continue.

[On screen: Environmental justice is key to mending broken societies. What can environmental justice look like?]

Environmental justice is an anti-colonial struggle. We know that climate change is a direct result of slavery, colonialism, the genocide of Indigenous peoples, and capitalism. Now as ever—violence on the land is also violence on our bodies. I love to come back to and assign The Red Nation's *The Red Deal: Indigenous Action to Save Our Earth* (2021), which premises Indigenous peoples—our sovereignty, autonomy, and dignity—but is also a call to action for all people to do three things:

First, we need to divest from and abolish prisons, police, and all forms of carcerality.

Next, we need to heal our bodies by reinvesting in our common humanity. This includes ensuring equitable rights and access to sustainable housing, education, healthcare, public transportation, and infrastructure as well as food, clean water, land, and air.

Finally, environmental justice needs to focus on healing our planet by reinvesting in our common future. This looks like clean sustainable energy, traditional and sustainable agriculture, land, water, air, and animal restoration, the protection and restoration of sacred sites, and in countries like Canada, environmental justice is also about the enforcement of treaty rights and other agreements.

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## [Aftershocks: Story 3 - A Fleeting Hope for Change](#)

**Video Title:** Hear from Dr Jazmin Scarlett, historical and social volcanologist

[YouTube Video Link/URL](#)

**Video Length:** 3:42

**Video Transcripts/Subtitles/Closed Captions:**

[On screen: How can scientists help societies through a natural disaster?]

So, scientists, so there are many different specialists who look at different natural hazards, for example we have volcanologists that look at volcanos and volcanic hazards, such as myself. There are seismologists who research earthquakes. There are meteorologists that cover like hurricanes, tornadoes, and other meteorological, climatic hazards. And these scientists are trained to really understand how these physical processes work. All the sciences that research natural hazards, we're more of a forecasting science, so we can't give you precise time and location when these events can happen. In particular, in seismology, it's very, very hard to do this because how tectonic plates move and how faults move, or just, there still a lot of unanswered questions to figure out when and where these events will happen.

[On screen: Disaster management can help a community before and after crisis. What can this look like?]

...Disaster management is the practice of preparing, mitigating, responding, recovering, and adapting to natural hazard processes or human-related events that either threaten or cause disaster. it can be earthquake drills and trainings...buildings can be constructed a certain way, for example in Japan their buildings are designed that would be more flexible and could sway with like earthquake vibrations so not to collapse but to withstand the vibrations.

Usually in disaster management we want to go towards kind of like lessons learned, like what did we learn, what failed in this disaster, and then what can we do better to adapt and prepare ourselves for another event that may happen in the future.

[On screen: why is it important to study the science of disasters as well as the societies living with them?]

If a natural hazard happens and it's a very negative impact it can in a way be seen as like a monster and you have to conquer it and you must eradicate it and make sure it never happens again whereas that's very impossible to do, especially with natural hazards such as flooding, and hurricanes, and tornadoes and earthquakes. You can't stop them from happening all you can do is make sure you can reduce the impact of when it happens next. In my personal opinion, we need to have a more positive like outlook, and the fact that what these natural hazards do and it's that we are interacting with them, and we need to accommodate them.

[On screen: what can we learn about disaster recovery by studying earthquake prints?]

What I noticed with this print is that I can see is something called social capital happening. So, in social capital, in a disaster context, is the measure of confidence that contribution freely given will be returned in kind. And in this case, it would come in the form of a social network you create, the social cohesion you create through various activities, through just day-to-day life, people coming together to help one another, for that cooperation.

What you see in in the prints, this instance is the catfish are helping the survivors out of the rubble and leading them to safety, and that maybe in the future, if the catfish are in trouble those people would be like, "oh they helped me, so actually let's go and help them, because they, I remember them helping me" sort of thing, it shows that mutual kind of assistance and helping one another.

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**Video Title:** Hear from Dr Greg Smits, Professor of History and Asian Studies

[YouTube Video Link/URL](#)

**Video Length:** 9:34

**Video Transcripts/Subtitles/Closed Captions:**



[On screen: What can we notice about the relationship between earthquakes, science, and societies?]

... when I first looked at earthquakes, I was interested in the impact of earthquakes on society with respect to politics and with respect to cultural and artistic production. I also then became interested in the history of science, so in other words how did different societies conceive of earthquakes and how did the modern understanding of earthquakes gradually fall into place. It's a mixture of cultural and political history on the one hand and history of ideas or history of science on the other.

To what extent do earthquakes, or any other natural disasters for that matter, to what extent do they change a society and is that change fundamental or deep? Although people think when the natural disaster occurs that it will change society fundamentally, and they speak as if it will, in fact natural disasters rarely change society fundamentally, but what they do is accelerate social trends that are already in play, and certainly the 1855 Ansei Edo earthquake did that.

[On screen: How did Edo's environment shape society's ability to recover?]

Many parts of Edo were built on a solid soil base even if the elevation was not very high, but some parts of Edo were built on reclaimed swamp, places that had basically been a salt marsh or part of the ocean, but in the early 1600s were filled in with dirt. Much of that real estate became prime location that some of the most prestigious daimyo, so-called Fudai daimyo, who were closely associated with the shogunate, with the bakufu, they built their mansions in low-lying areas right below Edo castle that had been reclaimed swampland.

This kind of land is the worst place to be in an earthquake. The soft soil amplifies the shaking, that soft soil quickly liquefies and so the shaking is greater and the soil itself liquefies, and the result is often a dramatic collapse of the building. If we were looking at this earthquake from the standpoint of an ordinary person in Edo. We would see many of the most prestigious areas in town – being utterly destroyed, almost look like they're being swallowed up by the earth and then exploding, in part because many of these dimensions had munitions stored in them.

And also, the Yoshiwara district that I mentioned, this playground of the rich was literally located in a swampy area, and it suffered the same kind of dramatic damage as the daimyo mansions. So, in many ways it looked as if the cosmic forces almost had directed their wrath at many of the elite elements of society, and so that was one way that people could interpret the earthquake. And then that destruction of the elite caused the need for rebuilding of those areas at very high wages and that leads to the major interpretation of the earthquake among many common people as a kind of redistribution of wealth. They used the term yonaoshi, which kind of has a grandiose sense of rectification of society, but they specifically meant rectification in the sense

that a flow of wealth from rich people and politically important people flowed into the hands of skilled and unskilled laborers.

So, one of the best examples of this phenomenon of the earthquake as a redistributor of wealth is in one of the prints that viewers will be able to see which depicts winners and losers of the earthquake.

It was very common to take a print and sort of divide it in some fashion visually often the winners would be described as people who are busy, and the losers would be people who are idle, who have time on their hands, in other words unemployed. And then typically you would see about the same number of occupations on both sides of this divide. The earthquake takes away from some people and then gives to other people in an economic way, in an economic respect.

And so, when the earthquake occurs, it is going to affect some types of occupations very dramatically, both in a good way or a bad way. If I'm in the construction trades my ability to command high wages will go up dramatically. How dramatically? Roughly 10 times my ordinary wages during the first month or two after the earthquake. Now eventually those high prices will attract people from outside Edo who have carpentry or roofing skills and there will be an equilibrium. But there were windfall profits for anybody involved in construction trades or anybody supporting them, so somebody who runs a food stand or something like that might well be in high demand. The earthquake was very good for business for many people.

Other people, for example, suppose that I'm a luxury goods, a dealer in luxury goods, that's going to be very bad for my business. If I'm a teacher of poetry, if I'm a teacher of music, any kind of instructor in those kinds of arts, their business will be hurt.

[On screen: Did people really believe in a catfish living underground caused earthquakes?]

There's an assumption that people in 1855 or anywhere around that time actually literally thought that a giant catfish cause the earthquake, I have seen no evidence to support this idea and much evidence that suggests that that was not the case. In other words, people had a metaphorical understanding of earthquakes, and they also had a scientific understanding of earthquakes. The scientific understanding was that earthquakes were the result of an imbalance in fundamental energies within the cosmos, those energies tend to rise, and they get trapped under the ground, this hot stuff builds up within the earth and finally so much of it builds up that it explodes and that that is essentially the earthquake. Now that's a very simple explanation and scholars would have refined it in many ways and explain how this happens so forth, but that seems to be what most people in Edo, that's how they understood an earthquake in mechanical terms.

Much like in you know modern North America around Christmas time you'll see images of a sleigh being pulled by reindeer it does not mean that most people think that reindeer can pull a sleigh through the sky, it's an image of the Christmas season. So too this huge catfish became an image of the shaking forces of nature. And indeed, even to this day a cartoon-like catfish on a sign in Japan would immediately alert a viewer that this is a sign containing important earthquake or tsunami information.

Most of the prints are quite hopeful, many of the prints reflect the idea that the future, the near future, is going to be better as a result of the earthquake. The earthquake was a kind of medicine for society, and the shaking was a strong medicine and has some bad side effects but in the end, we're going to be better off for it. So many of the prints do indeed reflect that point of view. It's counter intuitive at first. I think most people would think a large earthquake has shaken the de facto capital of Japan, it's brought down many buildings and killed several thousands of people, now in a city of a million that might not be so many, but the rumors were that the death toll was extremely high. So, the impact of the earthquake in the first few days did appear to be devastating in most people's estimation and it was only much later that people gradually understood that it wasn't so bad.

[On screen: What can we learn about disaster recovery by studying earthquake prints?]

So here we have this terrifying event, and it does produce some terrifying prints. However, within a few days most of the prints are looking ahead. Some of them emphasize the rebuilding, some of them emphasize the economic stimulus that the earthquake, in effect, has produced. And indeed, it did because we have to put money into rebuilding the city, the buildings, the infrastructure, etc. And so many of the prints look at this, at the earthquake as a de facto economic stimulus. They don't really use exactly that kind of language – well they do, they use this term *yonaoshi*, social rectification, and they have a very strong economic sense of what that means.

And so, we can see that natural disasters have many dimensions, both destructive and productive. And the people in Edo were acutely aware of all of these possibilities and it's an excellent opportunity for modern people to reflect on the complexity of society, the complexity of natural hazards as they intersect with society to create a natural disaster, and the possibility that the natural disaster, although obviously a bad thing, can lead to beneficial consequences depending on the nature of society.

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