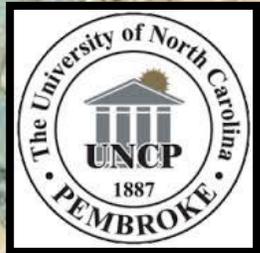


# ART, ALLEGORY AND GEOGRAPHIC EDUCATION: CULTURAL AND METEOROLOGICAL LESSONS FROM THE SKY DEITIES OF JAPAN

雷神

風神



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Charlotte, NC October 23-25, 2019

## **ABSTRACT**

**Folklore and mythology are not proper history or science fact, however there is a reasonable basis for why regional culture myths persist. Japan's Shinto religion holds Raijin as a god of lightning storms, and Fujin as a god of windstorms and tornadoes. These sky deities were depicted as demonic, destructive forces of nature in traditional Japanese art, iconography and cultural landscapes. Educational modules were developed for teaching geography, weather and climate concepts to students in general education, arts and humanities. Shinto and Buddhist art and allegory were used to explain and exemplify concepts in physical and cultural geography. Myths such as Raijin's penchant for eating the navels of children, or why Fujin's skin is green, were used to illustrate principles of meteorology, and characterize culture. Geographic pedagogy explained why Japanese painters of the Edo Period depicted lightning flashes as red in color, even though lightning does not usually appear that way. Educational modules also elucidated weather phenomenon such as gust fronts, nitrogen fixation by lightning, cyclonic winds, and others. Human geography concepts, such as diffusion and syncretism were also utilized as teaching points. Geography students reinforced their understanding of physical geography and gained an appreciation for Japan's art and culture.**

**Key Words: Geographic Education, Art History, Japanese Culture, Meteorology**

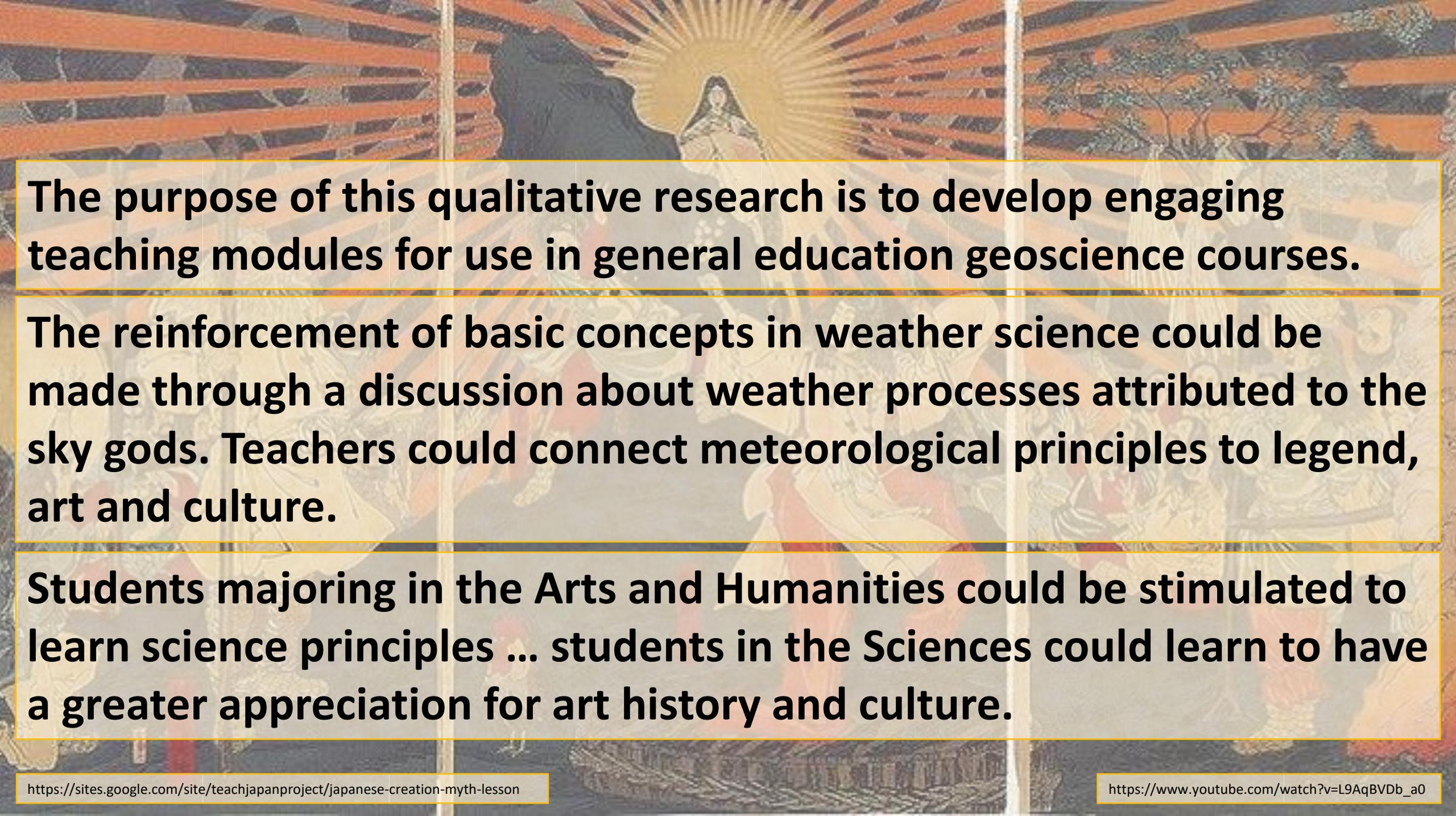
**Folklore and mythology are not to be interpreted as proper history or science fact.**

***There may be a useful educational analogy to be learned from the mythological allegory!***

***Izanami and Izanagi Creating the Japanese Islands***

**Artist: Kobayashi Eitaku  
Meiji era, mid-1880s**





**The purpose of this qualitative research is to develop engaging teaching modules for use in general education geoscience courses.**

**The reinforcement of basic concepts in weather science could be made through a discussion about weather processes attributed to the sky gods. Teachers could connect meteorological principles to legend, art and culture.**

**Students majoring in the Arts and Humanities could be stimulated to learn science principles ... students in the Sciences could learn to have a greater appreciation for art history and culture.**

**Raijin** is the Shinto god of thunder and lightning, and **Fūjin** is a Shinto god of windstorms, including tornadoes.

Raijin and Fūjin were revered as gods (“*kami*”), but they were usually depicted in art as demonic “*oni*” -- personifying the destructive forces of nature.

These two sky deities are ubiquitous in Japanese history, mythology, folklore, art, iconography, architecture and modern, popular cultural landscapes.



Japanese **Shinto** (“*the way of the gods*”), fits the concept of an “**animist**” religion, similar to the polytheistic, animistic beliefs among preindustrial native peoples throughout the world – where plants, animals or inanimate objects have spirits or souls that interact with humans, and may be worshipped.

Shinto’s spirit beliefs were fertile ground for **Buddhism** as it **diffused** from Asia into Japan.

*Despite Buddhism’s general classification as a “non-theist” religion, the regional gods, local spirits and other metaphysical beings of Japan’s **folk religion** were absorbed into Japanese Buddhist thought.*



風神雷神図 The original “Wind God & Thunder God” Early 17<sup>th</sup> Century (early Edo period)

Artist: Tawaraya Sotatsu (c. 1570 – c. 1640?)

Each is a two-folded screen; Ink and color paint on gold foiled paper. (160 x 180 cm each)

Current Location: Tokyo National Museum

[http://www.tnm.jp/modules/r\\_collection/index.php?controller=dtl&colid=A11189.1&t=search](http://www.tnm.jp/modules/r_collection/index.php?controller=dtl&colid=A11189.1&t=search)

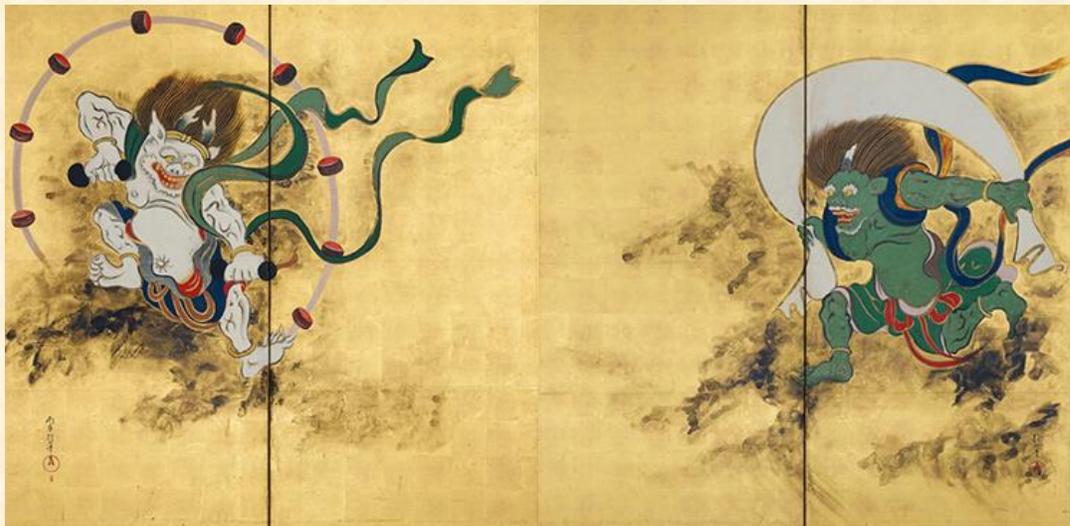
**“Thunder God and Wind God”** is one of the famous paintings, and well as one the most iconic images in **Japanese art**. It has been notably reproduced in subsequent centuries. These two screen paintings are remakes of the original, but each of these are also considered “national treasures” of Japan. All three versions were on display together at the Japan National Museum of Art in 2015.



## Ogata Korin (1658 – 1716)

Public Domain, via Wikimedia Commons.

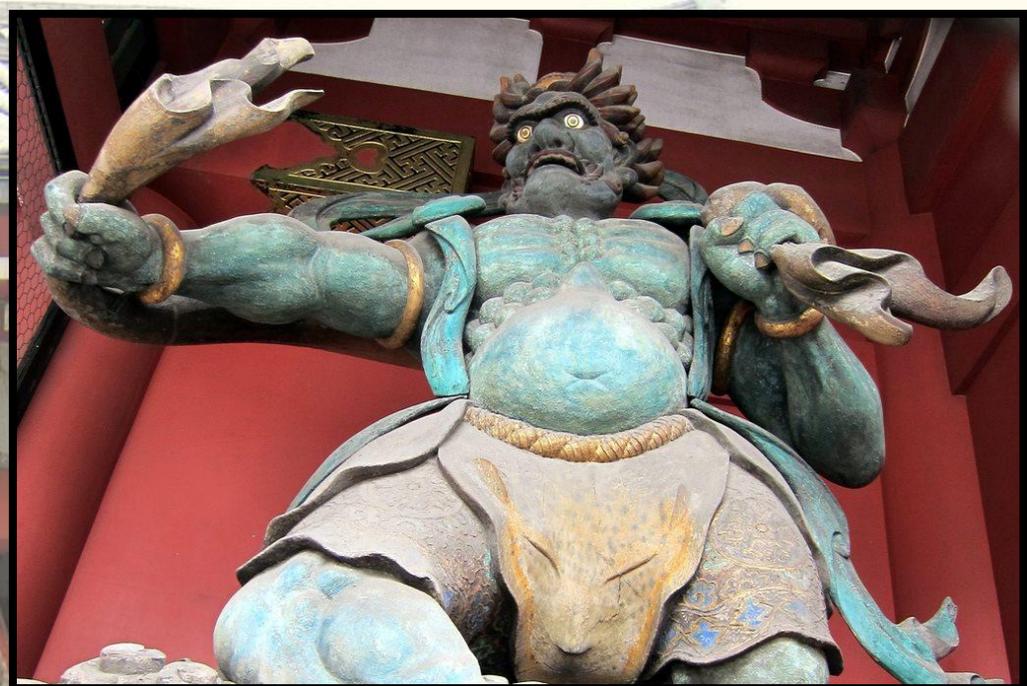
<https://commons.wikimedia.org>



## Sakai Hōitsu (1761 – 1828)

Public Domain, via Wikimedia Commons.

<https://commons.wikimedia.org>



**Fujin and Raijin are the "protectors" of the Asakusa Shinto shrine. . These statues stand over 12 feet tall, one on each side of the path that leads up to the shrine.**

**The placement of these statues on either side of the path leading into the shrine may have been a way to honor and pacify their destructive nature. This was probably done in the hope that by doing so then the – one of Japan's oldest -- might remain safe from fire caused by lightning strikes.**



**Raijin** 雷神 is the god of thunderstorms and lightning.

His name is derived from the Japanese words *rai* 雷, meaning 'lightning' and *shin* 神, 'kami' or 'god'.

Raijin statue at Ninnaji Temple, Kyoto.

Photo adapted from Flickr user roTokyo

<https://www.flickr.com/photos/rokyo/albums/72157708261221994>

He is usually depicted as an “*oni*” ...  
a demonic ogre **often red** in color ...  
beating on drums to create thunder.

**The storm demon was also known by other names in Shinto mythology:**

- **Yakusa no Ikazuchi no Kami**
- **Kaminari-sama**
- **Raiden-sama**

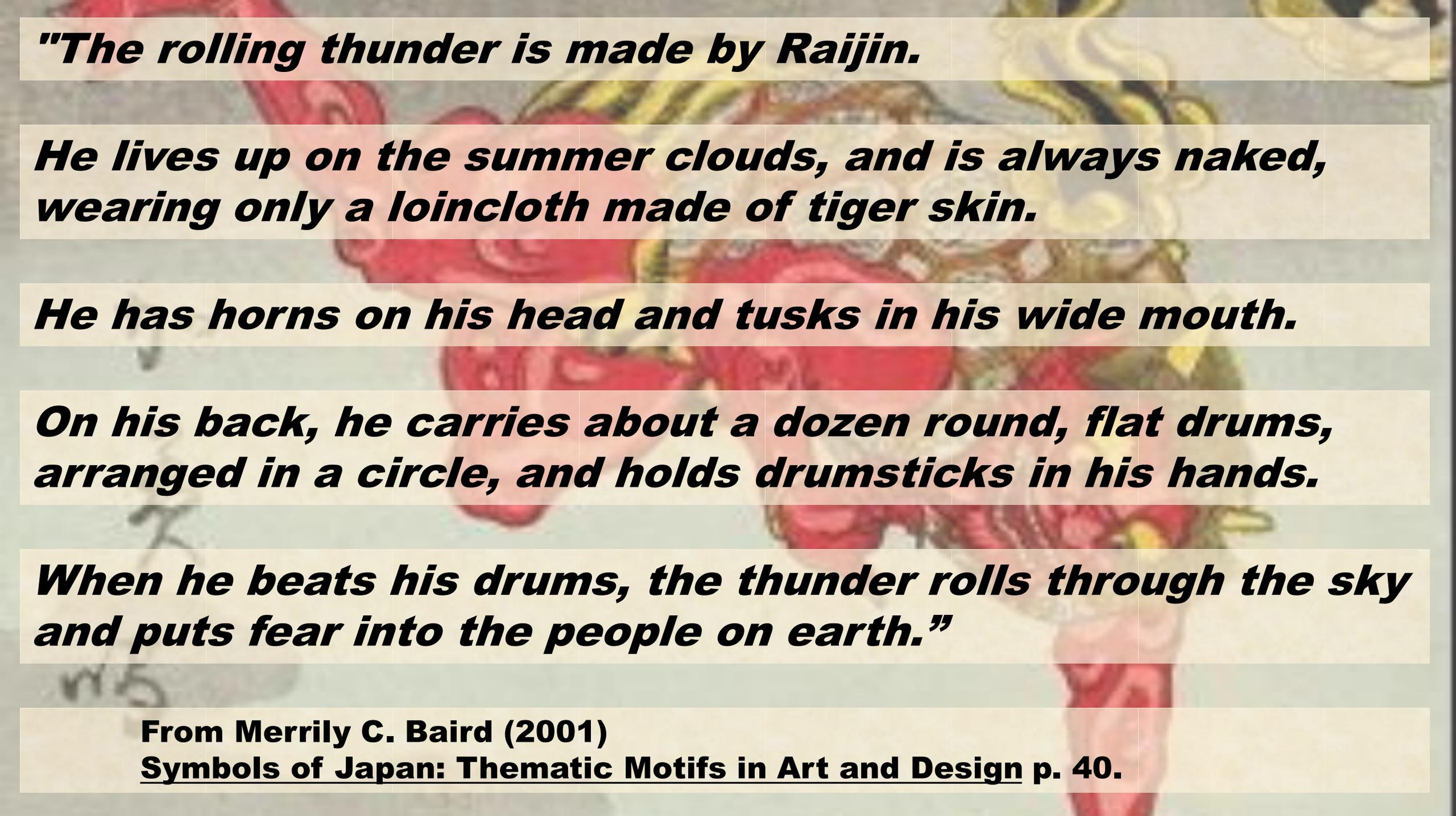
**Source:**

***“Legend in Japanese Art:  
A Description of Historical Episodes,  
Legendary Characters, Folk-lore,  
Myths, Religious Symbolism,  
Illustrated in the Arts of Old Japan.”***

**By Henri L. Joly (1908).**



[http://woodblockprints.org/index.php/Detail/Object/Show/object\\_id/1355#](http://woodblockprints.org/index.php/Detail/Object/Show/object_id/1355#)



***"The rolling thunder is made by Raijin.***

***He lives up on the summer clouds, and is always naked, wearing only a loincloth made of tiger skin.***

***He has horns on his head and tusks in his wide mouth.***

***On his back, he carries about a dozen round, flat drums, arranged in a circle, and holds drumsticks in his hands.***

***When he beats his drums, the thunder rolls through the sky and puts fear into the people on earth."***

**From Merrily C. Baird (2001)**

**Symbols of Japan: Thematic Motifs in Art and Design p. 40.**

# ***Meteorology lesson:***

***Lightning causes thunder.***

***Persistent rumbling of thunder is common during thunderstorm advance.***

***Gust fronts and roll clouds will create an ominous series of thunder shockwaves that sound like the pounding of drums – with the sound increasing in volume as the storm approaches.***





**God of Thunder (Raijin)**  
**Author: Tawaraya Sōtatsu**  
**Year: Mid-1600s**  
**Cleveland Museum of Art**



<https://s-media-cache-ak0.pinimg.com/736x/cf/1d/80/cf1d802cc95944742f51821e31ff2e6b--chris-garver-japanese-style.jpg>

<https://s-media-cache-ak0.pinimg.com/originals/36/28/dd/3628ddbc3a0cc3acb04f226d5bd668d4.jpg>

[https://www.loopaza.com/media/catalog/product/cache/1/image/1800x/040ec09b1e35df139433887a97daa66f/4/5/4537807120199\\_02.jpg](https://www.loopaza.com/media/catalog/product/cache/1/image/1800x/040ec09b1e35df139433887a97daa66f/4/5/4537807120199_02.jpg)

<https://s-media-cache-ak0.pinimg.com/736x/45/0d/11/450d112d51ff031be8b785a299511705.jpg>

## Raijin in traditional and vernacular arts.



***Raijin was usually depicted in the color red ... is it because lightning is “hot” ... or because Raijin is a red Oni?***



<https://fromthefloatingworld.tumblr.com/image/46504541802>



<https://www.fujiarts.com/japanese-prints/k355/186k355f.jpg>

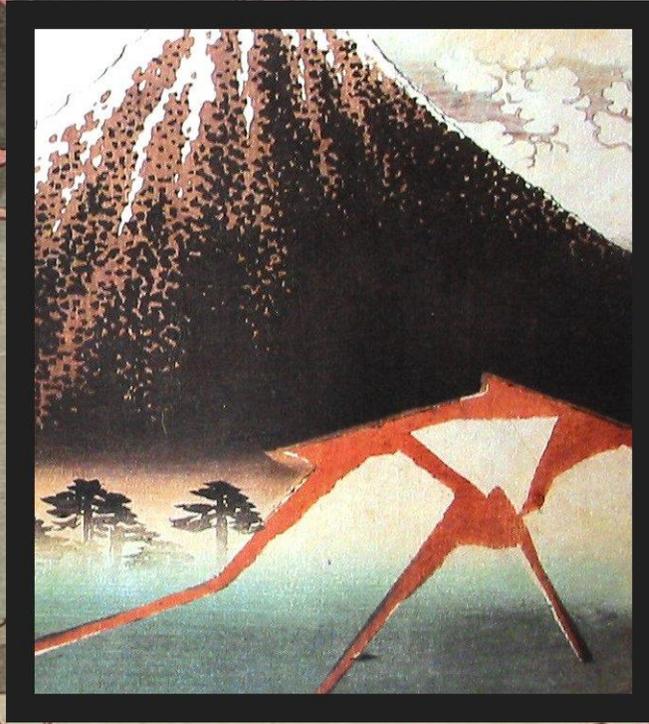
<https://www.pinterest.com/pin/606367537306374132/>

橋立雨中雷

INAZUMA  
稲妻  
いなずま  
“A Flash of Lightning”

KATSUSHIKA HOKUSAI  
(1760-1849)

Detail of image of  
"Mt. Fuji in Storm:  
Rainstorm Beneath  
the Summit"  
from the series  
"36 Views of Mt. Fuji"



**Lightning as represented in Edo Period  
Japanese art is usually RED in color.**  
“Lightning is seen far more frequently in Japanese woodblock  
prints than it is in the art of the West. However, what is most  
striking about this representation is that the area below the  
lightning bolt is shown as a brightened field.”

**Question:**  
**Is lightning**  
**always red**  
**in Japan?**

**Why red?**

**Most western landscape**  
**artists depict lightning**  
**as white or yellowish**  
**flashes.**



"Sugawara no Michizane Invoking a Storm on Mt. Tempai" by Hiroshige (1797 - 1858)

**Q: Why did Edo Period *Ukiyo-e* artists almost always paint lightning as the color *red*? Was it merely artistic license? Could it have been their perception of the supernatural?**



“Kabuki Lightning”  
Color woodblock print diptych.  
Date: circa 1857.  
<https://www.neartexchange.com/product/kabuki-lightning>



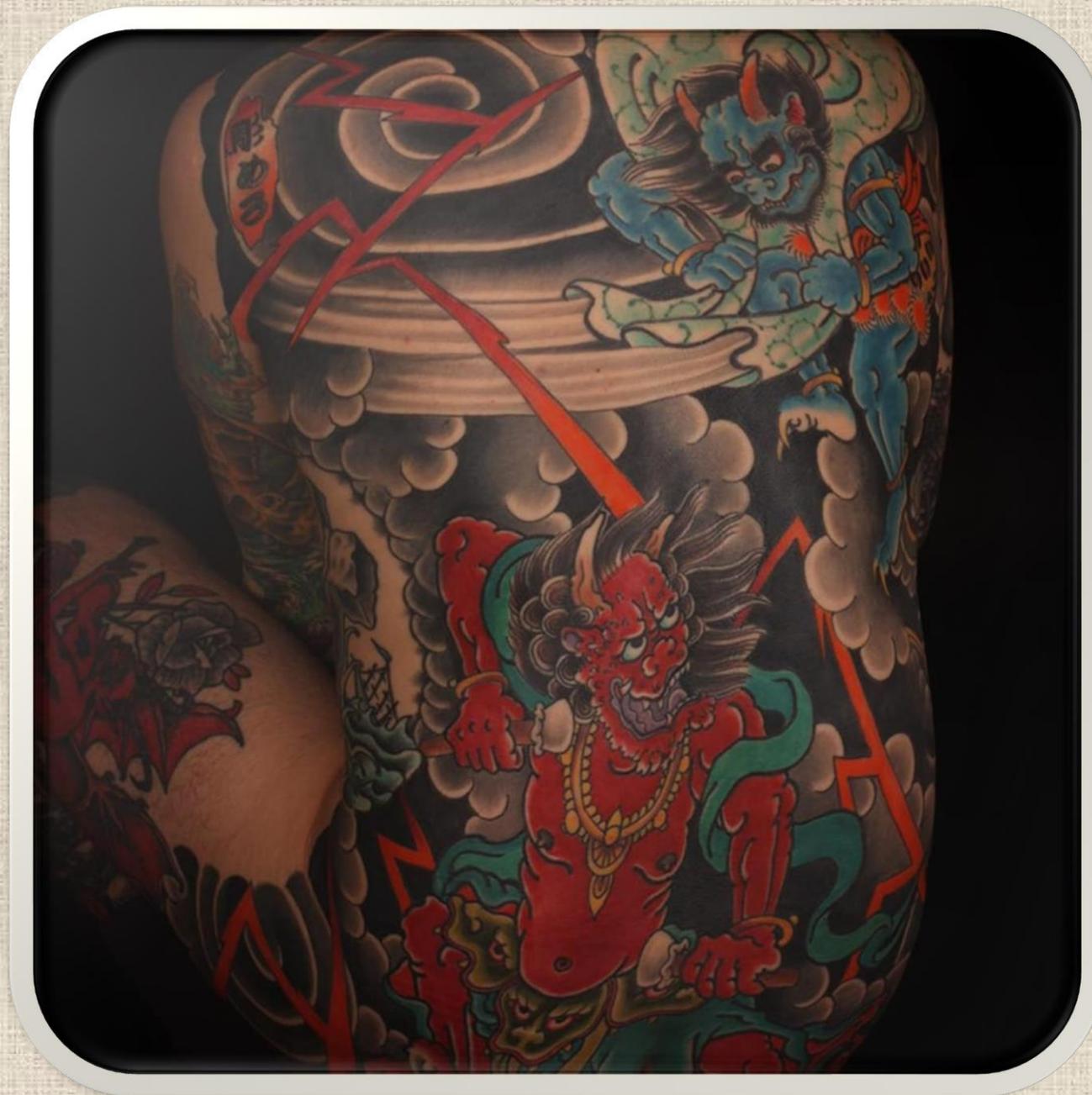
“Kabuki scene - Lightning, Dragon, Demon!”  
Artist: Unidentified Osaka school.  
Subject: Painting depicting Kabuki actors, lightning, a dragon & demon. Date: c.1850's.  
<https://www.thingsjapanese.com/osaka-school-after-hokuei-kabuki-scene-lightning-dragon-demon.html>

## 21<sup>st</sup> Century Tattoo Art:

*Modern tattoo artists still depict Raijin and his lightning in deep color red.*

<https://www.chronicinktattoo.com/blog/raijin-tattoo-ideas-meaning/>

[https://tattoodo-mobile-app.imgix.net/images/news\\_uploads/legacy/0/147991.jpg](https://tattoodo-mobile-app.imgix.net/images/news_uploads/legacy/0/147991.jpg)





Even when the Japanese tell the story of Benjamin Franklin's lightning experiments, they depict the lightning as red!

This Japanese version of the story is called *"Furankurin to kaminari no zu."*

← Image from US Library of Congress

<https://pabook.libraries.psu.edu/literary-cultural-heritage-map-pa/feature-articles/lightning-rod-not-so-shocking-invention>



**Distant lightning can appear red or orange – in the same way as the setting sun – due to moisture, haze, dust, etc. in the lower levels of the atmosphere.**

**See the discussion on Quora:**

<https://www.quora.com/What-causes-a-red-lightning-bolt>

<https://i.pinimg.com/originals/c5/ba/53/c5ba5399f01987d677b2f5fdf6428fa9.jpg>

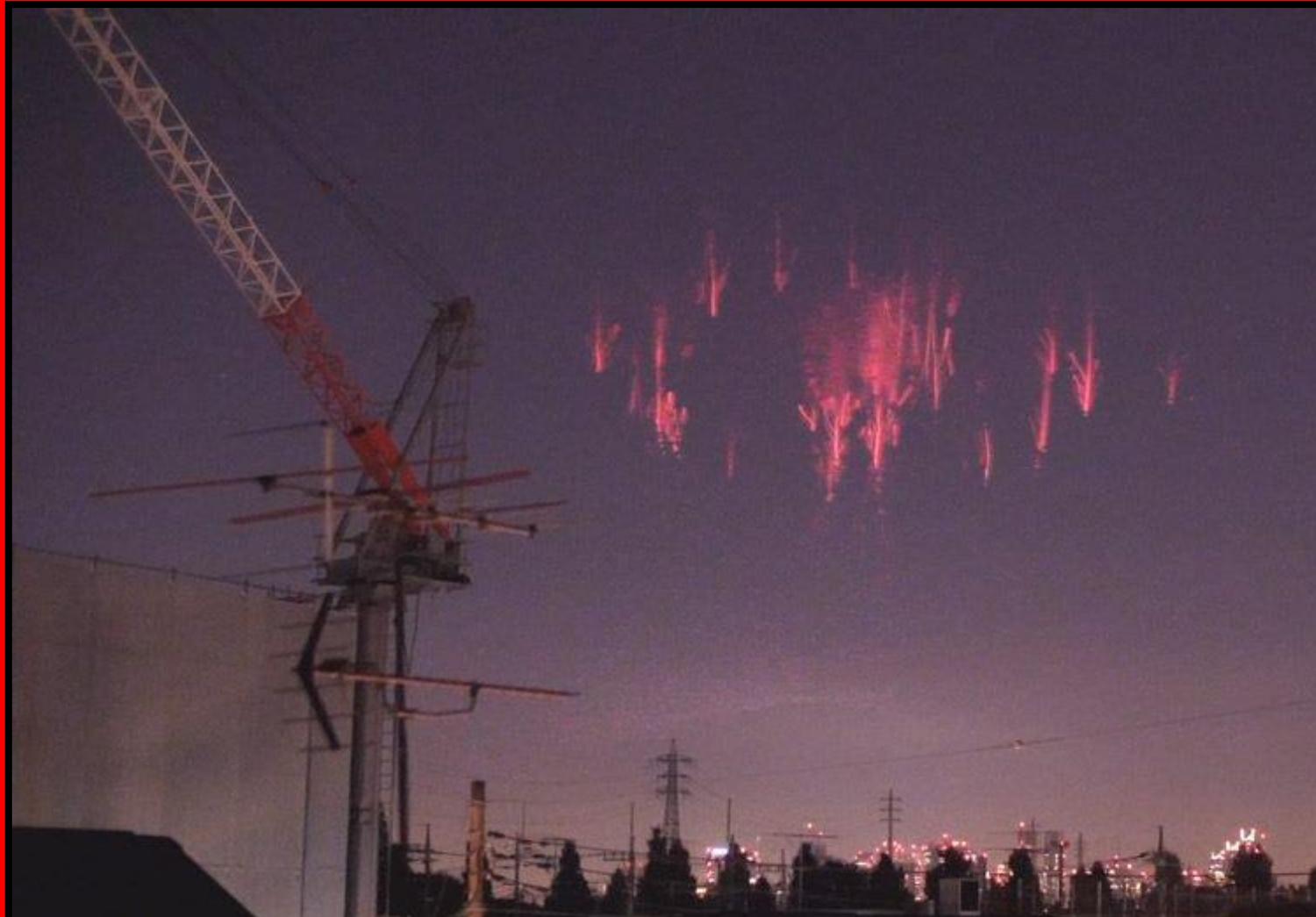
The late afternoon sky is reddish –  
a time when  
*convection has peaked,*  
but  
the *cumulonimbus towers*  
may continue to build,  
via the  
*radiative cooling*  
*of cloud tops.*





***“When lightning strikes an object or the ground, the lightning channel is often a deep red or orange color for its last ten feet or so above the ground or the target object. Lightning striking a tree will appear a bright, fiery orange/red color for the length of the channel traveling down the tree.”*** -- Dan Robinson.  
(Storm chaser and lightning photographer.)

# RED SPRITES OVER TOKYO?



2016/11/25 22:58:53.3MB 0006 HD02 Dir:SEE30 MonsterXX Huffyyvu 1080p ISO:6400 SS:1/60 M DMC-GH4 w/o 1st LPF + N25mm Suginami/Tokyo

**Red sprites** are thought to be caused by a rare form of lightning called positive lightning.

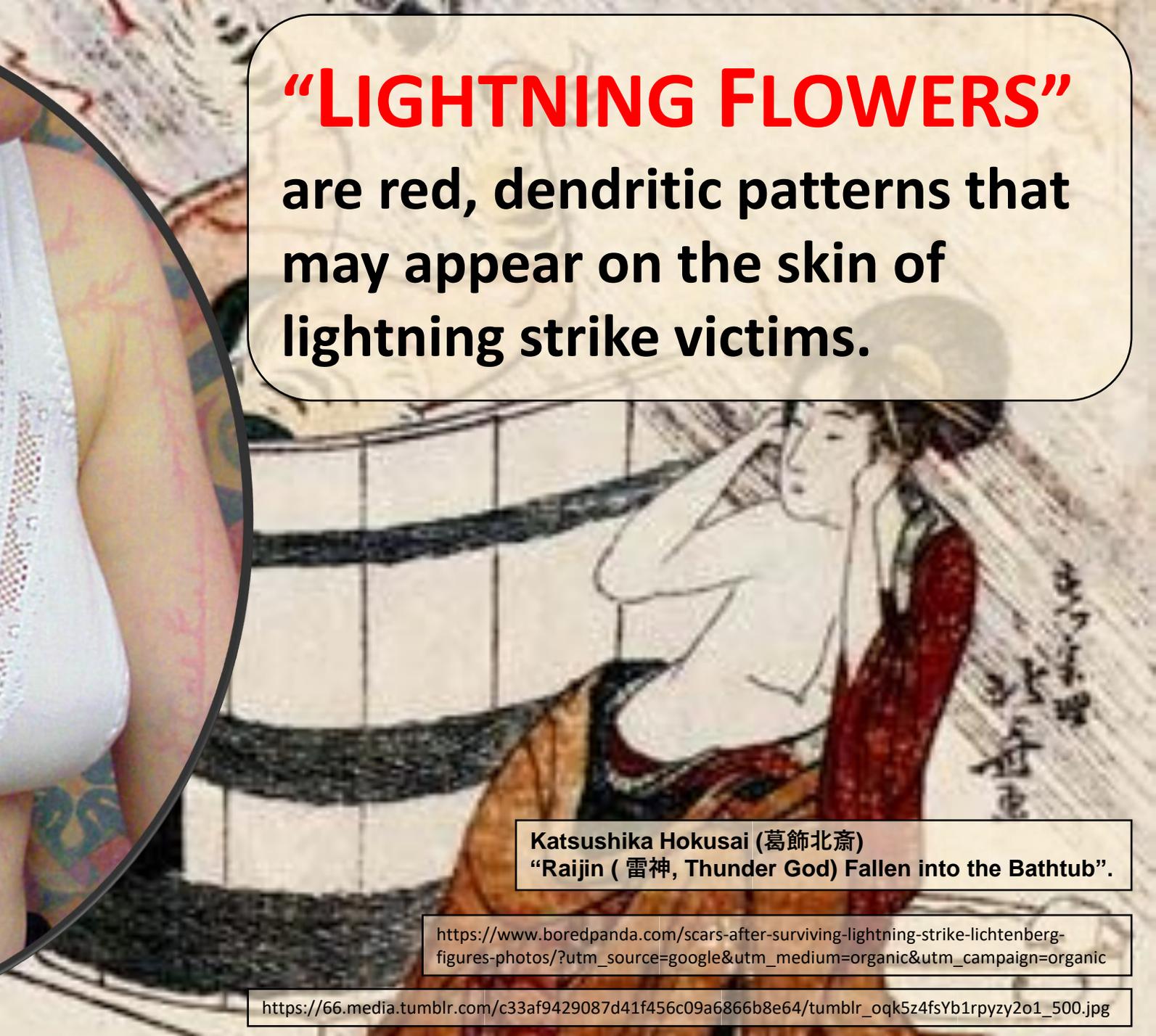
This red lightning occurs *above the clouds* and likely is too short lived to have become part of legend.

<https://twitter.com/severeweathereu/status/802616678542639104>

<https://www.popsci.com/what-red-sprite>

# “LIGHTNING FLOWERS”

are red, dendritic patterns that may appear on the skin of lightning strike victims.



Katsushika Hokusai (葛飾北斎)  
“Raijin (雷神, Thunder God) Fallen into the Bathtub”.

[https://www.boredpanda.com/scars-after-surviving-lightning-strike-lichtenberg-figures-photos/?utm\\_source=google&utm\\_medium=organic&utm\\_campaign=organic](https://www.boredpanda.com/scars-after-surviving-lightning-strike-lichtenberg-figures-photos/?utm_source=google&utm_medium=organic&utm_campaign=organic)

[https://66.media.tumblr.com/c33af9429087d41f456c09a6866b8e64/tumblr\\_oqk5z4fsYb1rpyzy2o1\\_500.jpg](https://66.media.tumblr.com/c33af9429087d41f456c09a6866b8e64/tumblr_oqk5z4fsYb1rpyzy2o1_500.jpg)



**The red fern-like patterns may persist on the skin for hours or days. They were a useful indicator for medical examiners to determine cause of death.**

**The flower pattern is thought to be caused by the rupture of small capillaries under the skin due to the passage of the lightning current, or the shock wave from the lightning discharge as it flashes over the skin.**



The depiction of the red color may have originated because of the observation that *lightning strikes sometimes cause fires.*

*Japan's "Fire God"  
Kagu-tsuchi, is depicted  
with red and yellow-red  
lightning bolts around his  
volcanic fire.*

**"The Fire God."**  
Painted by Utagawa Kunisada  
(1786 – 1865)

<https://www.museumsyndicate.com/item.php?item=30193>



## **VOLCANIC LIGHTNING:**

*Friction from the explosive ash particulates causes ash particulates to lose electrons. Static electricity is generated.*



*A reddish color could be observed due to the visual juxtaposition with the red hot lava.*

<https://time.com/4209350/volcano-japan-mount-sakurajima/>

<https://www.youtube.com/watch?v=i4l-eoikYcs&feature=youtu.be>



Raijin's red bolts often look more like **SPEARS** rather than the dendritic form most people see in typical lightning.

← *Real lightning is not so linear.*



(ABOVE)

Portion of a large print by UTAGAWA KUNIYOSHI (1797-1861).

Demons are using the **lightning spear-hooks** forged by Raijin.



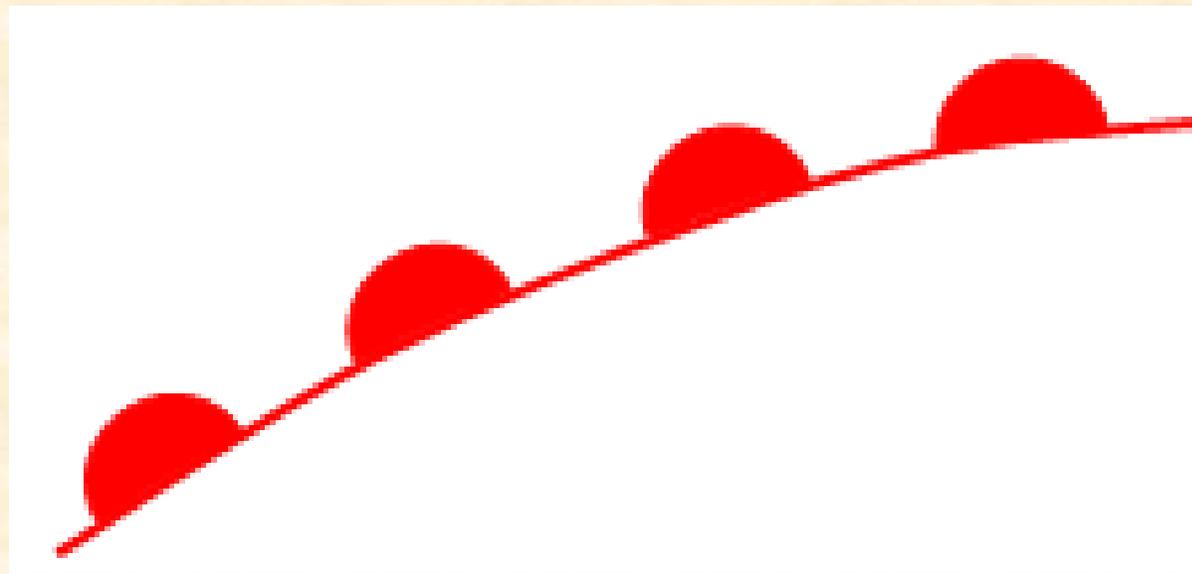
**His drums -- or “*taiko*”:**

**Notable is the connected arc of rounded disks which encircle him. (This arc is also said to be a whip.)**

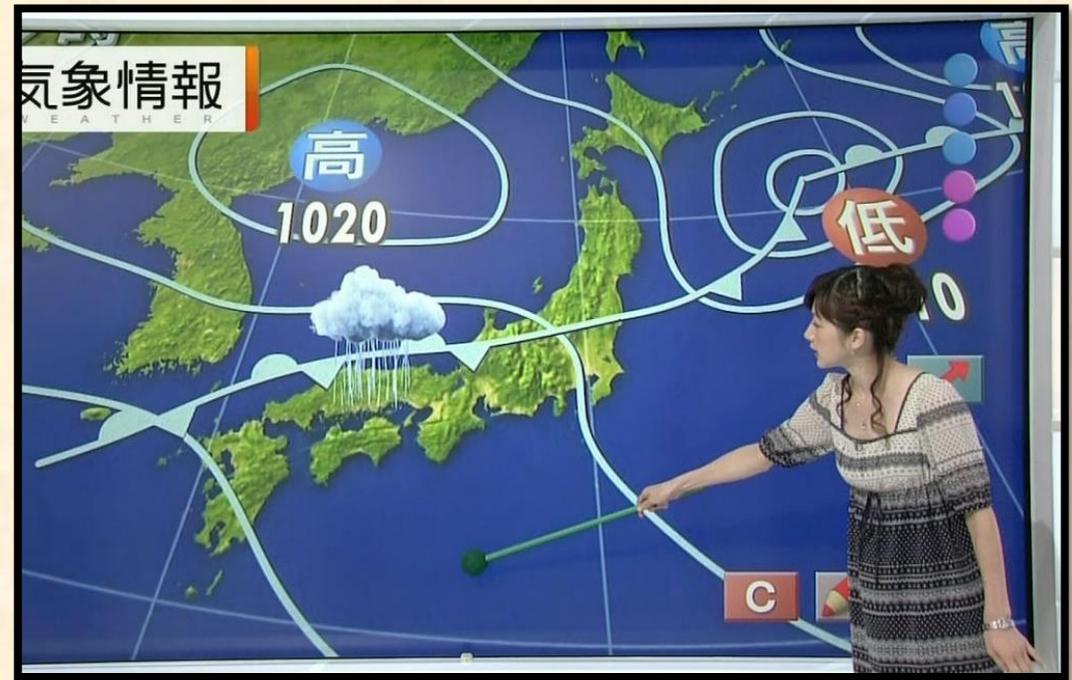
**Q: Might this **arc of drums** resemble a modern “frontal line” as viewed from above? ... or something else?**

**←Statue of Raijin at the Buddhist temple *Shingon Shu*, Hawaii**





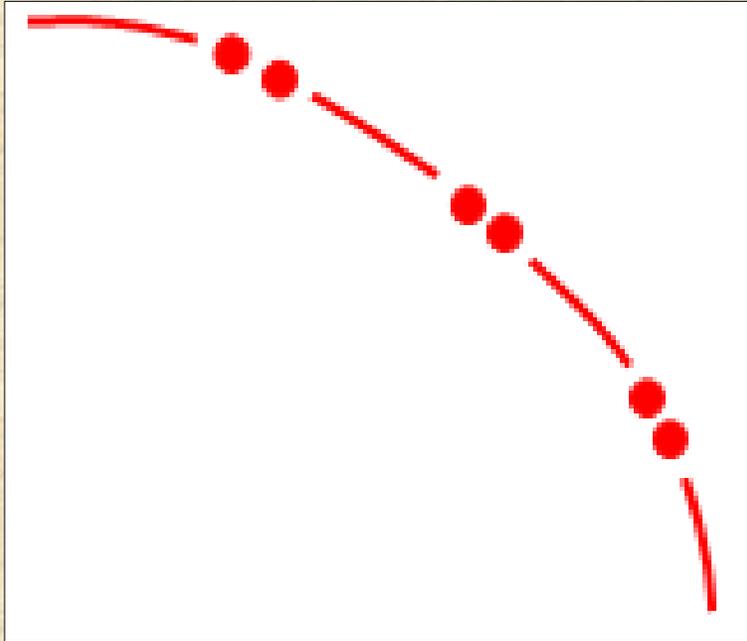
***Thus, the circular array of red drums may coincidentally resemble a **warm front advance**.***



<https://shimada1995.tumblr.com/post/102138798843>

***It is unfortunate that the drums are not triangular-shaped, as cold front symbols are **blue triangles**, which more often bring the most severe thunderstorms.***

The drum halo does somewhat resemble the arc-shaped symbol used for a “**squall line**” of thunderstorms on a modern synoptic weather chart.



*“**Squall Line** - a line of active thunderstorms, either continuous or with breaks, including contiguous precipitation areas resulting from the existence of the thunderstorms.”*

-- Weather Prediction Service, Products page.

<https://www.wpc.ncep.noaa.gov/html/fntcodes2.shtml>

Red dot/circles are also grouped to code for various categories of **precipitation intensity** on these chart.



Rain (light, moderate, heavy)

Raijin's taiko are often decorated with a “**tomoe**” symbol on them.



There are several different meanings to this symbol, however one use of tomoe 卍 is translated as “**eddy**” or “**whirlpool**”.

***Q: What aspects of a thunderstorm resemble these symbols?***

These Raijin tattoo art designs emphasize the swirling clouds associated with a **mammatus** sky; or the **meso-cyclone** beneath a **supercell thunderstorm**.





Perhaps these whirlpools could represent the spinning **meso-cyclone** of a **supercell** thunderstorm, or *roiling mammatus clouds*.

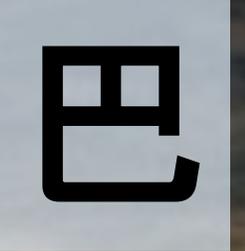
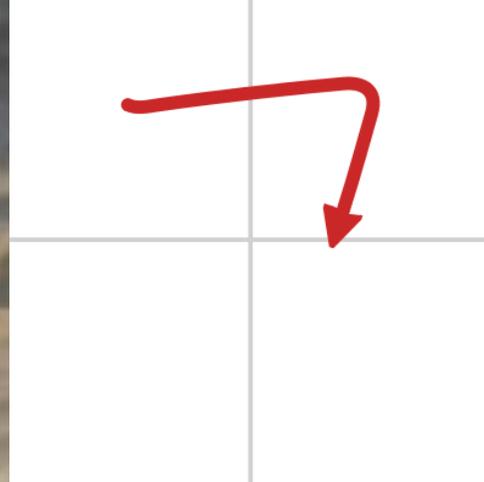
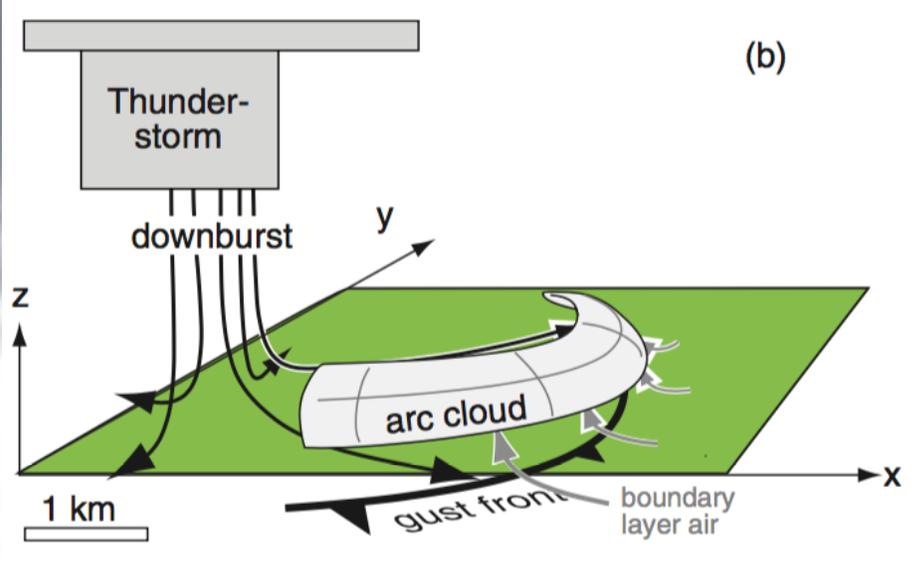
A strong downdraft (**microburst**) of air and rain from a large thunderstorm will create swirling *turbulence, gusts and rotors*.

A strong eddy current could also be created by the *flash flood* associated with a thunderstorm's downburst of heavy rain.

Approaching storm with *mammatus clouds* over Tokyo.

Even the tomoe written script itself could represent the *downdraft* or *microburst* from a severe thunderstorm!

The written stroke lines of this Japanese character resemble the formation of a *gust front* and *roll cloud*. An intense downdraft spreads out along the surface in advance of the storm cloud, causing more humid air to rise.



***Tomoe*** are also comma-like swirl symbols used on Japanese emblems or talisman ...



Another contextual translation of tomoe is “***comma***”.

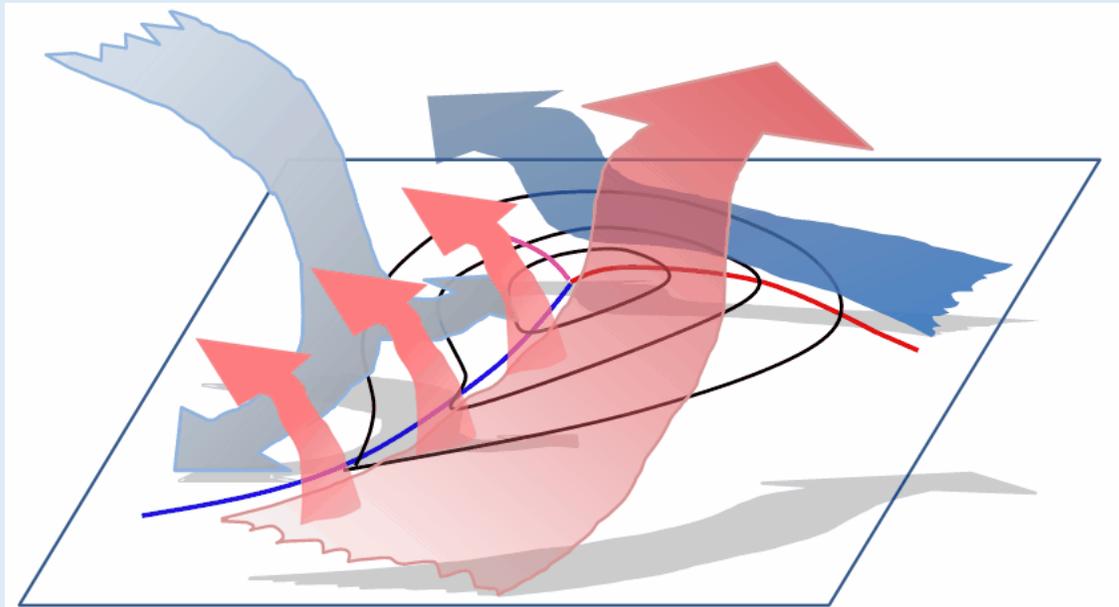
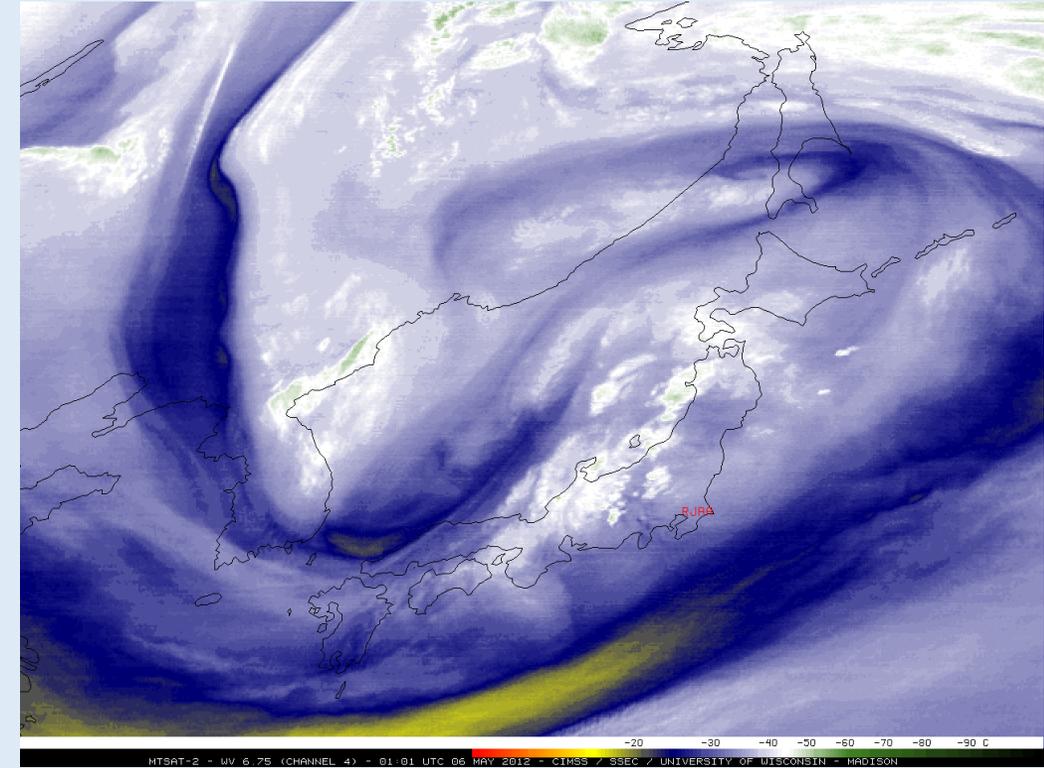
**Meteorology Q: Could the tomoe fit the “***comma shaped clouds***” concept?**

The comma-shaped cloud pattern typifies the ***occluded stage of a mid-latitude cyclone;*** the stage of maximum precipitation intensity.

<http://www.onmarkproductions.com/html/magatama.html>

<http://www.mrsciguy.com/EarthScience/earthsciimages/cyclone03.gif>

A distinctive *comma-shape* is also notable when viewing the “*conveyor-belt model*” of cyclonic motion.

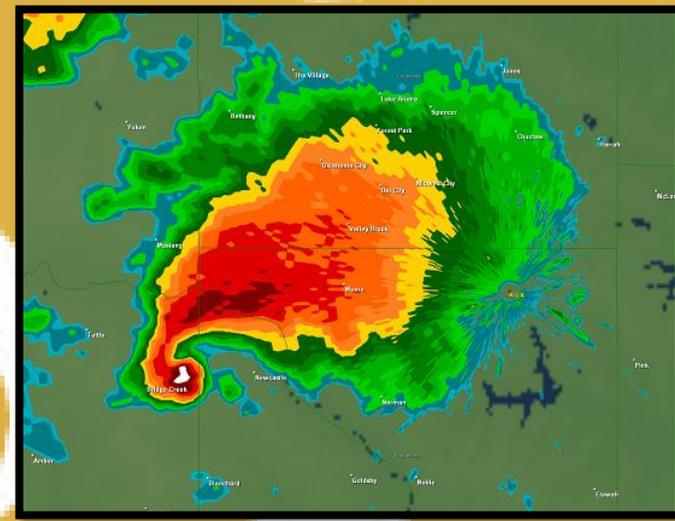


“Commas” might also resemble a  
“hook echo” !

a **hook-shaped  
weather radar signature** –  
a characteristic of some supercell  
thunderstorms, indicating the  
presence of a tornado ...

... but tornadoes and strong winds  
are associated with **Fūjin** ...  
... who often plays with, or battles  
his brother **Raijin** during storms.

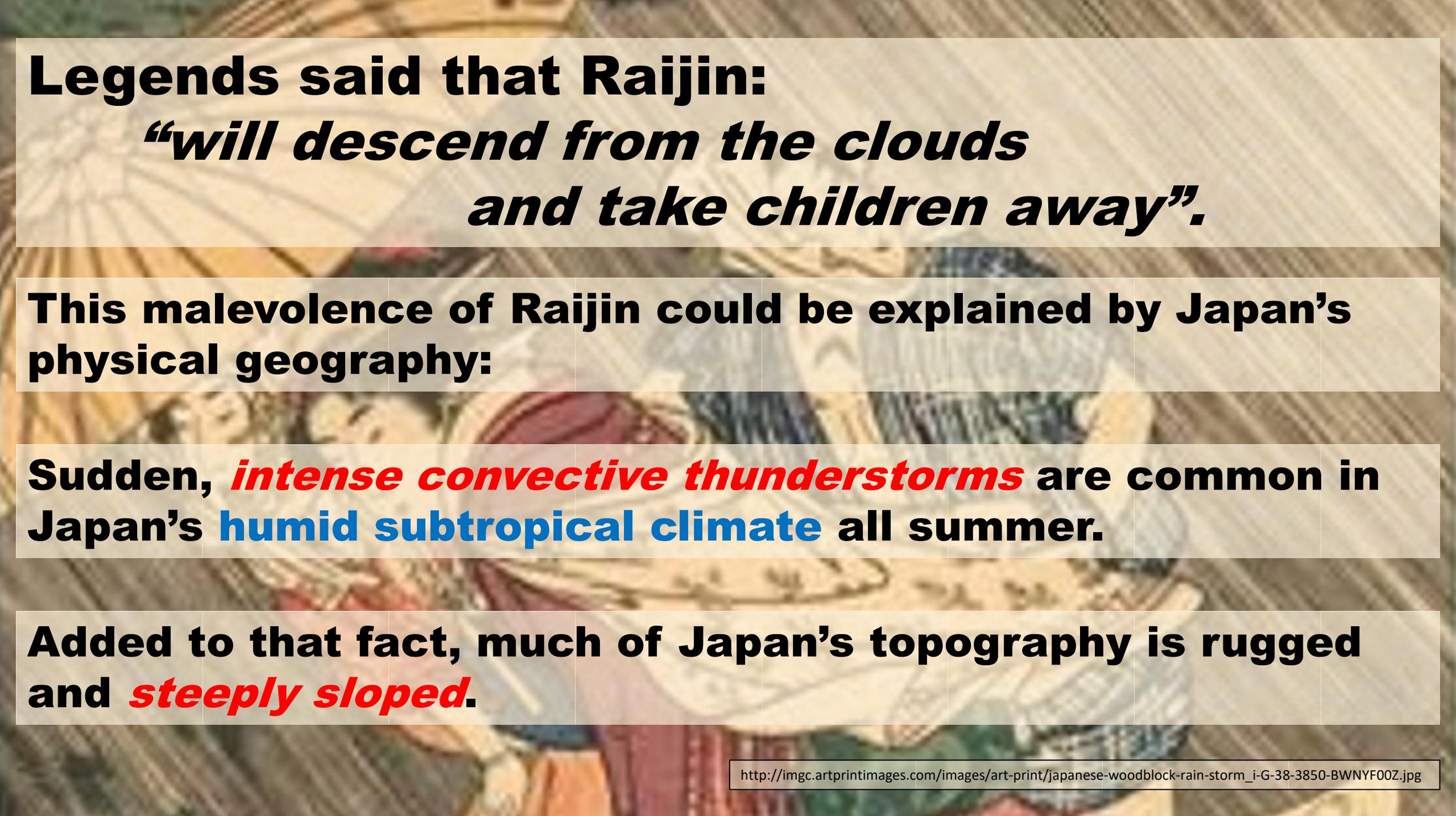
<https://journals.ametsoc.org/doi/full/10.1175/1520-0493%282002%29130%3C0852%3AHEARFD%3E2.0.CO%3B2>



<https://i1.wp.com/quadcitiesdaily.com/wp-content/uploads/2015/08/of25cg.png>



[https://img00.deviantart.net/f2e3/i/2013/257/2/d/fuujin\\_raijin\\_by\\_blu3berrystar-d6mc9bx.png](https://img00.deviantart.net/f2e3/i/2013/257/2/d/fuujin_raijin_by_blu3berrystar-d6mc9bx.png)



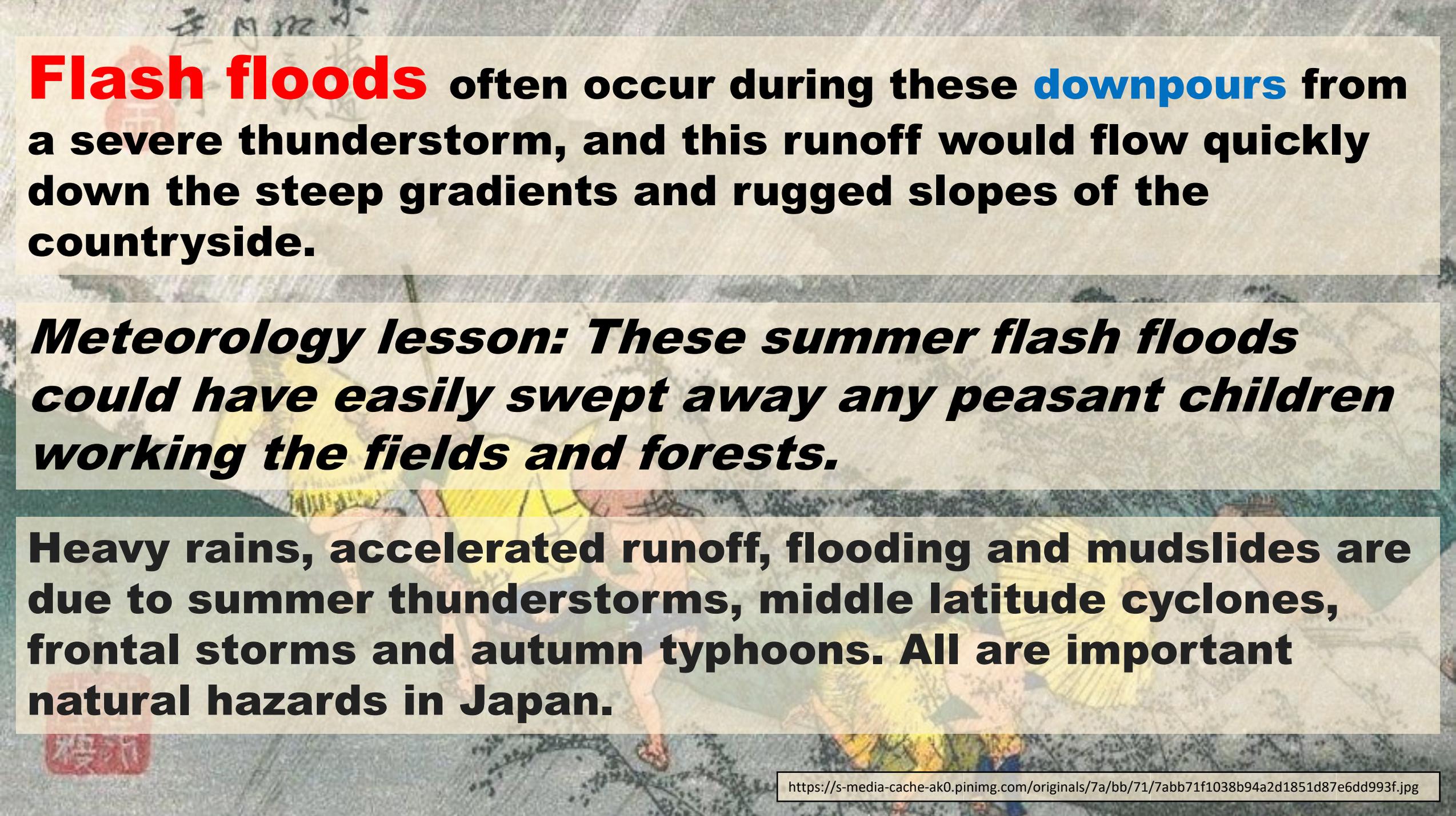
**Legends said that Raijin:**

***“will descend from the clouds  
and take children away”.***

**This malevolence of Raijin could be explained by Japan’s  
physical geography:**

**Sudden, *intense convective thunderstorms* are common in  
Japan’s *humid subtropical climate* all summer.**

**Added to that fact, much of Japan’s topography is rugged  
and *steeply sloped*.**



**Flash floods** often occur during these **downpours** from a severe thunderstorm, and this runoff would flow quickly down the steep gradients and rugged slopes of the countryside.

***Meteorology lesson: These summer flash floods could have easily swept away any peasant children working the fields and forests.***

**Heavy rains, accelerated runoff, flooding and mudslides are due to summer thunderstorms, middle latitude cyclones, frontal storms and autumn typhoons. All are important natural hazards in Japan.**

***“About 70 percent of Japan's land is made up of mountains and hills, so homes are often built on steep slopes, or flood-prone flat plains below them.”***

**-- Kyoko Hasegawa [Agence France Press](#)**

**July 9, 2018**



## Summer 2018 was a bad year for flash flooding:

“The archipelago is battered annually by an average of six typhoons, from around July to October or November. The storm fronts bring torrential downpours and heavy winds, and are closely tracked by weather and government officials.

Despite various measures intended to prevent deaths, including dams to control flood waters, **the country sees rain-related deaths most years.**

But this rain front has been unprecedented: record rainfall was recorded ... at 118 government observation points across the affected area.”

*-- reported by AFP, July 9, 2018.*



<https://i.pinimg.com/736x/a4/73/f7/a473f714c0ab10a3560d1ac83ea22b3f--tattoo-ideas-instagram-com.jpg>



<https://www.yahoo.com/news/why-record-japan-rains-deadly-070909515.html>



**A common Japanese folk tradition is for parents to tell their young children to :**

***“hide your bellybutton from Raijin!”***

**The warning is made because in Japanese folk tales, it is told that Raijin would “eat the navels” of careless children.**

***Meteorology Q: Should children hide their navels during thunderstorms?***

***“He comes down to this earth whenever he wishes to eat **o-heso** [お臍 or おへそ] or human navels. He is very fond of them, and this fondness causes him to fall from the sky. Whenever children run around naked in summer, mothers say, ‘Put on your clothes or he will come and take your o-heso.’ Then little boys will hurry to cover themselves up. **Many old people still put their hands on their stomachs whenever they hear the distant rolling of thunder.**”***

**Quoted from: Moku Jōya (1964) Things Japanese, p. 345.**

Artist: [Utagawa Kuniyoshi \(歌川国芳\)](#) (painted 1847-1850?)

Print title: “An actor as the God of Thunder and Lightning (Raijin, or Raiden)”



## Weather hazards education:

***Perhaps a child who crouches low, in order to cover and protect their navels, will also make themselves a smaller, less vulnerable target.***

**Thus during the lightning flashes, they would stand a better chance of avoiding a strike, as lightning tends to hit the tallest object nearby.**



***“If you feel the hair on the back of your neck stand up for no apparent reason, hit the floor, as a lightning bolt may be imminent within 2-3 seconds!”***

其三



# ***“Thunder God Raijin Falling from the Sky”***

**From the series “Kaidan Hyaku  
Bobogatari” (c.1839)**

**by Keisai Eisen (1790-1848)**

**Arguably, a different perspective  
on the *source* of the lightning.**

<http://www.akantiek.nl/shunga.21.html>

The red bolts were sometimes depicted as less of a flash – and more of a *solid spear* when held by the lightning god. **Oddly, Raijin has set his thunderbolt down here.**

**“Bathing Lady Raped by the Thunder God Raijin”**

19<sup>th</sup> Century “Shunga” art.  
(Artist Unknown)



<https://waraie.com/en/thunder-god-raijin/>

**“In the Edo period, people believed that when a woman was taking a bath during a thunderstorm, she could be raped by the demon Raijin.”**

-- Daily SHUNGA Art, November 11, 2016

Source:

*“Legend in Japanese Art: A Description of Historical Episodes, Legendary Characters, Folklore, Myths, Religious Symbolism, Illustrated in the Arts of Old Japan.”*

By Henri L. Joly (1908).

***“If a problem is associated with evil, it needs an icon.***

***In order to flesh out the concept you need a character and a story.***

***A personality gives coherence to the phenomenon.”***

***-- (Notes from) J.B. Peterson “Maps of Meaning” lecture, 2017***

**Thunder God (Raijin)**

From the Public Domain Collection of the Cleveland Museum of Art.

Japan, Kamakura Period (1185-1333)

Wood with traces of gesso and red and black pigment. Overall: 66.7 cm (26 1/4 in.)

Purchase from the J. H. Wade Fund 1972.64





**Raijin appears interested in a Maiko !**

**Mythology is one way for people to understand and explain perilous earthly phenomena, and attempt to rationalize the causal forces of nature.**

**Weather can be awe-inspiring and exciting -- and also very dangerous.**

***Surviving a life-threatening weather event might be the transcendent occurrence of one's lifetime, and could feel like a religious experience!***

**Despite his demonic appearance, Raijin may also be considered a good kami -- for agriculture.**

***Seasonal heavy rain is considered beneficial for rice crops!***

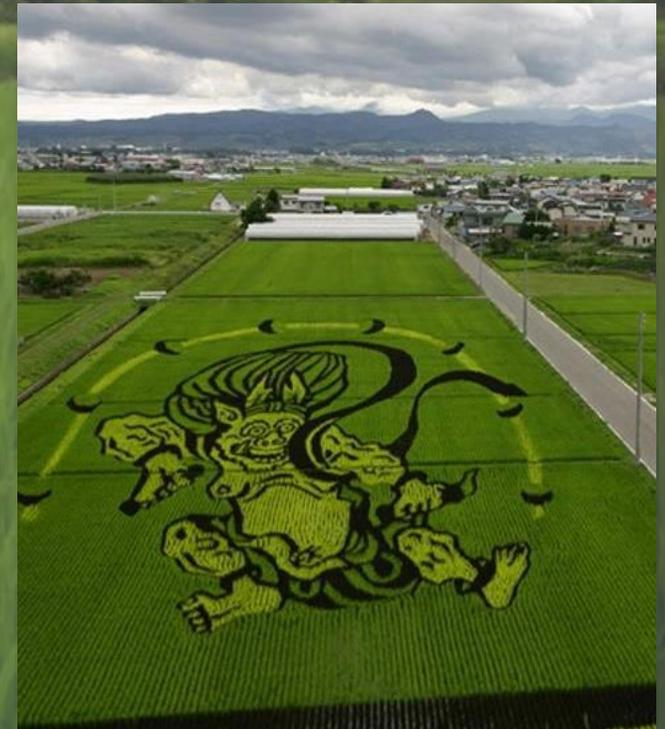
**Even Raijin's lightning has a good attribute:**

***Lightning fixes nitrogen and fertilizes the rice plants!***

**One Japanese tradition was to mark a place hit by lightning with a rice straw rope**

**-- a "*shimenawa*" --**

**indicating **sacred space**.**



<https://japancanmix.files.wordpress.com/2014/12/shikoku-rice-paddy.jpg>

<http://twistedstifter.com/2013/07/japanese-rice-field-art-tanbo/>

<http://muza-chan.net/japan/index.php/blog/japanese-traditions-raijin-thunder-god>

A relationship with farming: the terms for lightning path – “*inazuma*” and “*inabikari*”, include “*ina*”; a root word referring to rice stalks.

*Even centuries ago, there was the belief that lightning was responsible for fertilizing the rice plant.*

[https://www.tanoshijapanese.com/dictionary/entry\\_details.cfm?entry\\_id=16189](https://www.tanoshijapanese.com/dictionary/entry_details.cfm?entry_id=16189)

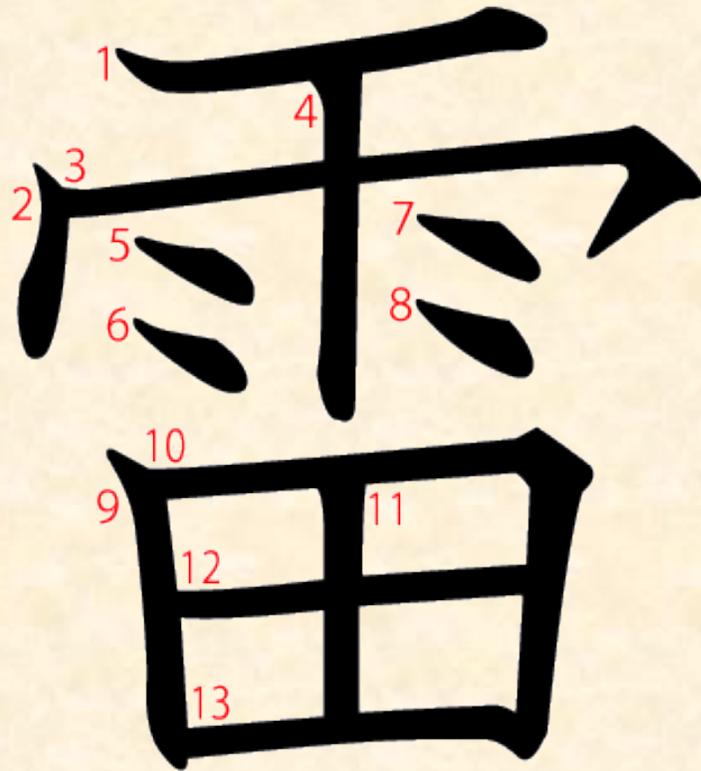


Image of *Raijin* appearing on a cloud:  
Shinto Museum of Kokugakuin University

[http://k-amc.kokugakuin.ac.jp/DM/dbSearchList.do;jsessionid=F9339195CC7641B35D169171178EFB80?class\\_name=col\\_eos&search\\_condition\\_type=1&db\\_search\\_condition\\_type=0&View=0&focus\\_type=0&startNo=1&searchFreeword=raijin&searchRangeType=0](http://k-amc.kokugakuin.ac.jp/DM/dbSearchList.do;jsessionid=F9339195CC7641B35D169171178EFB80?class_name=col_eos&search_condition_type=1&db_search_condition_type=0&View=0&focus_type=0&startNo=1&searchFreeword=raijin&searchRangeType=0)

A bountiful harvest would be assured if cut rice stalk rope -- “*shimenawa*” -- were erected at the site of a lightning strike.

The symbol on the left combines characters for “lightning” on top, with the symbol for “rice field” on the bottom. When the symbol is placed in this context, the symbol no longer means rice field — instead it means “drumming”. This is very appropriate! Thunder can sound like the pounding of drums as a thunderstorm approaches the observer. The symbol on the right is the kanji character for “rain”. Note the symbol includes those four dashes which look rather like rain falling from the flat base of a cloud. Maybe on to a rice field?



Re: Thunderstorms -- You may want the *rain*, but not the *lightning*!

Special rain invocations -- "*amagoi*" -- were held at shrines dedicated to Raijin.

Many areas similarly performed "*kandachioi*" -- special religious rites and conjures to protect against disasters from lightning.

<http://data.nistep.go.jp/dspace/bitstream/11035/2758/1/NISTEP-STT025E-21.pdf>

<https://i0.wp.com/www.gustibali.com/wp-content/uploads/2011/11/temple-rice-field.jpg?resize=314%2C500>



Mythology can be complicated ... and these stories are sometimes *contradictory*.

Some syncretic folk myths have diffused from origins in other Asian cultures ...



*In Shinto creation myth, **Susano'o** is the **SEA STORM** god.*

*He is a powerful god associated with summer sea storms (typhoons)*

(Another story: He is the brother of **Amaterasu**, the goddess of the Sun, and of **Tsukuyomi**, the god of the Moon. All three were born from **Izanagi**, when he washed his face clean of the pollutants of **Yomi**, accumulated from his failed rescue of **Izanami** from the underworld.)

***Weather can be a destroyer –  
or a protector!***

**Japanese folklore holds that the  
*kamikaze*, or "divine wind,"  
prevented Mongolian invasions of  
Japan in 1274 and 1281.**

<https://news.nationalgeographic.com/news/2014/11/141104-kamikaze-kublai-khan-winds-typhoon-japan-invasion/>

By Kikuchi Yoosai / (of the reproduction) Tokyo National Museum - Dschingis Khan und seine Erben (exhibition catalogue), München 2005, p. 331, Public Domain, →

<https://commons.wikimedia.org/w/index.php?curid=4201190>



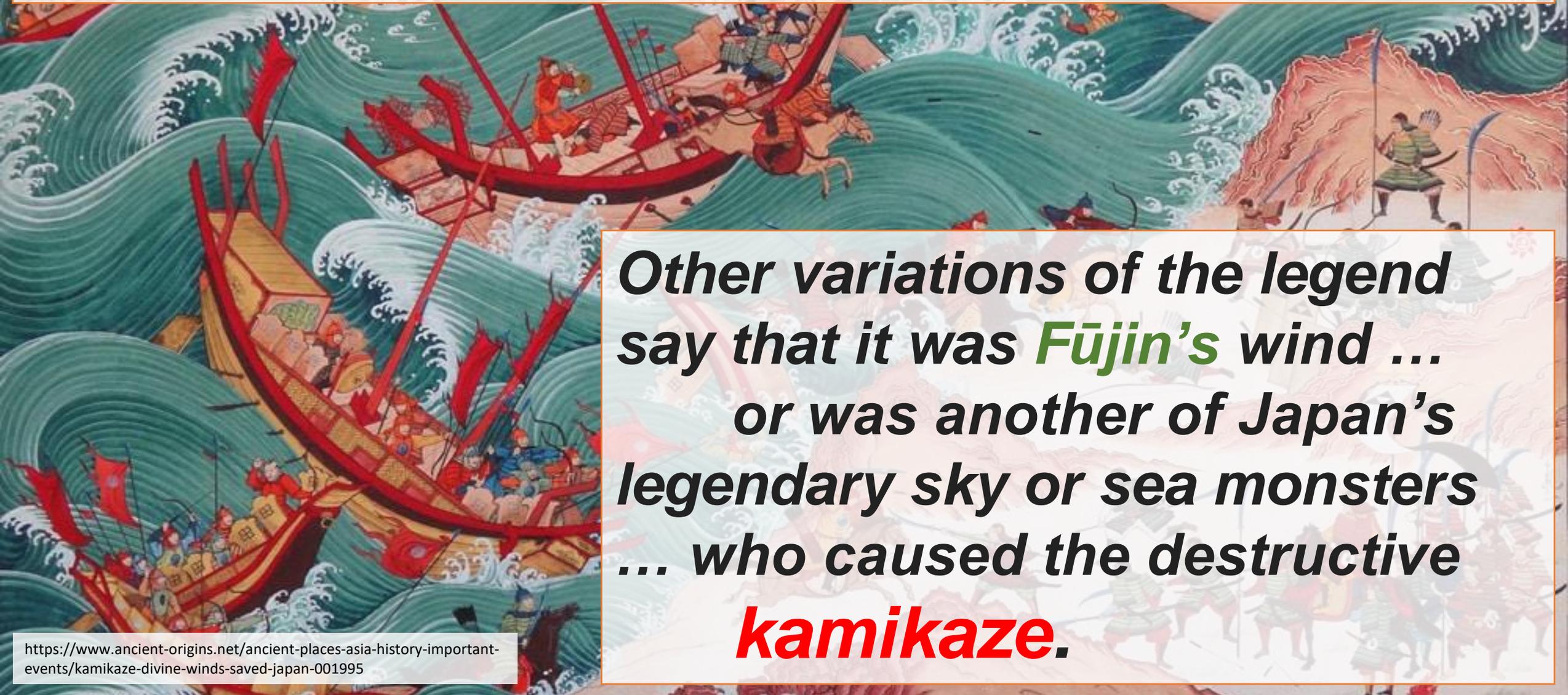


# 神 風

“kami” (god) “kaze” (wind)



**Some stories told that it was *Raijin* who turned the storms against the invading Mongols.**



**Other variations of the legend say that it was *Fūjin's* wind ... or was another of Japan's legendary sky or sea monsters ... who caused the destructive *kamikaze*.**

**Fūjin** is the wind god of Shinto legend. He is the cause of wind storms and tornadoes.

In Shinto legend, Fūjin was said to have been

*“present at the birth of the world”*

and that ...

*“the winds that flew from his bag allowed the sun to shine.”*

<https://www.flickr.com/photos/roTokyo/albums/72157708261221994>



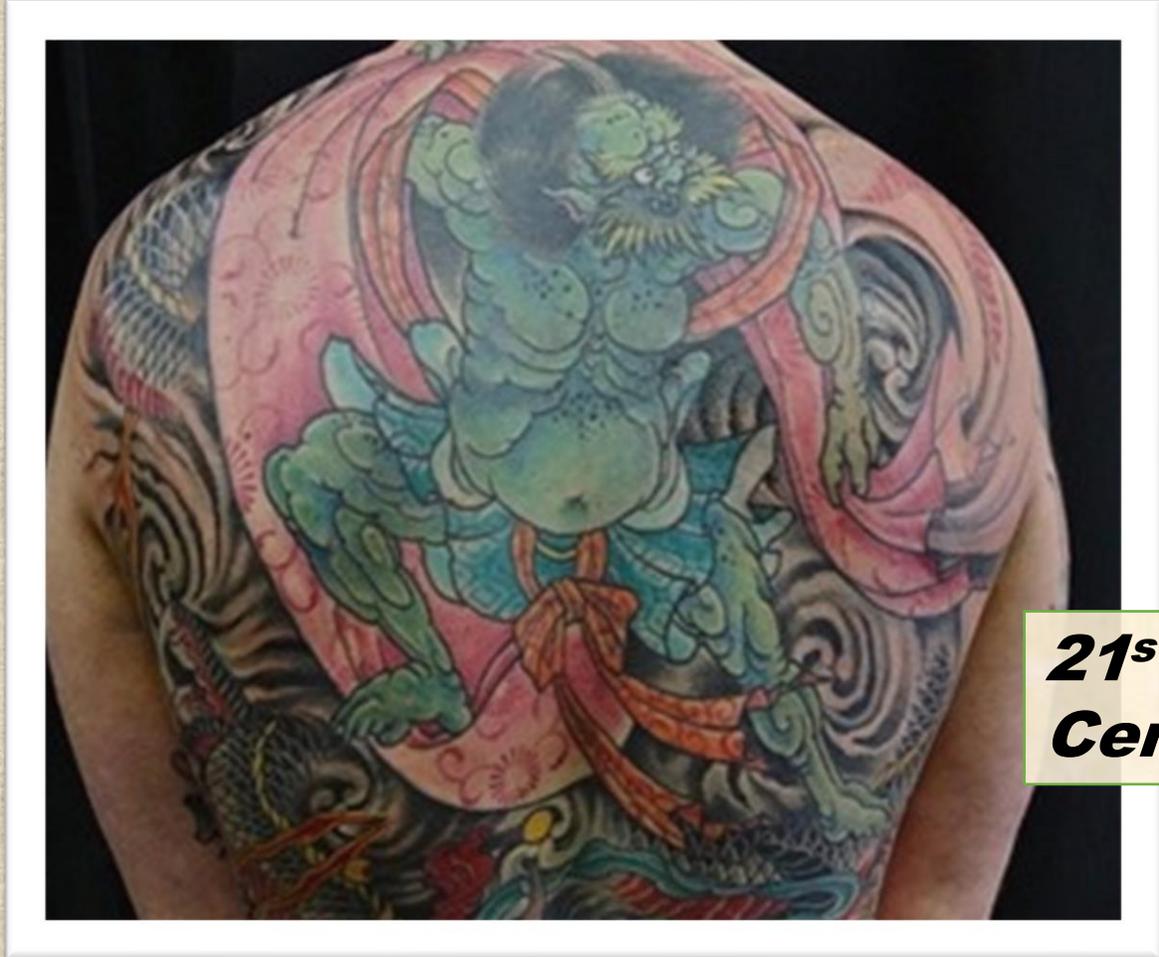
**Fūjin is typically depicted as a demon with green skin.**

Fujin statue at Ninnaji Temple, Kyoto  
Photo adapted from Flickr user roTokyo

# Fūjin in traditional Japanese art, and on modern tattoos.



**18<sup>th</sup>  
Century**



**21<sup>st</sup>  
Century**

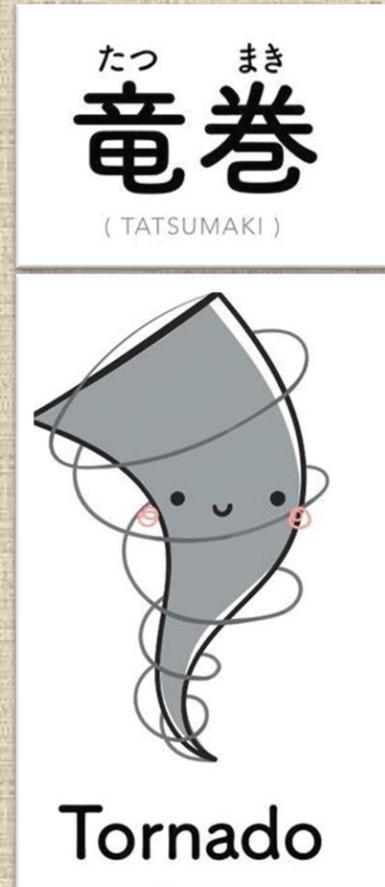
[http://img-cache.oppcdn.com/fixed/45634/assets/dfrij5\\_hOCec1MH1.jpg](http://img-cache.oppcdn.com/fixed/45634/assets/dfrij5_hOCec1MH1.jpg)

<https://s-media-cache-ak0.pinimg.com/736x/db/fa/7a/dbfa7aa5338f5fe3e96bd750965e68e5--kuniyoshi-japanese-art.jpg>

**Monsoon winds, typhoons, tornadoes, waterspouts, mid-latitude cyclones, localized whirlwind storms, gusts and “dust devils” are frequently encountered weather hazards in Japan.**



**A Japanese dust devil.  
(Not connected to a storm cloud)**



**A tornado in Japan.  
(Connected to a storm cloud)**

**Tornadic winds are demonic in their destruction ...  
and should be feared ...**

**but *why would Fūjin be green?***

**Some Meteorological reasoning:**

**Japan is a verdant green country. A tornado or strong dust devil (whirlwind) could pick up and swirl local vegetation.**

**Green leaves, rice plants, etc. could be drawn into the vortex – the ascending, rotating, debris field of the cyclonic system.**

**(In contrast to the typically dirt-brown tornadoes of the dusty plains of America's Mid-West and Tornado Alley.)**



**A Japanese amateur videographer caught the formation of a green whirlwind “dust devil” in this YouTube video.**

<https://www.youtube.com/watch?v=EE3JVSIAUIA>

***The newsman had incorrectly referred to this localized whirlwind storm as a “tornado”.***

<https://www.youtube.com/watch?v=EE3JV5IAUIA>

竜巻

**Kanji symbols for “tornado”**



Japanese avant-garde artist **Yayoi Kusama** painted the green background image seen here. The title of this silkscreen art is simply “**Wind**”.

***Why would Japanese wind be green?***

<https://www.artsy.net/artwork/yayoi-kusama-wind-1>

**Why green?** Perhaps Fūjin's green color is appropriate because of the "green sky" effect (a condition produced by a complex atmospheric scattering process) which often precedes the strong thunderstorms that give rise to tornadoes.



<https://www.youtube.com/watch?v=r03flrbyXqM&feature=youtu.be>

## **“Why Does The Sky Turn Green Before Tornadoes?”**

The YouTube Channel **SciShow** has posted a video about the green sky phenomenon, with several reference links.



SciShow  
Published on May 29, 2018

SUBSCRIBED 5M

In some parts of the United States, it's said that a green sky means there's a tornado on the way. But while you should probably go inside, things might not necessarily get so bad"

Hosted by: Michael Aranda

Head to <https://scishowfinds.com/> for hand selected artifacts of the universe!

Support SciShow by becoming a patron on Patreon: <https://www.patreon.com/scishow>

Dooblydoo thanks go to the following Patreon supporters: Jerry Perez, Lazarus G, Sam Lutfi, Kevin Knupp, Nicholas Smith, D.A. Noe, alexander wadsworth, سلطان الخليفة, Piya Shedden, KatieMarie Magnone, Scott Satovsky Jr, Charles Southerland, Bader AlGhamdi, James Harshaw, Patrick D. Ashmore, Candy, Tim Curwick, charles george, Saul, Mark Terrio-Cameron, Viraansh Bhanushali, Kevin Bealer, Philippe von Bergen, Chris Peters, Justin Lentz

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Sources:

<https://shareok.org/bitstream/handle/...> [PDF]

<https://news.wisc.edu/curiosities-why...>

<https://www.scientificamerican.com/ar...>

<http://math.ucr.edu/home/baez/physics...>

<https://www.handprint.com/HP/WCL/colo...>

<https://www.livescience.com/39069-why...>

[http://www1.lsbu.ac.uk/water/water\\_vi...](http://www1.lsbu.ac.uk/water/water_vi...)

<https://journals.ametsoc.org/doi/full...>

<https://s.campbellsci.com/documents/c...>

Category **Education**

License **Standard YouTube License**

**Air molecules and particles in the air scatter light.**

**In the day, the particles scatter more violet and blue light, but our eyes are more sensitive to the blue light — that's why the sky appears blue.**

**Tall, super-cell thunderstorms, which give rise to tornadoes, usually happen later in the afternoon, when the sun is approaching the horizon.**

**That creates a reddish tinge in the western sky.**

**Light under a 12-mile high super cell cloud is primarily blue, due to scattering by water droplets within the cloud.**

**When blue objects are illuminated with red light, they appear green.**

**Fūjin also carries  
a bag of wind:**

**Could this wind bag represent  
the *funnel shaped cloud* of a  
tornado?**

**The vortex of some “rope-like”  
tornadoes and waterspouts will  
“tilt” over, and may even  
appear *nearly horizontal in  
direction*, similar to how Fūjin  
carries his wind bag.**



<http://images.ntpl.org.uk/lowres/ntpl/3/00000000010/780056.bro>



<http://jpmanual.com/en/yokokuji>

# Fūjin's "wind bag"



<https://orange.japan-talk.com/images/jt/thumbnails/fujin-statue-452.jpg>

<https://ninjaya.com/media/product/c97/fujin-tanacocoro-f24.jpg>

<http://www.myjapanesehanga.com/home/artists/shusetsu-active-c-1900/a-set-of-three-nosatsu-kokanfuda---fujin-the-wind-god-raijin-the-thunder-god-calligraphic-cover-sheet>

<https://i.pinimg.com/236x/cc/5f/80/cc5f80454a856608bab20afa989ce951.jpg>



茨城県つくば市目の前を竜巻が通過!



**YouTube video of a rare EF3 tornado, 60 km northeast of Tokyo on May 6, 2012 in the city of Tsukuba.**

[https://www.youtube.com/watch?time\\_continue=174&v=q60ztaPtuo8](https://www.youtube.com/watch?time_continue=174&v=q60ztaPtuo8)

<https://www.youtube.com/watch?v=LenGSZrpXME>

**Tornadoes are rare in Japan, but can occur during the warm and humid summer months.**



Image source: <http://tropic.ssec.wisc.edu>

<http://earthsky.org/earth/rare-tornado-strikes-near-tokyo-japan-on-may-6>



<https://nationalpost.com/news/photos-of-the-devastation-after-a-tornado-hits-japan>

<http://english.sina.com/world/p/2012/0507/465292.html>

<https://journals.ametsoc.org/doi/pdf/10.1175/MWR-D-15-0123.1>

## Saroma, Hokkaido 11-07-2006



Assessed at a  
borderline  
F2/F3 intensity

The Saroma tornado remains **the deadliest tornado to strike Japan in the past 80 years**. An **unusual supercell thunderstorm** developed over Hokkaido. A rope-like tornado formed a few miles south of the island's northern shoreline and tore through two dozen buildings in the Wakasa district of Saroma. The tornado left a narrow streak of damage through a strip of buildings lining a highway. **Nine deaths** occurred in the destruction of a large pre-fabricated apartment building (visible at bottom left).



**YouTube links for  
Japanese amateur  
video of  
tornadoes:**

**(Many are actually dust  
devils or ocean-borne  
waterspouts.)**

2018年6月29日 滋賀県米原市 竜巻か 目の前を通る衝撃映像など

<https://www.youtube.com/watch?v=LenGSZrpXME>

**TORNADO SAFETY LESSONS!**

<https://www.youtube.com/watch?v=3dBME7PumbM>

[https://www.youtube.com/watch?v=\\_0mzP0j4GI8](https://www.youtube.com/watch?v=_0mzP0j4GI8)

<https://www.youtube.com/watch?v=woYIPM72JQk>

<https://www.youtube.com/watch?v=7lFgq7cQz0>

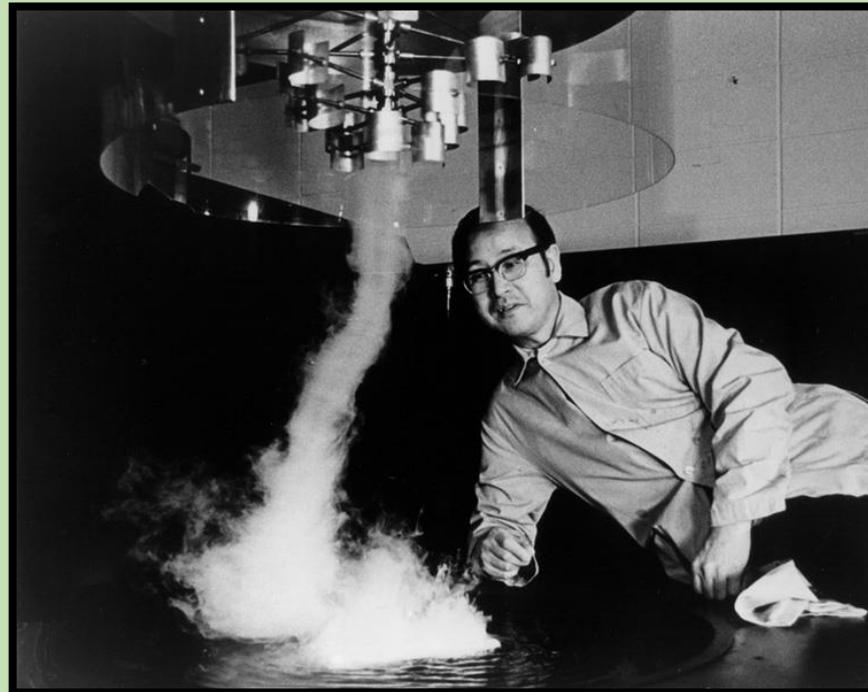
***Could the widely used “F” scale\* of tornado intensity be derived from Fūjin?***

**No! It may sound fitting, but the F-scale of tornado strength is named after the late *Dr. Theodore Fujita* -- preeminent expert on tornadoes and thunderstorms.**

***Fujita-san* was nicknamed:**  
**“Mr. Tornado”**

**\*Meteorologists have used the “EF” scale since 2007.**

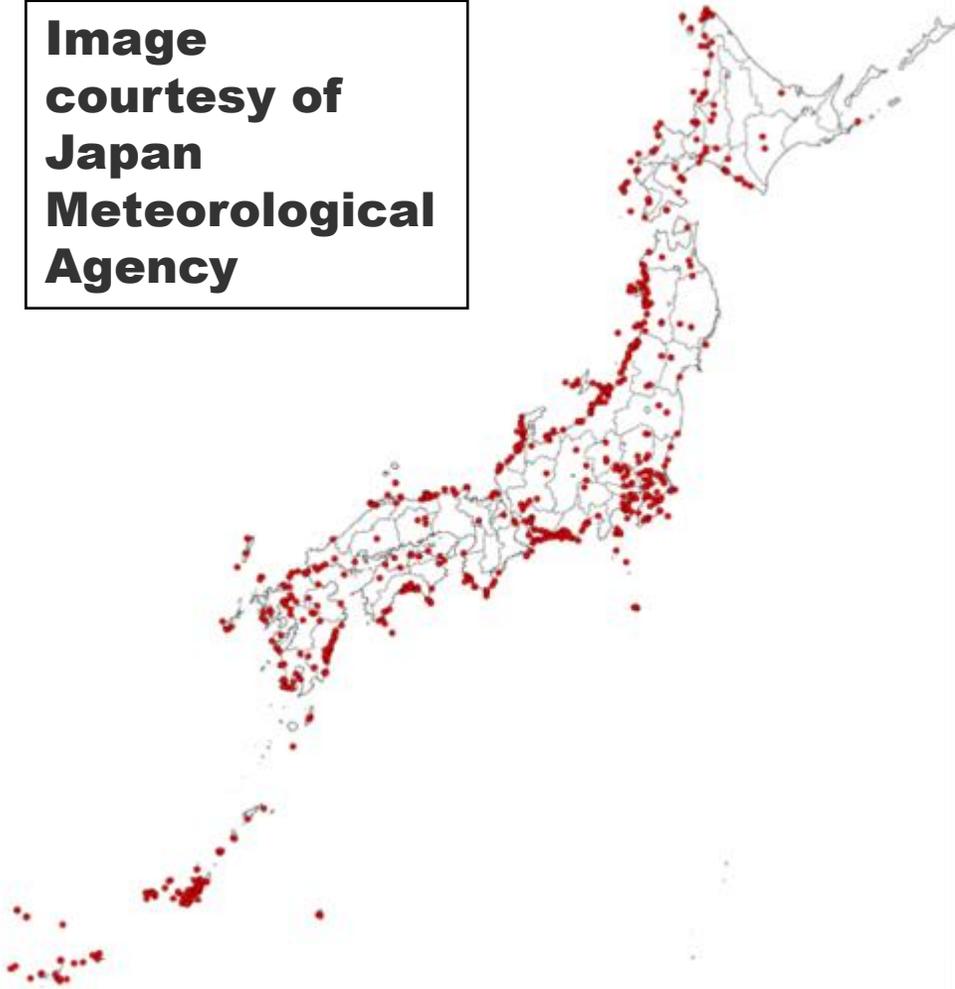
**EF– for *Enhanced Fujita* scale.**



Scale	Wind Speed		Damage
	km/hr	mi/hr	
EF-0	105–137	65–85	Light. Some damage to siding and shingles.
EF-1	138–177	86–110	Moderate. Considerable roof damage. Winds can uproot trees and overturn single-wide mobile homes. Flagpoles bend.
EF-2	178–217	111–135	Considerable. Most single-wide mobile homes destroyed. Permanent homes can shift off foundations. Flagpoles collapse. Softwood trees debarked.
EF-3	218–265	136–165	Severe. Hardwood trees debarked. All but small portions of houses destroyed.
EF-4	266–322	166–200	Devastating. Complete destruction of well-built residences, large sections of school buildings.
EF-5	>322	>200	Incredible. Significant structural deformation of mid- and high-rise buildings.

\*The original Fujita scale was developed by T. Theodore Fujita in 1971 and put into use in 1973. The Enhanced Fujita Scale is a revision that was adopted in February 2007. Wind speeds are estimates (not measurements) based on damage and represent three-second gusts at the point of damage. More information about the criteria used to evaluate tornado intensity can be found at [www.spc.noaa.gov/efscale/](http://www.spc.noaa.gov/efscale/).

Image  
courtesy of  
Japan  
Meteorological  
Agency



**Japan records an average of 15 tornadoes per year.**

**While most Japanese tornadoes are normally weak, deadly EF-3 tornadoes have occurred in Japan.**

***It should be noted there have never been violent EF-4 or EF-5 tornadoes officially reported in Japan.***

**Distribution of all  
Japanese tornadoes  
1961 - 2010**

[http://fox41blogs.typepad.com/wdrb\\_weather/2012/11/2-tornadoes-waterspouts-hit-japan-are-the-rare.html](http://fox41blogs.typepad.com/wdrb_weather/2012/11/2-tornadoes-waterspouts-hit-japan-are-the-rare.html)

<http://www.jma.go.jp/jma/indexe.html>

***Small tornadoes and damaging windstorms are often spawned by the breakup of typhoons.***

***Westerly moving typhoons move over the islands become sheared -- as the winds near the surface are slowed by surface friction, while the upper portion moves faster.***

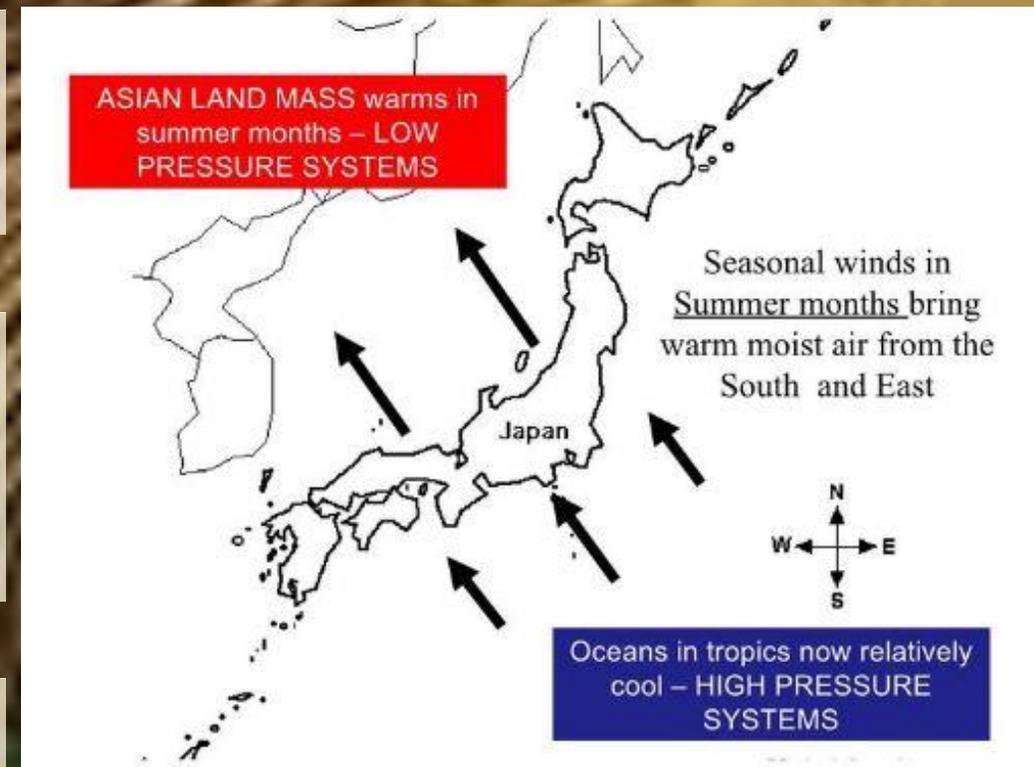
***This shearing creates rotors which give rise to vortices -- including the odd, clockwise-rotating tornadoes.\****

**Fūjin was “present at the birth of the world.”?**

**According to legend, the winds from Fūjin’s bag “allowed the sun to shine”?**

**This may derive from the strong and persistent *winds from the east* during Asia’s summer monsoon.**

**These strong seasonal winds come from the southeast ... along with *the rising sun to the east.***



<http://www.japanbiking.com/wp-content/uploads/2010/09/summer.jpg>





The Japanese language name for the country is “**Nippon**” or “**Nihon**”, meaning

***“the source of the sun.”***

Japan’s relative location to the east of China, is a particularly favored position. ***As viewed from China, the Sun comes from Japan.***

***“The Rising Sun”*** phrase derives its powerful meaning in Japanese culture from its location to the east, the direction of ***the land of the gods.***

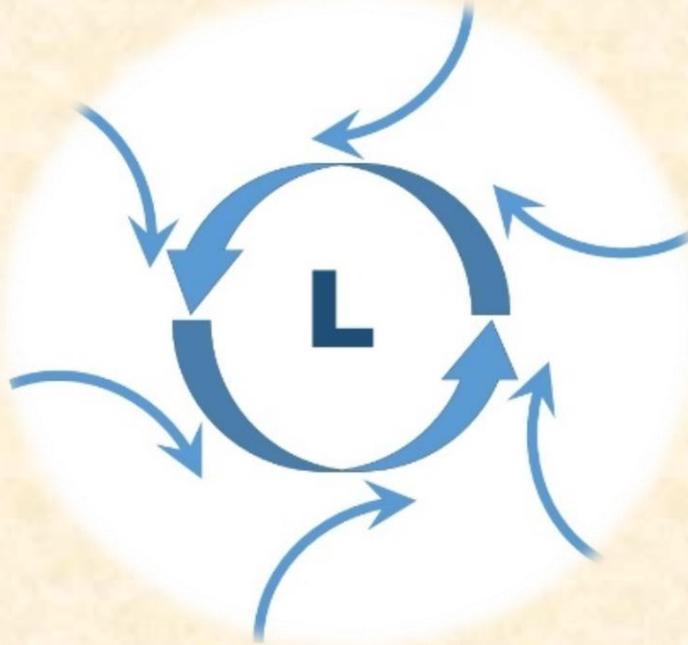
# ← EAST WINDS ←

Western meteorology has an old adage:  
*“an east wind is an ill wind”.*

- Northeast sides of tropical storms have the greatest wind speeds, and spawn the most tornadoes.
- Nor'easters are memorable due to the direction of easterly winds.
- An approaching midlatitude cyclone usually starts with an easterly wind.



# Typhoon Jebi



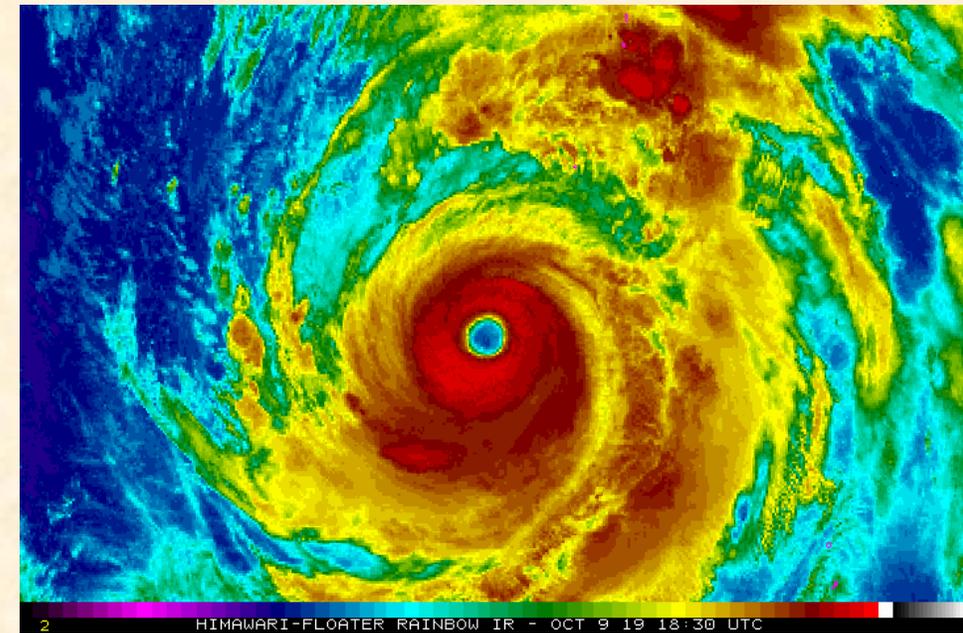
09-04-2018: Osaka, Japan was greeted with Category 3 winds from the east. As **Typhoon Jebi** approached Japan from the south, the counter-clockwise rotation around the storm center brought the highest wind speeds from the east.

# Typhoon Hagibis



Source: Japanese Meteorological Agency

© AFP



An exceptionally warm pool of water located to the east of Japan helped to reinvigorate the storm as it traveled north.

<https://www.channelnewsasia.com/news/singapore/sia-scoot-flights-japan-tokyo-taiwan-typhoon-hagibis-11991612>

<https://thegate.boardingarea.com/travel-alert-october-2019-typhoon-hagibis-to-impact-japan/>

**“One of the oldest gods, Fūjin was present at the time of creation when he opened up his bag of winds to clear the morning mists, and fill the void between Earth and Heaven.”**

Matthew Meyer, 2010.

**Chinese (!) Buddhist mythology tells that Fūjin and Raijin were evil demons who opposed Buddha, but joined his side after being defeated in battle.**

***They have been working as sky deities ever since.***



**Raijin and Fūjin are of **Shinto** origin – a Japanese *polytheistic, animistic, ethnic religion* which gives reverence to “kami” (gods) in nature, as well as to Japanese ancestors.**

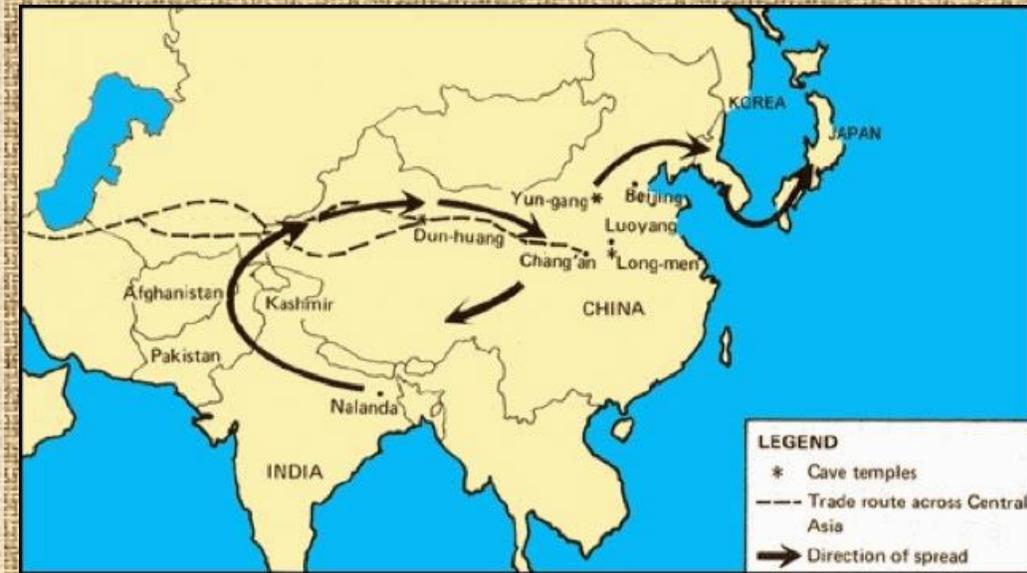
**However, Raijin and Fūjin often appear on **Buddhist** temples throughout Japan -- as the two religions have coexisted and blended.**

**Although Fūjin is one of the oldest Shinto gods, his appearance may be based on an older Greek legend.**

***The wind god's imagery may have diffused along the "Silk Road" of central Asia.***

**Buddhism spread out of southern Asia into central Asia, meeting Greek influences before spreading eastward toward Japan.**

**Buddhism found fertile ground in Japan's indigenous ethnic animistic beliefs, then merged the legends and depictions.**



While a god of wind has probably always been a part of Japanese mythology, the imagery we see of Fūjin could be traced back to a popular ancient **Greek god of the North Wind: Boreas** -- who carried a magic cloak in which he carried the wind.

When Alexander the Great formed his empire, he brought Greek gods and imagery which spread to central Asia. The Greco-Bactrian culture that sprang up in present-day Afghanistan preserved Greek images long after the dissolution of Alexander's empire. These eventually ***merged with Buddhist iconography***, which traveled along the Silk Road to China and then Japan.

Adapted from:

Tanabe, Katsumi. 2003. *Alexander the Great: East-West Cultural Contacts from Greece to Japan.* NHK Productions. p. 21.



## **Iconographical evolution of the Wind God.**

**Left: Greek wind God from Greco-Buddhist art of Gandhara (Pakistan), Hadda archeological site, 2nd century.**

**Middle: Wind God from Kizil, Tarim Basin, 7th century.**

**Right: Japanese Wind God -- Fūjin, 17th century.**

Public Domain:  
<https://commons.wikimedia.org/w/index.php?curid=721634>

Thanks to blogger: **Shizhao.**

# Diffusion and Syncretism:

There is *cross-blending* of myth, art and iconography throughout eastern Asia.

Japanese **Shinto** blended with **Buddhism** from India, and was also influenced by Chinese religions – **Taoism** and **Confucianism**.

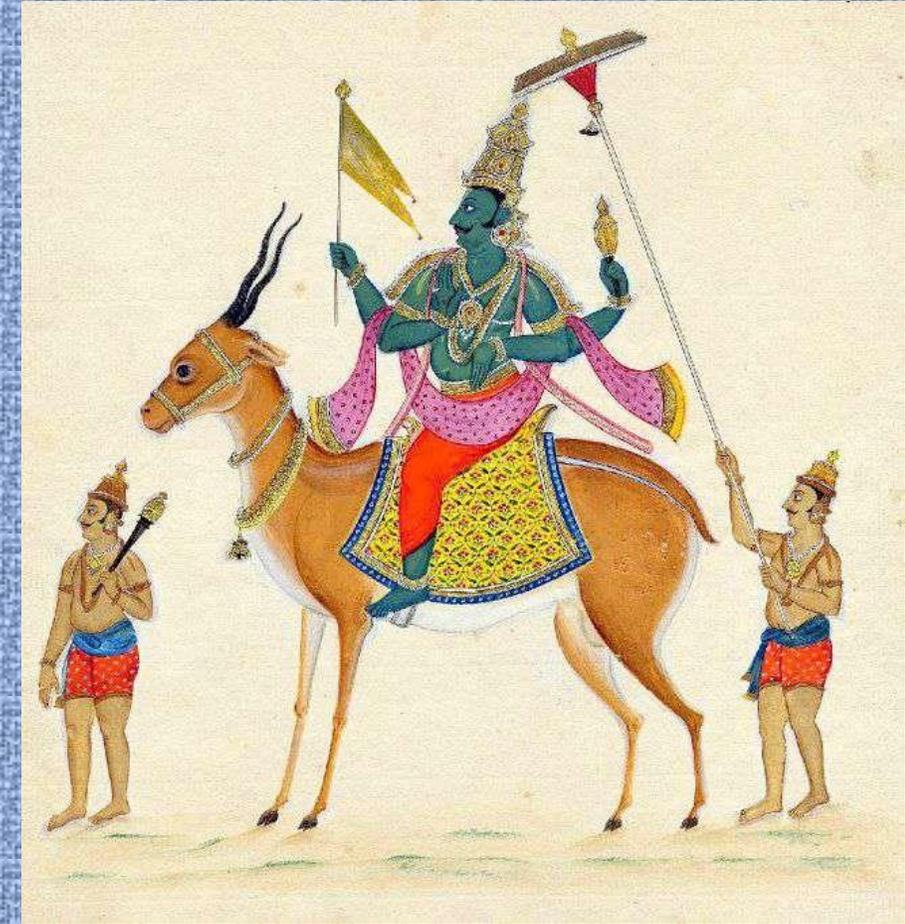


**Lei Gong**  
– the Chinese “monkey” version of the Thunderstorm god.

<https://www.trocadero.com/stores/galeriegeluk/items/1125854/Chinese-porcelain-statue-Lei-Gong-Thunder-God>

**Japan's sky deities are similar  
to the Chinese gods:  
Lei Gong and Feng Shen ...**

**... who may have been  
previously influenced by  
the Indian / Hindu deities:  
*Varun and Vāyu.* →**



<http://www.aisf.or.jp/~jaanus/deta/f/fuujinraijin.htm>

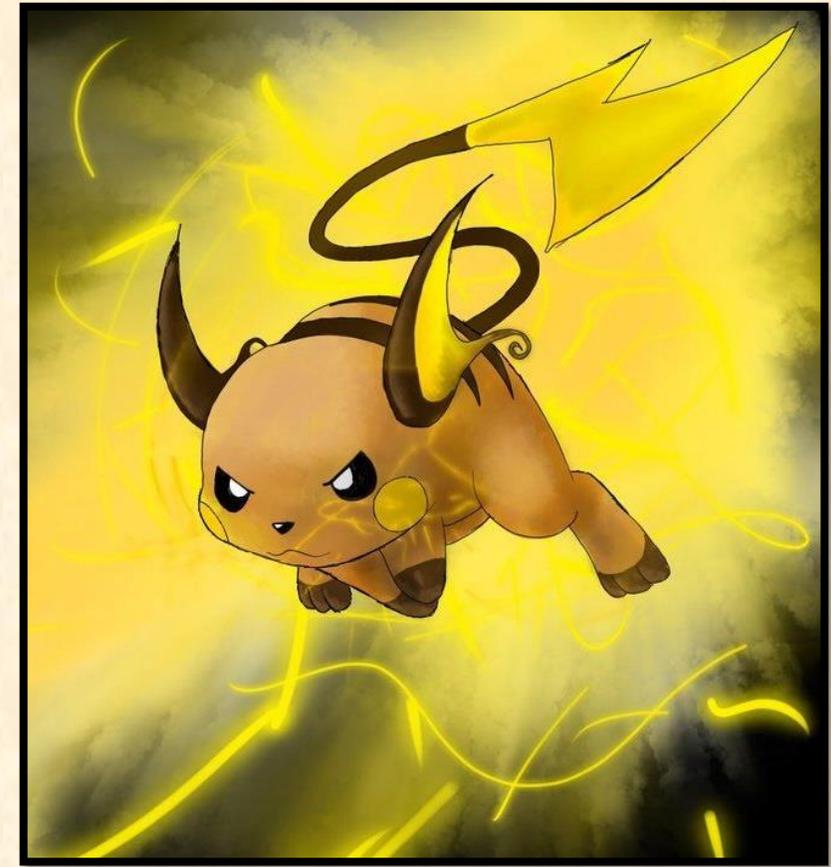
<https://www.templepurohit.com/vayu-devata-the-hindu-wind-god/>

**Vāyu: “Lord of the Wind”  
on his mount – a gazelle –  
to symbolize swiftness.**



## **Diffusion through Popular Culture:**

***The thunder and lightning god concept and name are often used in video game and anime culture.***



**The character “Raiden” from the “Mortal Kombat” video game series uses lightning as his attack.**

**“Raichu” is the final form of the famous Pikachu (Pokémon). The character’s signature moves are electric type.**

[http://o.aolcdn.com/hss/storage/midas/1b9c9ea9ee6d93272696ced88b40904c/200563759/1680016-mk2\\_raiden\\_super.png](http://o.aolcdn.com/hss/storage/midas/1b9c9ea9ee6d93272696ced88b40904c/200563759/1680016-mk2_raiden_super.png)

<http://fullhdpictures.com/wp-content/uploads/2016/08/HD-Raichu-Wallpaper.jpg>

**Images of *Raijin* and *Fūjin* are very common in Japanese culture and Japan-influenced western popular culture.**



**Painting on traditional screen featuring “Star Wars” characters presented at Kiyomizu Temple in Kyoto.**

<https://www.japantimes.co.jp/culture/2015/11/30/entertainment-news/new-star-wars-characters-rendered-in-style-of-japanese-rimpa-art-school/#.Wx6654pKiUk>

**The Pokémon characters “Thundurus” and “Tornadus”**

Images from [https://bulbapedia.bulbagarden.net/wiki/Forces\\_of\\_Nature](https://bulbapedia.bulbagarden.net/wiki/Forces_of_Nature)

# POPULAR CULTURE: *FUN AND INTERESTING PRODUCTS!*

<http://japanloverme-store.com/vintage/hoshihime-vintage-japanese-fujin-raijin-zen-buddha-buddhist-stature-thunder-and-lightning-gods-embroidered-embroidery-bomber-tattoo-art-sukajan-souvenir-velvet-velveteen-velour-jacket/>

[https://www.alibaba.com/product-detail/Japanese-Traditional-Men-s-Folding-Fan\\_111762396.html](https://www.alibaba.com/product-detail/Japanese-Traditional-Men-s-Folding-Fan_111762396.html)



[https://www.picclickimg.com/d/l400/pict/162768824133\\_/ASAHI-JAPAN%E3%80%82-kinds-of-350ml-ALUMINUM-BEER-CAN.jpg](https://www.picclickimg.com/d/l400/pict/162768824133_/ASAHI-JAPAN%E3%80%82-kinds-of-350ml-ALUMINUM-BEER-CAN.jpg)

<https://s-media-cache-ak0.pinimg.com/236x/66/e5/be/66e5be2e79ea37f23f7069ff3443846f.jpg>

# Tattoo art:

<https://tattoodo-web.imgix.net/images/0/148331.jpg?auto=format,compress>



**Raijin and Fūjin appear on a train car mural during the end credits of the Disney animated film: "Big Hero 6"**

**← Figures marketed to fans of the anime and manga series "Naruto"**



<https://otakumode.com/shop/59113bd770d7060971d6b8b5/G-E-M-Series-Remix-Naruto-Shippuden-Fujin-Raijin-Set>

[https://www.reddit.com/r/Naruto/comments/2ww8va/i\\_like\\_the\\_reference\\_big\\_hero\\_6/](https://www.reddit.com/r/Naruto/comments/2ww8va/i_like_the_reference_big_hero_6/)

# Mario and Luigi

<https://kotaku.com/mario-and-luigi-as-japanese-gods-1726078083>



## LEGO figure Fūjin and Raijin

<https://www.brothers-brick.com/wp-content/uploads/2018/07/Raijin-and-Fujin-by-LEGO-7.png>



***Various video games, anime and movies often name a paired character duo as Raijin and Fujin.***



<https://www.bing.com/th?id=OIP.SK5kNhT6jaDwsMfpMfhTCAAAA&pid=Api>

# Raijin and Fūjin songs for children!



2018年じゃぼキッズ運動会②

# 風神雷神まけず嫌い

監修・振付／平多正於舞踏研究所 推薦／一般社団法人全日本児童舞踊協会

- 1 風神雷神まけず嫌い [3:02] 年中～年長向き  
歌：三波麗和・東京放送児童合唱団 作詞：城野賢一 作・編曲：福田和禾子  
風神は布、雷神は太鼓を使って、運動場を駆け回る壮大な踊り!
- 3 ものまねDANCE～ワンにゃんぷー [3:14] 親子向き  
歌：小口由紀子 作詞：平多達樹 作曲：ちざわゆうこ 編曲：高橋一之  
いろいろな動物になって、親子で楽しめるかわいい踊り。
- 5 はじまるようんどうかい [3:00] 全園向き  
歌：くにたけみゆき 作詞：水口 馨 作・編曲：五十嵐 洋  
運動会のオープニングを、ボンボンで派手やかに演出します。
- 7 ざっそうギャング [3:10] 年長向き  
歌：くにたけみゆき&五十嵐 洋 作詞：大久保きのこ 作・編曲：五十嵐 洋  
舞草がモチーフに! 元気いっぱいユーモラスな作品。
- 9 フォークダンス セオ・ルータ(お花を植えましょう) [2:05] 全園向き  
リトアニア民謡 編曲：夏原明彦  
2人一組の、オーソドックスなフォークダンス。親子でもできます!
- 10 ものまねDANCE～ワンにゃんぷー(カラオケ) [3:14]
- 11 はじまるようんどうかい(カラオケ) [3:00]
- 12 ざっそうギャング(カラオケ) [3:10]

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2018 Japo Kids Undoukai  
FuuJin Raijin Makezu Girai  
(Import)  
平多正於舞踏研究所

Format: Audio CD

[https://www.amazon.com/Undoukai-FuuJin-Raijin-Makezu-Girai/dp/B0798GMZQ4/ref=sr\\_1\\_64?ie=UTF8&qid=1545270412&sr=8-64&keywords=raijin](https://www.amazon.com/Undoukai-FuuJin-Raijin-Makezu-Girai/dp/B0798GMZQ4/ref=sr_1_64?ie=UTF8&qid=1545270412&sr=8-64&keywords=raijin)

# Conclusions:

- **Japanese mythology, art, iconography and culture can be interesting for students to learn about.**
- **Reasoning the behavior of Raijin and Fūjin can be used to help visualize, then explain weather concepts. Discussion provides opportunities to reinforce an understanding of complex weather phenomenon.**

**For a copy of this presentation, further discussion or collaborative ideas:**

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**<https://mapleforestricepaddy.wordpress.com/>**