



# Witness Trees of Hiroshima Spherical Photodocumentary of the Hibaku Jomoku

An Outreach Ecology report by YD Bar-Ness

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With ***Green Legacy Hiroshima, ANT-Hiroshima, & Asian Geographic***

Field visits conducted with ***Hideko Yamada*** and ***Chikari Horiguchi***.

Special thanks to ***Nassrine Azimi, Tomoka Watanabe, and David Peterson***.

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## Overview

Hiroshima, Japan, is home to several dozen trees that survived the atomic weapon incident on 6 August 1945. These trees have been used as environmental education ambassadors and are signposted in Japanese and English. A database of more than 55 trees is maintained (<http://www.unitar.org/greenlegacyhiroshima>) and used for diverse educational and artistic projects. They are part of a story that is emotionally and historically important, and, with the trees at Nagasaki, tell a unique story of conflict and resilience.

In August 2014, Outreach Ecology was fortunate to visit Hiroshima and meet several of these trees in the company of Green Legacy Hiroshima. During these visits, we conducted spherical panorama photography using Google Photo Sphere as a baseline photomonitoring effort. We additionally discussed ideas for monitoring and sharing the existence of these trees.

In this document we present the digital photospheres and briefly list some ideas for projects about these trees.

## Trees visited and methods

We used the labelling scheme for the trees that is listed by Green Legacy Hiroshima at <http://www.unitar.org/green-legacy-hiroshima-bomb-trees-database>. This listing is actually by “spot” rather than by “stem”. For example, the listing for #25 is actually “25) 1370m Ginkgo tree (*Ginkgo biloba*), muku tree (*Aphananthe aspera*) and Japanese black pine (*Pinus thunbergii*)”. The number before the parenthesis is the ranking of this spot by distance from the blast Hypocenter. The number after the parenthesis is the distance in meters from the Hypocenter at 34.3948189 degrees N Latitude and 132.4544769 degrees E Longitude.



We visited fifteen trees during the course of two days in August 2014 in the company of Green Legacy Hiroshima (note that spot 25 has been divided into three individual trees):

- 01) 370m Weeping willow (*Salix babylonica*)
- 06) 530m Persimmon (*Diospyros kaki*) and others
- 07) 740m Eucalypt (*Eucalyptus melliodora*)
- 07) 740m giant pussy willow (*Salix chaenomeloides*)
- 11) 910m Kurogane hollies (*Ilex rotunda*)
- 16) 1110m Camphor tree (*Cinnamomum camphora*)
- 17) 1120m Camphor tree (*Cinnamomum camphora*)
- 18) 1120m Camphor tree (*Cinnamomum camphora*)
- 19) 1130m Ginkgo tree (*Ginkgo biloba*)
- 23) 1300m Chinese parasol trees (*Firmiana simplex*)
- 25) 1370m Ginkgo tree (*Ginkgo biloba*)
- 25) 1370m Japanese black pine (*Pinus thunbergii*)
- 25) 1370m muku tree (*Aphananthe aspera*)
- 32) 1590m Japanese fern palms (*Cycas revoluta*)
- 53) 2160m Ginkgo tree (*Ginkgo biloba*)

At each of these trees we conducted spherical photo panoramas using a android smartphone. Each image is a special two-dimensional photograph that is warped in such a way that a computer can transform it into a sphere. This is the reverse of a mapmaker creating a flat representation of the spherical Earth. In addition to the pixel data of the image itself, each image contains special metadata that records:

- Time and date of the image
- GPS location on Earth
- Compass orientation of the image center

Using these data in combination, a variety of maps, guides, and future projects can be set up.

## **Photo Sphere Technology**

Fifteen photospheres were made recording the environment next to or within the branches of the Hibaku Trees. These photospheres are available at:

[http://www.outreachecology.com/go/share/HiroshimaSpheres\\_byYDBar-Ness.zip](http://www.outreachecology.com/go/share/HiroshimaSpheres_byYDBar-Ness.zip)

(33mb)



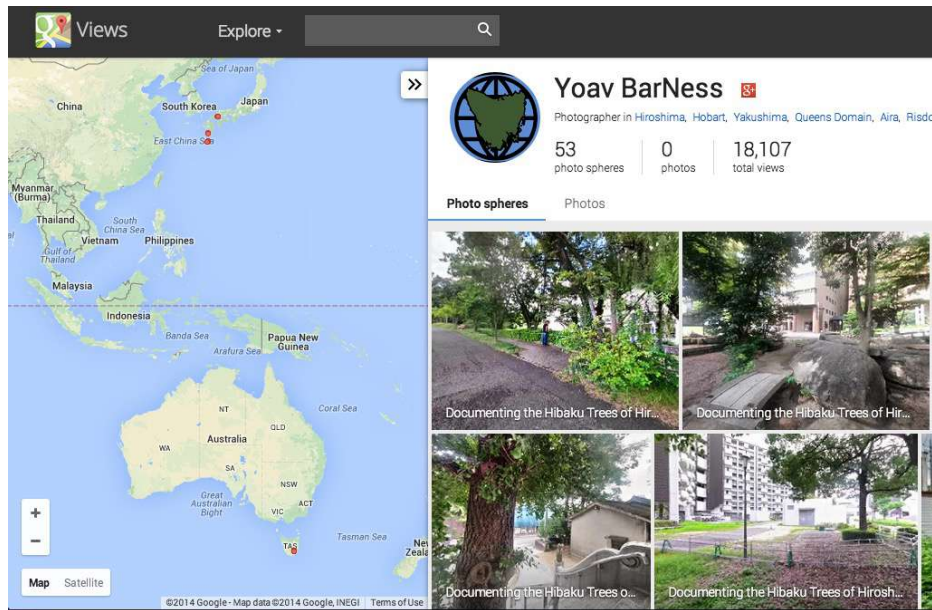
They can be used as “flat images” and are useful as a novel form of photography. However, they are also viewable as interactive immersive panoramas. To that end, the spheres were uploaded to Google Maps as Street Views, and to Sphereshare.net. They are visible as interactive panoramas, shareable via social media, and embeddable to any web page.

## **Google Views**

Google has published several of the Photospheres in the Google Street View Archive, which is connected to Google Maps. You can see them via the author’s profile page at:

<https://www.google.com/maps/views/profile/108807947678408201479>

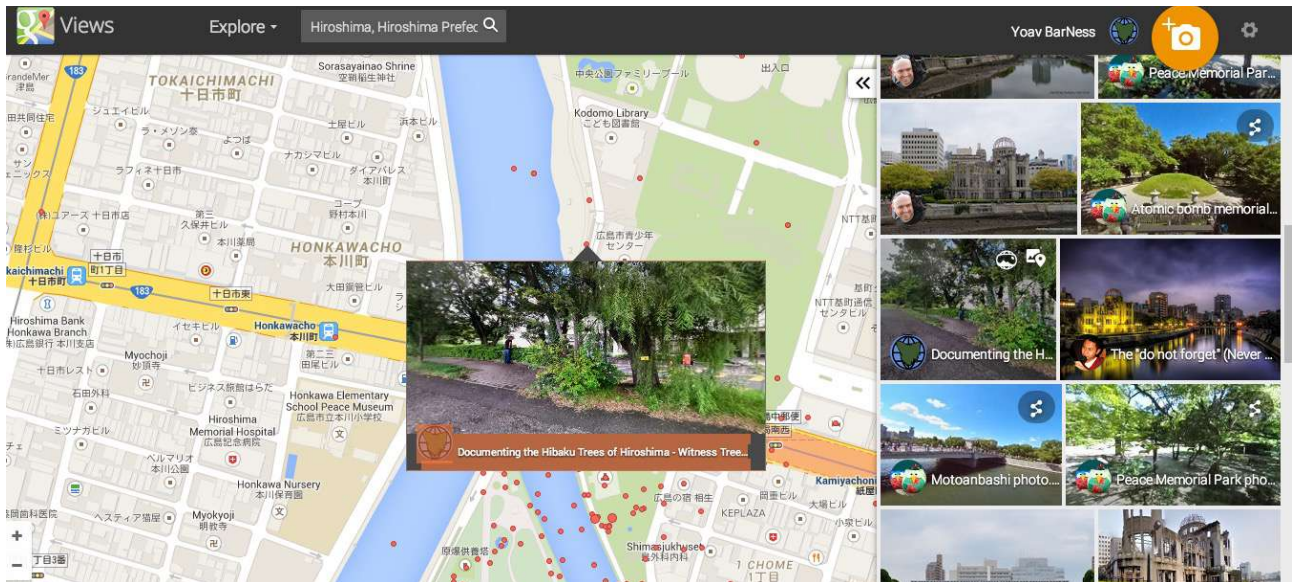




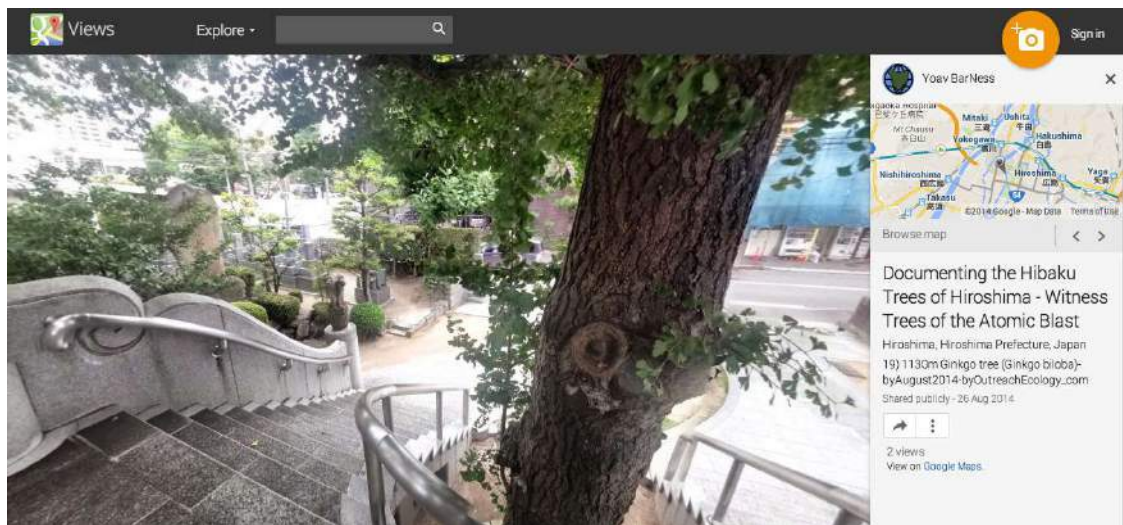
The photospheres are geotagged and captioned with the label as listed above. The direct links to them on Google Views are included in the Resource List at the end of this document.

People searching in Google Views <http://maps.google.com/views> for Hiroshima will detect these and other nearby spheres and can select them from the Spheres on the displayed map.

For example, please visit <https://www.google.com/maps/views/u/0/explore?gl=au&ll=34.395297,132.442115&bd=34.375003,132.402161,34.415586,132.482069&z=14>



When the preview window in the center is selected, then the spherical panorama is entered.



You can now look in several directions by dragging the mouse or touching the screen.



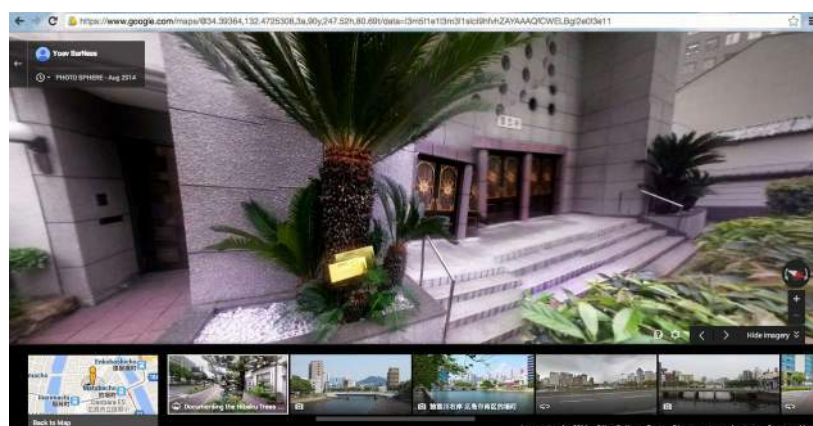


Individual photospheres are visible and include share and embed options. You can use the embed options to place this photosphere on any web site.

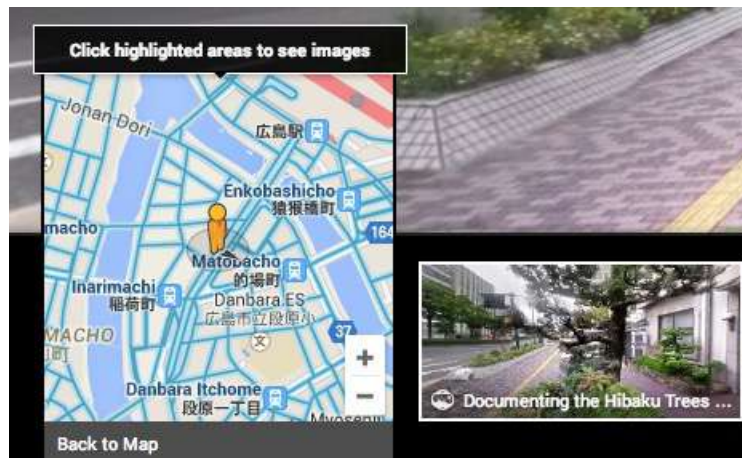


## Points on Google Maps:

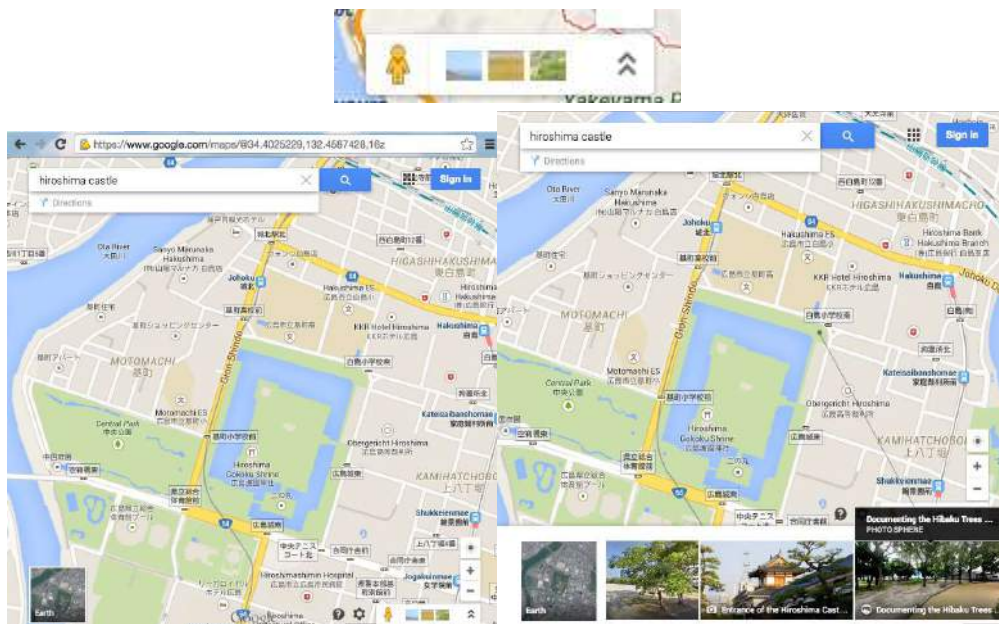
You can also view them as points on Google Map, by selecting the option “View on Google Maps.” The direct links are included in the Resource List at the end of this document.



Again, you can look in all directions within the spherical panoramas. In the Maps View you can select nearby photospheres from the filmstrip at the bottom, or select the interactive map to explore by geography.



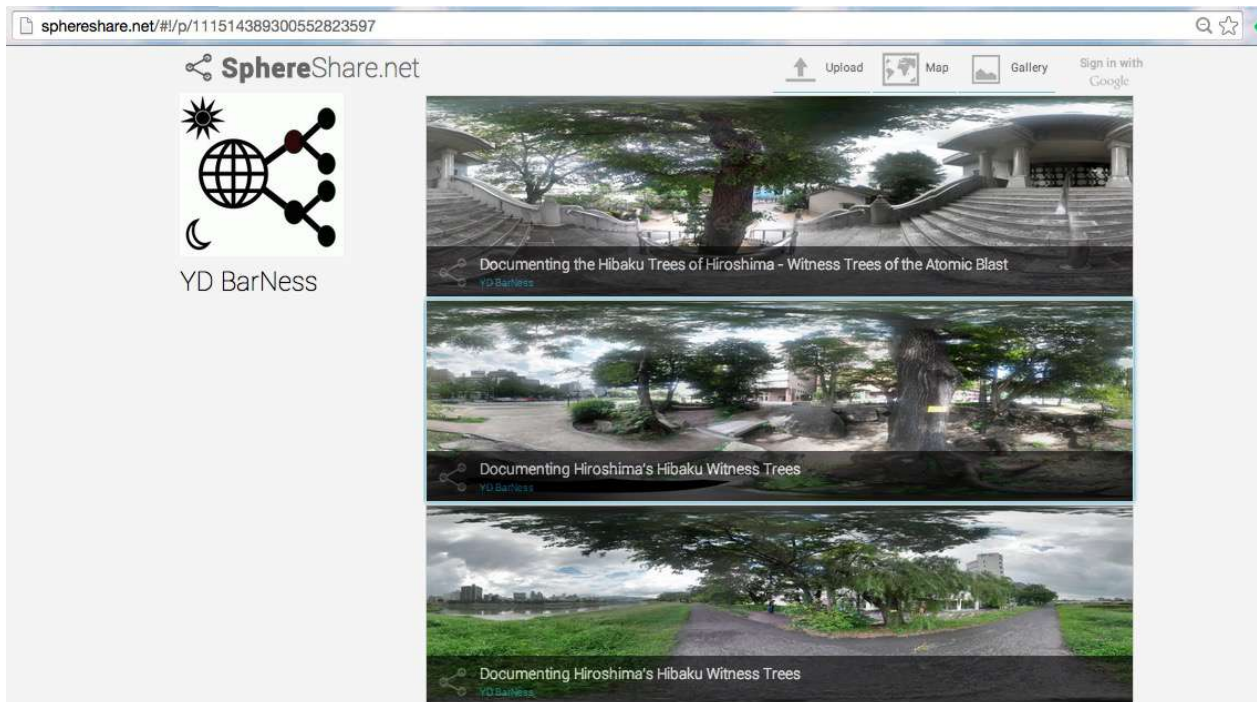
Any visitor to Google Maps can explore the Views and Photospheres on the map by opening the panel via the button at the lower right. If they are zoomed into an area that has photospheres they will see a selection appear at the bottom.:



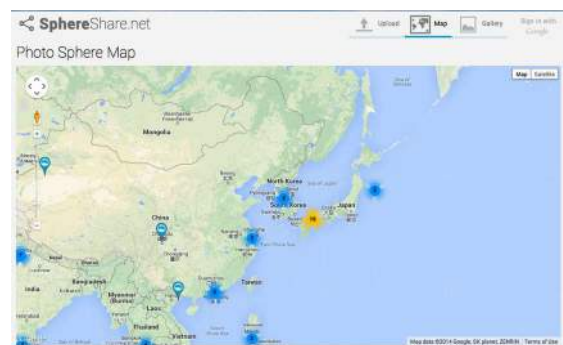
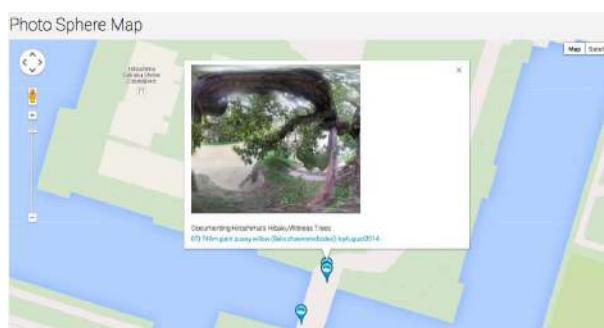


## Sphereshare.net

Sphereshare is an alternate service to Google Maps. You can visit it at [www.Sphereshare.net](http://www.Sphereshare.net) You can visit the author's profile page directly at: <http://sphereshare.net/#!/p/111514389300552823597>



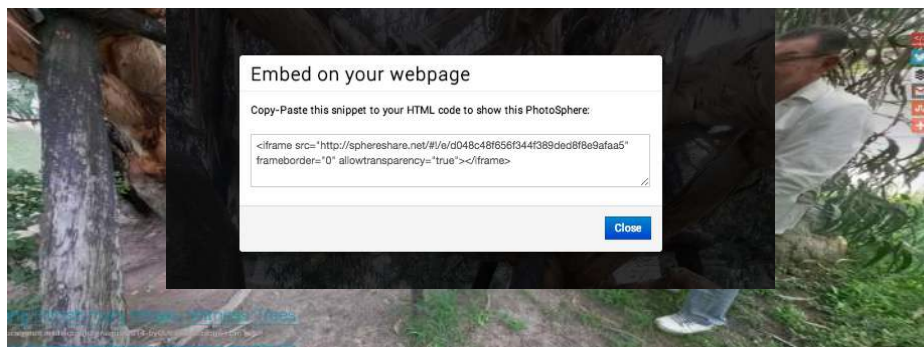
The direct links are included in the Resource List at the end of this document. You can select the sphere directly from this page or from the map at: <http://sphereshare.net/#!/map>



When the sphere is selected you can again view the panorama in all directions.



There are options to share to social networks in the upper right, and a button to embed into web pages.



## Ideas for public participation

We hope that this work will spark a discussion on ongoing monitoring of these trees. If someone revisits these trees and conducts spherical panoramas on a regular interval, then we will be able to create a timelapse of image that can help us to understand these trees and their changes over time.

Drawing upon our experience with the project Landmark Trees of India ([www.outreachecology.com/landmark](http://www.outreachecology.com/landmark)), we believe that the Hibaku trees are especially well suited to this efforts. This is partially because of the historical photos taken of these trees. For example, the *Eucalyptus melliodora* at Hiroshima Castle is notably figured in a photograph from 1946 following the atomic blast. With this as a starting point, a series of photos taken in the same location can

be a useful tool for ecological understanding and historical education.

To help people to take a photo in the same spot, a small arrow can be marked on the ground for people to stand on and take a photo. Google Earth tours and KML/KMZ files can be used to create virtual maps of these trees, and to assist in drafting physical maps. Interactive web sites can use the spheres, the location data, the information text, and the dates to create more elaborate combinations.

You can speak with a web designer about how to handle the incoming photos. A simple solution is to use a hashtag to identify posts on social media connected with this project. For example, if I post a photo to Facebook, Twitter, or Instagram with the hashtag #HiroshimaHibaku07, then someone interested in seeing photo about this tree can look for this hashtag online.

How can we encourage people to take their own photographs? One idea is to have a schoolchild's event where they can have an adventure and a map, and at each tree they take a photo. This map could be given for free at the visitor centre or at the Memorial. A small sign or note at the tree can request people take their own photographs as an ongoing memorial to these trees. You can also arrange field trips where people walk around together to visit the trees and post their own photos. A small contest can be run where prizes and awards are given to people who take the best photograph of the tree.

Critically, photographs of these trees need to have the label of the tree (or spot) they are linked to as well as the time and date they are taken.



## Ideas for connecting modern imagery with historical imagery



*Eucalyptus at Hiroshima Castle by Shigeo Hayashi October 1945; Horiguchi-san at the same tree in August 2014. Eucalyptus trees have evolved fundamental interactions with natural forest fires and this tree appears to have recovered from the atomic bomb by resprouting of epicormic buds.*



*The Ginkgo at Shukkein Garden, Hiroshima, in September 1945; the same appears in the panorama on the left.*

We also suggest that you explore using **HistoryPin** <https://www.historypin.org>. This project helps people line up historical photographs and take modern replicas. You can explore historical photos using a map or by searching nearby with a smartphone. We can upload photos of the trees that can be used as a baseline for taking modern pictures.



*Screen captures from the HistoryPin web page*

There is also the project **Timera** <http://www.timera.com/Explore> which helps people to create a photo that combines historical and modern imagery in one picture.



*Screen captures from the Timera web page*

## Future ideas

We hope that Green Legacy Hiroshima and ANT-Hiroshima will help to share these spheres with Japanese-speaking colleagues, government officers, and others who will use them to memorialise these trees and the events they represent.

Most importantly, we hope they will spark a conversation about ongoing appreciation of these trees by encouraging visitors to engage with the trees directly.

We encourage readers to track down the English language book [Survivors: The A-](#)

[bombed Trees of Hiroshima](http://www.myspace.com/hiroshima_trees) ([http://www.myspace.com/hiroshima\\_trees](http://www.myspace.com/hiroshima_trees)).

We also encourage readers to read and enjoy Asian Geographic, a Singapore-based magazine. A narrative article describing this project was contributed in September 2014 and may hopefully be published in an upcoming issue.

Please contact Outreach Ecology directly via email – [outreachecology@gmail.com](mailto:outreachecology@gmail.com) – and let us know if we can be of any future assistance.

Arigato!





## Resource List

- **Tree Label**
- Sphereshare direct link
- Google Views direct link
- Google Maps direct link

You can find the code to embed the sphere into a web page on the direct page.

- **01) 370m Weeping willow (*Salix babylonica*)**
  - <http://www.sphereshare.net/#!/s/6c9709392b427d5c77eb187ca2bbbbac>
  - <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6085816624880886562?gl=au&heading=328&pitch=89&fovy=90>
  - [https://www.google.com/maps/@34.3976389,132.4533819,3a,75y,340h,90t/data=!3m5!1e1!3m3!1sNbxnQ5pfEAcAAAY\\_PH3DA!2e0!3e11](https://www.google.com/maps/@34.3976389,132.4533819,3a,75y,340h,90t/data=!3m5!1e1!3m3!1sNbxnQ5pfEAcAAAY_PH3DA!2e0!3e11)
- **06) 530m Persimmon (*Diospyros kaki*) and others**
  - <http://www.sphereshare.net/#!/s/a950c4e8b7cf649310920aff1060d822>
  - <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6085816621312506434?gl=au&heading=264&pitch=90&fovy=75>
  - [https://www.google.com/maps/@34.3898928,132.4565169,3a,75y,263h,90t/data=!3m5!1e1!3m3!1sMycGVPmUut4AAAY\\_PH3Cg!2e0!3e11](https://www.google.com/maps/@34.3898928,132.4565169,3a,75y,263h,90t/data=!3m5!1e1!3m3!1sMycGVPmUut4AAAY_PH3Cg!2e0!3e11)
- **07) 740m Eucalypt (*Eucalyptus melliodora*)**
  - <http://www.sphereshare.net/#!/s/d048c48f656f344f389ded8f8e9afaa5>
  - <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6051485417436727666?gl=au&heading=347&pitch=90&fovy=75>
  - <https://www.google.com/maps/@34.4045078,132.4829839,3a,75y,323h,90t/data=!3m5!1e1!3m3!1sO5PxYyQHPEwAAAYfCWEK-A!2e0!3e11>
- **07) 740m giant pussy willow (*Salix chaenomeloides*)**
  - <http://www.sphereshare.net/#!/s/0290d2bb14197e50dc074ad15298b2e5>
  - <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6085816622212463570?gl=au&heading=267&pitch=59&fovy=75>
  - <https://www.google.com/maps/@34.4004228,132.459615,3a,75y,122h,90t/data=!3m5!1e1!3m3!1sO5PxYyQHPEwAAAYfCWEK-A!2e0!3e11>

[a=!3m5!1e1!3m3!1spFLPVi2E7JoAAAQY\\_PH3Dg!2e0!3e11](#)

- **11) 910m Kurogane hollies (*Ilex rotunda*)**
  - <http://www.spheresphere.net/#!/s/c4aed818c38a422e78442bec6fc7b6ca>
  - <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6051485417267128098?gl=au&heading=154&pitch=90&fovy=75>
  - <https://www.google.com/maps/@34.4017369,132.4599908,3a,75y,154h,90t/data=!3m5!1e1!3m3!1sF8jOtxGdqeQAAAQfCWELBw!2e0!3e11>
- **16) 1110m Camphor tree (*Cinnamomum camphora*)**
  - <http://www.spheresphere.net/#!/s/645d40e2b0896138386f3a10be773394>
  - <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6085816623853596530?gl=au&heading=94&pitch=90&fovy=75>
  - [https://www.google.com/maps/@34.4014519,132.4643119,3a,75y,94h,90t/data=!3m5!1e1!3m3!1sVtWY\\_eg-ST0AAAQY\\_PH3DQ!2e0!3e11](https://www.google.com/maps/@34.4014519,132.4643119,3a,75y,94h,90t/data=!3m5!1e1!3m3!1sVtWY_eg-ST0AAAQY_PH3DQ!2e0!3e11)
- **17) 1120m Camphor tree (*Cinnamomum camphora*)**
  - <http://www.spheresphere.net/#!/s/12f98d2c822222a96f6e6919c4bfeea8>
  - <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6051485414994843778?gl=au&heading=66&pitch=90&fovy=75>
  - <https://www.google.com/maps/@34.403055,132.46174,3a,75y,61h,90t/data=!3m5!1e1!3m3!1s5W6jgz150pYAAAQfCWEK9g!2e0!3e11>
- **18) 1120m Camphor tree (*Cinnamomum camphora*)**
  - <http://www.spheresphere.net/#!/s/49fc3fab6080f5032f2fccf0747b48f6>
  - <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6085816623687626066?gl=au&heading=246&pitch=90&fovy=75>
  - [https://www.google.com/maps/@34.4024869,132.4625728,3a,75y,243h,90t/data=!3m5!1e1!3m3!1smiR4Cw2xvfgAAAQY\\_PH3Dw!2e0!3e11](https://www.google.com/maps/@34.4024869,132.4625728,3a,75y,243h,90t/data=!3m5!1e1!3m3!1smiR4Cw2xvfgAAAQY_PH3Dw!2e0!3e11)
- **19) 1130m Ginkgo tree (*Ginkgo biloba*)**
  - <http://www.spheresphere.net/#!/s/1b8ac2a94fe9f3f082c5f2b5465fd785>
  - <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6085816622609961906?gl=au&heading=210&pitch=90&fovy=75>

- [https://www.google.com/maps/@34.4037719,132.4496089,3a,75y,209h,90t/data=!3m5!1e1!3m3!1sFy7AFIASLXgAAQY\\_PH3EA!2e0!3e11](https://www.google.com/maps/@34.4037719,132.4496089,3a,75y,209h,90t/data=!3m5!1e1!3m3!1sFy7AFIASLXgAAQY_PH3EA!2e0!3e11)
- **23) 1300m Chinese parasol trees (*Firmiana simplex*)**
- <http://www.sphereshare.net/#!/s/fe8d169b13508096f7a3aed403146f5d>
- <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6051485414112395234?gl=au&heading=281&pitch=90&fovy=75>
- <https://www.google.com/maps/@34.3918778,132.4532808,3a,75y,280h,90t/data=!3m5!1e1!3m3!1sy44bbatyOksAAQfCWELBA!2e0!3e11>
- **25) 1370m Ginkgo tree (*Ginkgo biloba*)**
- <http://www.sphereshare.net/#!/s/cf5f6517aec69017b65999b3470af0e5>
- <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6051485417281327746?gl=au&heading=26&pitch=90&fovy=75>
- <https://www.google.com/maps/@34.4002789,132.4685489,3a,75y,25h,90t/data=!3m5!1e1!3m3!1s9-1TL8tigFwAAQfCWELAA!2e0!3e11>
- **25) 1370m Japanese black pine (*Pinus thunbergii*)**
- <http://www.sphereshare.net/#!/s/c2022de08d940453753705a1a4730b6e>
- <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6051485415349980066?gl=au&heading=17&pitch=90&fovy=75>
- <https://www.google.com/maps/@34.4004558,132.468535,3a,75y,15h,90t/data=!3m5!1e1!3m3!1sopbskxJG7VUAAAQfCWEK8g!2e0!3e11>
- **25) 1370m muku tree (*Aphananthe aspera*)**
- <http://www.sphereshare.net/#!/s/4636f8bc47c3364bf0431ebe04a17624>
- <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6051485416234728082?gl=au&pitch=90&fovy=75>
- <https://www.google.com/maps/@34.40142,132.4673719,3a,75y,90t/data=!3m5!1e1!3m3!1sPwQhUQ7y4S0AAAQfCWEK-Q!2e0!3e11>
- **32) 1590m Japanese fern palms (*Cycas revoluta*)**
- <http://www.sphereshare.net/#!/s/1cb8c44e4e9174765a77a4c5a9df7e3e>
- <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6051485416517438114?gl=au&heading=141&pitch=90&fovy=75>



- <https://www.google.com/maps/@34.39364,132.4725308,3a,75y,132h,90t/data=!3m5!1e1!3m3!1slcl9hfvhZAYAAAQfCWELBg!2e0!3e11>
- **53) 2160m Ginkgo tree (Ginkgo biloba)**
- <http://www.sphereshare.net/#!/s/0525483a75326cdc4470c1349d6a45c6>
- <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6085816623585336146?gl=au&heading=126&pitch=90&fovy=75>
- [https://www.google.com/maps/@34.4094639,132.4704589,3a,75y,125h,90t/data=!3m5!1e1!3m3!1saUt\\_07aCw3wAAAQY\\_PH3Cw!2e0!3e11](https://www.google.com/maps/@34.4094639,132.4704589,3a,75y,125h,90t/data=!3m5!1e1!3m3!1saUt_07aCw3wAAAQY_PH3Cw!2e0!3e11)
- **0 Hypocenter**
- <http://www.sphereshare.net/#!/s/645d40e2b0896138386f3a10be773394>
- <https://www.google.com/maps/views/view/108807947678408201479/gphoto/6051485415488193042?gl=au&heading=348&pitch=90&fovy=75>
- <https://www.google.com/maps/@34.3948189,132.4544769,3a,75y,348h,90t/data=!3m5!1e1!3m3!1se2WlOd3QamMAAAQfCWELCA!2e0!3e11>