

An aerial photograph of Shiga Prefecture, Japan, showing a vast landscape with green mountains, a large body of water (Lake Biwa), and a patchwork of agricultural fields and small settlements. The sky is blue with some light clouds.

Shiga Prefecture Agriculture is the Best Solution to Climate Change!

Taizo Mikazuki
Governor of Shiga

May 13, 2019, Otsu City, Shiga, Japan

Shiga and Lake Biwa



Shiga in Japan



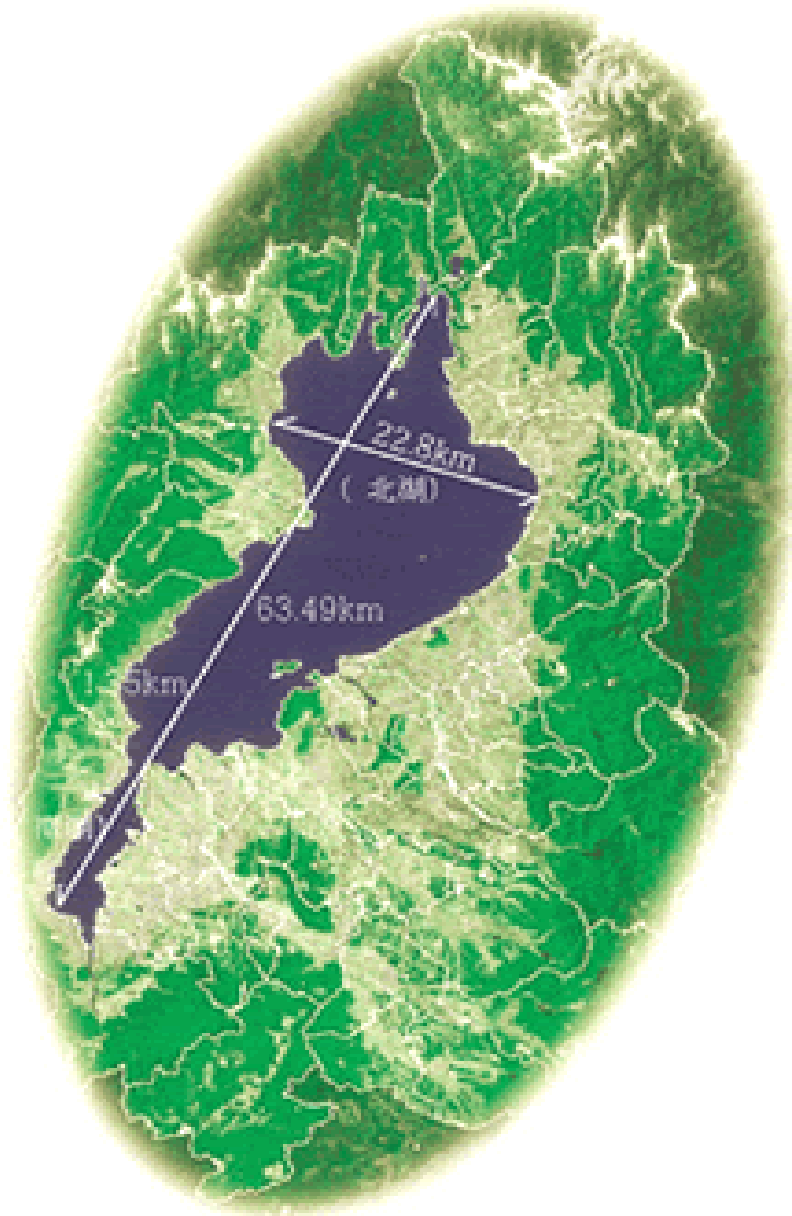
Location of Lake Biwa



Shiga and Lake Biwa



Basic information about Lake Biwa

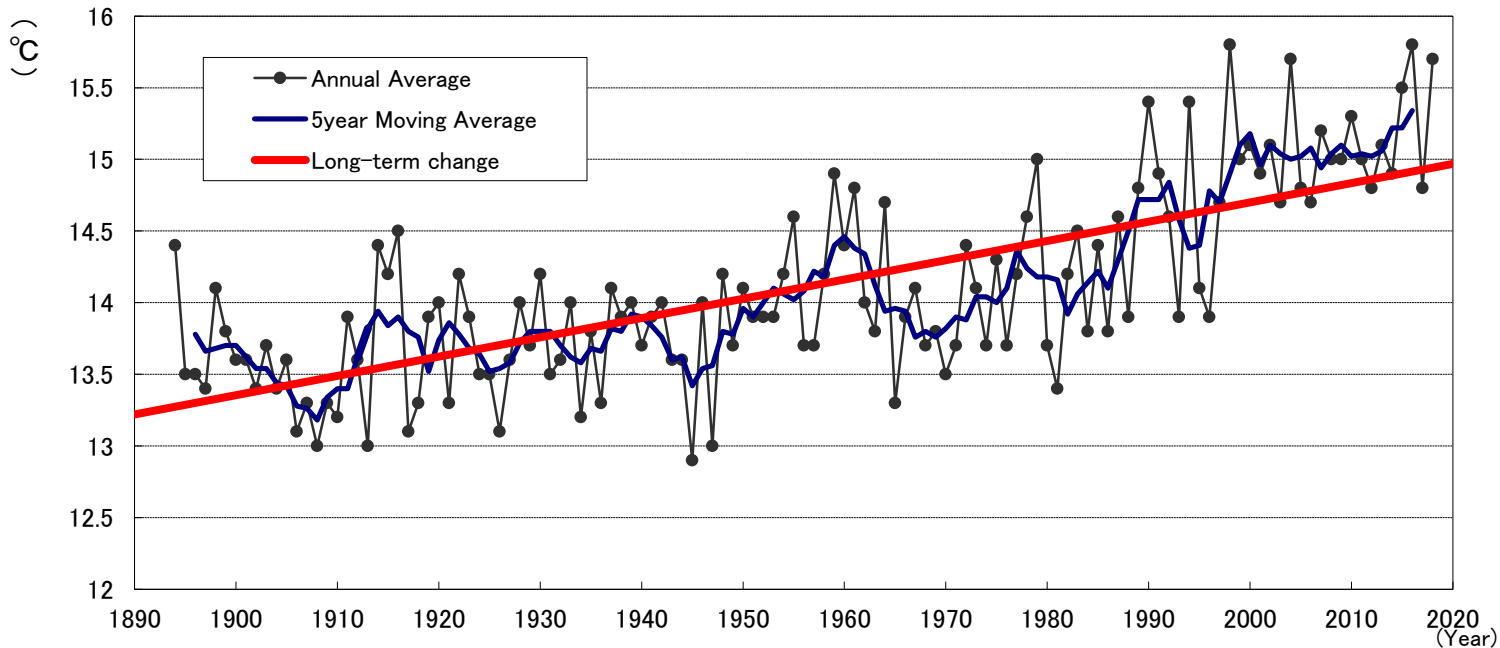


- Surface area:
670.25 km²
(1/6 the size of Shiga)
- Length of shore:
235 km
- Water volume:
~27.5 billion m³
- Average depth:
~41 m
- Maximum depth:
103.58 m
- Minimum width:
1.35 km

Impact of Climate Change in Shiga

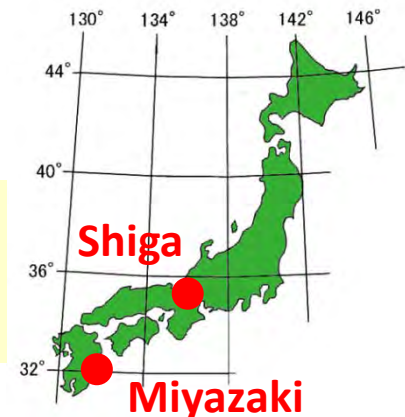


Trend in the average temperature: +1.3°C in 100 years



The annual average temperature in Hikone, Shiga (1894-2018)

A further rise of about 2.9°C by the end of the century is predicted. That is the same average temperature as present-day Miyazaki.



Animal and Plant Life is Already Changing



**Butterfly that lived
further south**



**Cherry Blossoms at
Lake Biwa Canal**

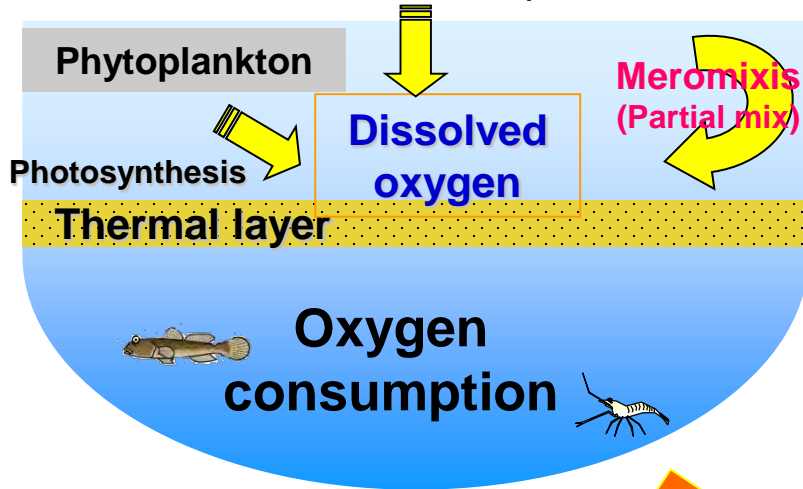


**Blue-green algae appeared later than usual,
in late autumn (November 6, 2015)**

Impacts on Lake Biwa

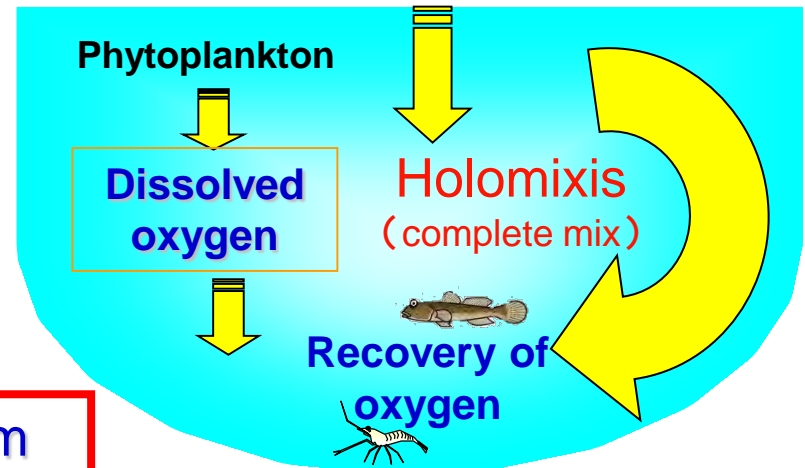
Spring to autumn

Dissolved from the atmosphere



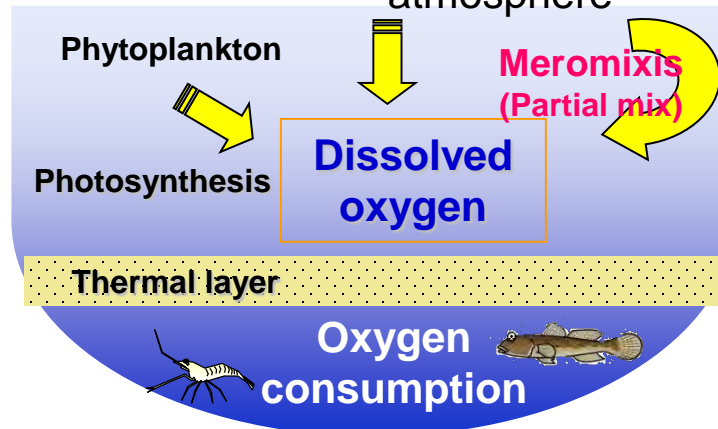
Average winter

Dissolved from the atmosphere



Warm winter

Dissolved from the atmosphere



Every winter, Lake Biwa turns into a holomictic lake that has a uniform temperature and density from top to bottom. However, this year, the lake stayed meromictic because of the warm winter.

Impacts of Climate Change on Agriculture in Shiga



Deterioration in the appearance of rice due to summer heat

Impacts of Climate Change on Agriculture in Shiga



Destruction of vinyl greenhouses by typhoon No. 21 (September 2018)

Countermeasures against Climate Change

Agriculture, Forestry and Fisheries



Decrease in quality
and in yield

Water Environment and Water Resources



Water shortage

Water quality
deterioration



Natural Ecosystem



Changes in the
habitat of plants
and animals

Civil Life and Environment



Impacts on
infrastructures
and on tourism

Economy, Trade and Industry



Impacts on the distribution
and production equipment

Natural Disasters



Landslides



Flooding

Health



Heatstroke



Risk of
dengue fever

The Shiga government is taking measures to **mitigate** climate change and **adapt** to it.

Shiga established its **Center for Climate Change Adaptation** in January 2019. It was the second in Japan.

Adapting agriculture to climate change in Shiga



Shiga's environmentally-conscious agriculture area is the largest in Japan.

The new rice cultivar, Mizukagami, is tolerant to high temperatures



Mitigating Climate Change's Effects on Agriculture



Shiga's environmentally-conscious agriculture area is the largest in Japan.

Environmentally-conscious agriculture in Shiga (planting cover crops)

Mitigating Climate Change's Effects on Agriculture



Shiga's environmentally-conscious agriculture area is the largest in Japan.

Environmentally-conscious agriculture in Shiga (extending the duration of the midsummer drainage on paddy fields)

Environmentally-Conscious Agriculture in Shiga

***Adapting to
climate change***

***Maintaining
sustainable food
production***

***Reducing
greenhouse gases
through
“mitigations”***

Mitigating Climate Change's Effects on Agriculture



Techniques to reduce greenhouse gases in tea fields

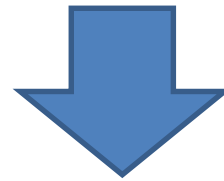
The Lake Biwa System interweaves fisheries and agriculture, nurtured by the forests, villages, and the Lake



Certified as a Nationally Important Agricultural Heritage System! (February 2019)

Also preparing its Globally Important Agricultural Heritage Systems (GIAHS) application to the FAO!

Shiga Prefecture Agriculture is a Solution to Climate Change!



Developing environmentally-conscious agriculture and the Lake Biwa System and connecting them to the next generation

SUSTAINABLE DEVELOPMENT GOALS 17 GOALS TO TRANSFORM OUR WORLD







Mother Lake

Shiga
JAPAN

ご清聴ありがとうございました。
Thank you for your attention.