

As Gwangju becomes warmer,  
let's make it cooler.

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Making Gwangju **1°C** Cooler




광주광역시  
GWANGJU CITY

# Climate Change Around the World

Estimated number of deaths caused by global climate change : **19,500** (in 2015)



**4,733** deaths caused  
by heat in India,  
Pakistan, and Europe



**570** deaths caused  
by a landslide  
in Guatemala



**1,000** deaths caused  
by floods around  
India and Africa



# Climate Change in Korea

Source : Report on Abnormal Climate 2016, Disaster Report 2016



**Most Critical Cause of  
Property Damage**

**Typhoons, Heavy Rains**

About 4.6 bil. US\$ of Property Damage between 2006~2015 from typhoons and heavy rains (93.3%), heavy snows (4.2%), strong winds (1.2%), and high seas (1.3%)



**Most Critical Cause of Fatalities**

**Heavy Rains**

218 died or missing between 2006~2015 from heavy rains (82.1%), typhoons (17.4%), and strong winds (0.5%)

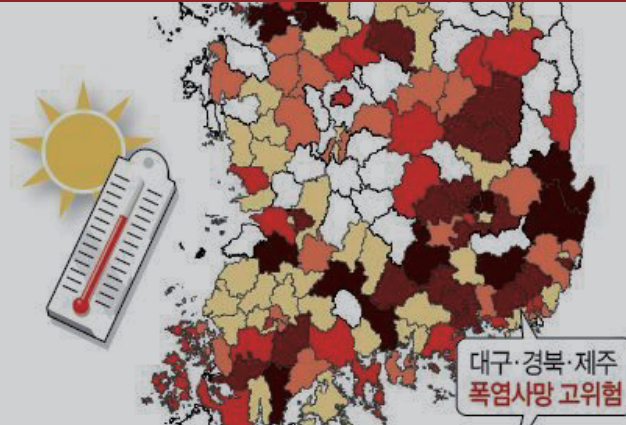
# We need different ways to cope with heat waves.

## Worldwide



About 40,000 died from heat in Europe in 2003 and 15,000 in Russia in 2007

## Korea



17 died and 2,125 treated from heat in 2016, which is more than doubled when compared to 2015

## Gwangju

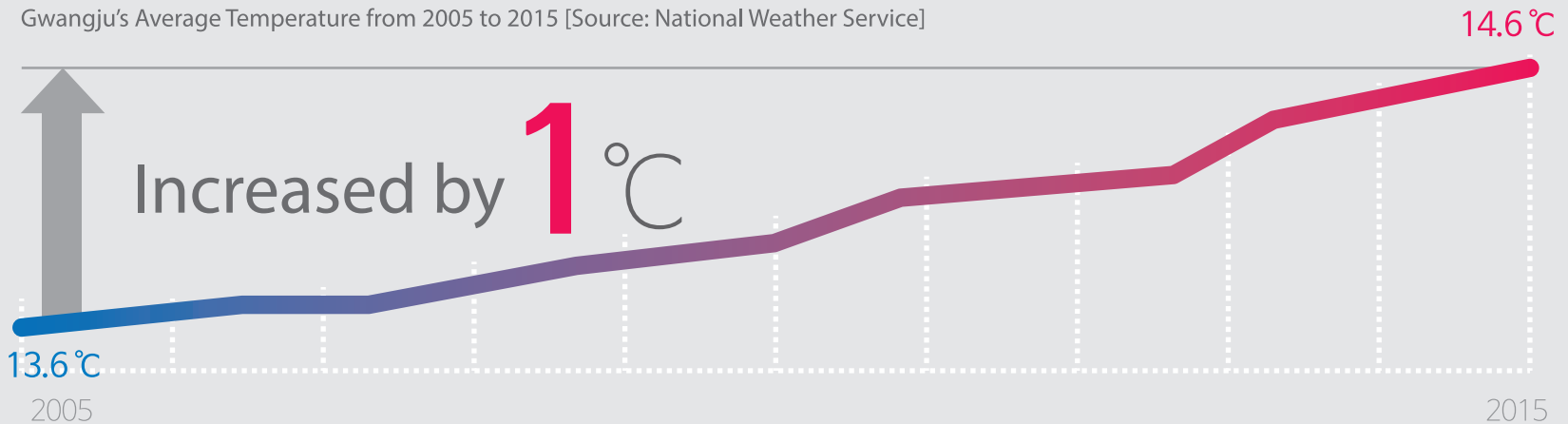


1 died and 91 treated from heat in 2016, a 194% increase when compared to 2011



# Heat Waves are a Terrible Disaster

Gwangju's Average Temperature from 2005 to 2015 [Source: National Weather Service]



**83.9% of Gwangju citizens believe  
'Gwangju's heat wave is severe'.**

# How Gwangju is Responding



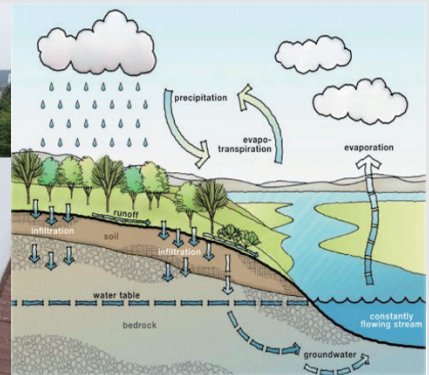
100-year-forest



Eco-Vehicle Cluster



Cool-Roof Buildings



Water Reclamation City

In spite of these efforts, **Heat Waves**, **Tropical Nights**, and **Urban Heat Islands** are problems that are difficult to solve.

# Background for Making Gwangju 1°C Cooler

## Gwangju's Environmental Conditions

### Tropical Nights in the Year

Increased 3.5 times



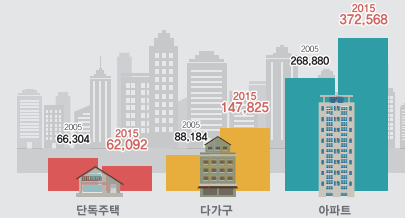
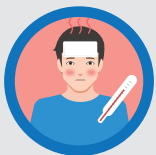
### Heat Wave

Increased 2.2 times in 10 years



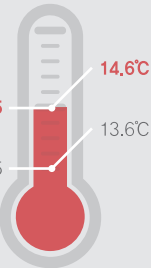
### Thermal Patients

Increased 2.9 times from 31 in 2011 to 91 in 2016

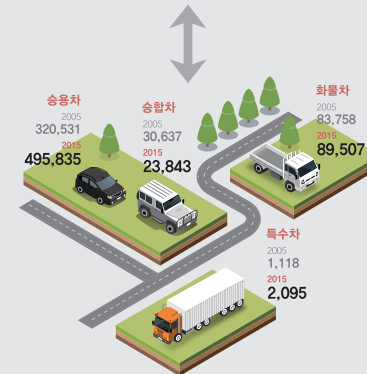


### Buildings

The number of buildings increased 24% from 2005 to 2015.

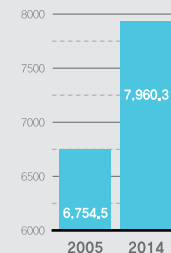


Increased 1°C over 10 years



### Vehicles

The number of vehicles increased 40% from 2005 to 2015.



Greenhouse gas emissions increased 18% from 2005 to 2014.



# Organization for Making Gwangju 1°C Cooler

## Plans for Making Gwangju 1°C Cooler



## Confirm the plan of the Project

Vision / Goals / Slogan / Strategy / Master Plan / Sub-Projects / Citizens' Civic Action

# Overview of Making Gwangju 1°C Cooler



- 1 Enhance citizens' quality of life by coping with heat waves
- 2 Raise the city's capacity to cope with environmental issues
- 3 Suggest new types of green governance through public-private cooperation

# Citizens' **Call** to **Cool** Gwangju





# A Cool Gwangju

## 44 initiatives to make Gwangju Cooler



### Add Green(+)

- Expand Green/Waterfront Areas
- Build eco-friendly infrastructure



### Reduce Grey(-)

- Reduce Air Pollution
- Reduce Energy Consumption



### Shared Spirit(÷)

- Create a Gwangju Community
- Build a Private-Public Cooperation Network



### Raise Awareness(x)

- Improve Energy Conversion and Energy Efficiency



## Add Green(+)

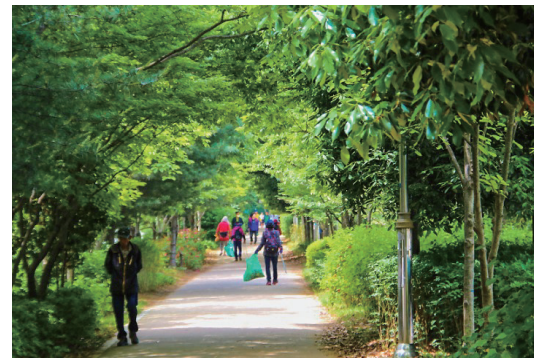
- Expand Green /Waterfront Areas
- Build eco-friendly infrastructure

## Make Gwangju Streams more Eco-Friendly



## Improve Water Reclamation

## Build Urban Parks for Citizens



## Use Cooling Mists



## Reduce Grey(-)

- Reduce Air Pollution
- Reduce Energy Consumption

## Build and Improve Systems for Public Transportation and Bicycle Use



## Promote Eco-Friendly Vehicles

## Create District Maps with Wind-Paths



## Reduce Vehicle Emissions





## Shared Spirit(÷)

- Create a Gwangju Community
- Build a Private-Public Cooperation Network

## Eco-Mileage



## Low-Carbon Green Apartment Projects

## Shelters from Heat



## Citizen Education and Public Relations



## Raise Awareness(x)

- Improve Energy Conversion and Energy Efficiency

## Install solar panels on homes



## Encourage Energy Management Systems for Buildings

## Encourage use of LED lights

# Citizens' Call

With citizens, Gwangju made 10 civic responsibilities.



Unplug when  
not in use



Walk whenever  
possible



Ride a bicycle



Use public  
transportation



Reduce food waste



Use less disposable  
products



Recycle  
wastes



Set a green table



Use less water



Plant and grow  
one tree for each citizen



**We will make our  
city greener  
and more livable.**





**We will leave a better  
environment for our  
children to inherit.**



Gwangju gets warmer.

**Making Gwangju 1°C Cooler**

Let's make Gwangju cooler together.

**Thank You**