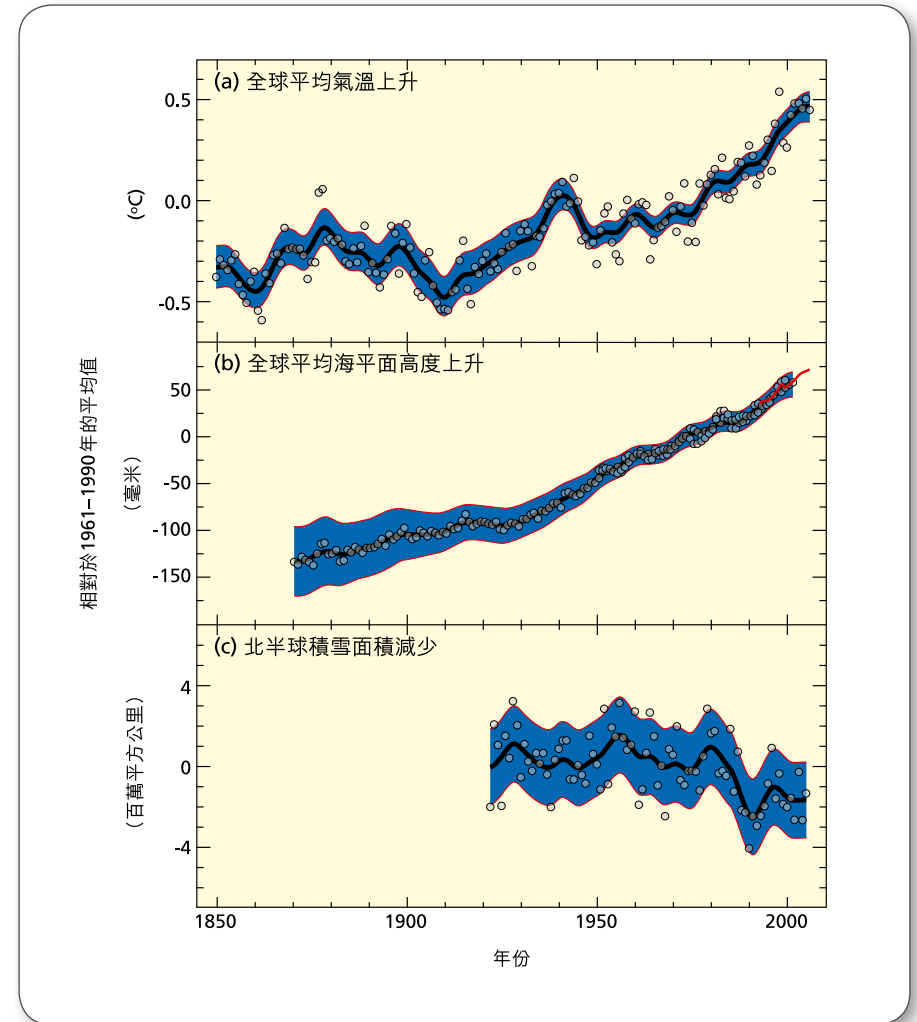


# 香港氣候變化

*Climate Change in Hong Kong*

## 氣候在變化

聯合國政府間氣候變化專門委員會(簡稱IPCC)在2007年發表的第四份評估報告確認全球氣候暖化，20世紀中期以來全球平均氣溫的上升，極有可能是由於人為的溫室氣體濃度上升所引致。氣候暖化還引致海水受熱膨脹及陸地上的冰雪溶化，使全球平均海平面上升。



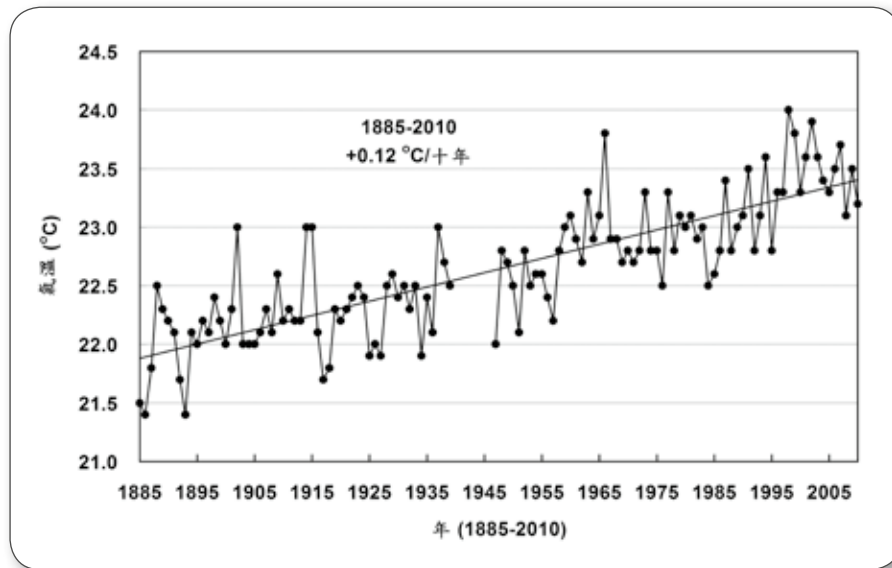
(來源：IPCC, 2007)

## 香港的氣候變化觀測

根據香港天文台過去的觀測數據分析，香港的氣候變化是受到全球變暖及本地城市化的共同影響的。以下列舉各種參數的變化趨勢：

參數	趨勢
氣溫	↑ 上升
雨量	↑ 上升
海平面	↑ 上升
雲量	↑ 上升
太陽輻射量	↓ 下降
出現低能見度時數*	↑ 上升

\*能見度低於8公里的時數  
(雨、薄霧、霧及相對濕度在95%或以上不計)



1885 – 2010年香港天文台總部錄得的年平均氣溫  
(1940至1946年間因二次大戰沒有數據)

## 氣候變化 — 21 世紀的推算

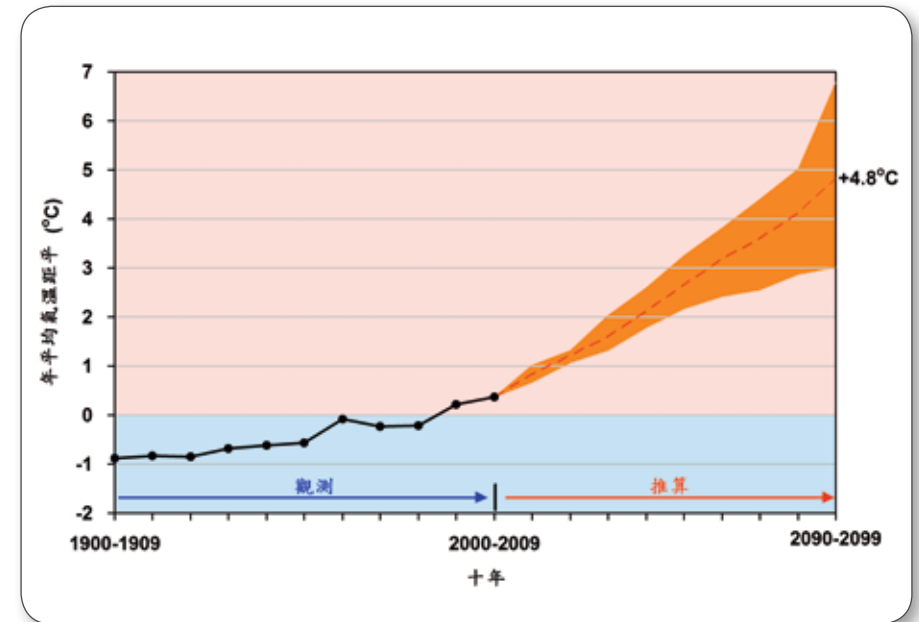
### 全球的情況

利用氣候模式推算，政府間氣候變化專門委員會在第四份評估報告估計，相對於1980–1999年的平均值，全球的平均氣溫在21世紀末上升1.1–6.4°C，而全球的平均海平面上升幅度會介乎0.18至0.59米之間。

### 香港的情況

#### 溫度推算

預料香港2090–2099年的年平均氣溫會較1980–1999年的平均值(23.1°C)高出4.8°C，實際情況視乎人類減排二氧化碳和香港城市化的程度。夏季熱夜和酷熱日數增加，冬季寒冷日數減少。

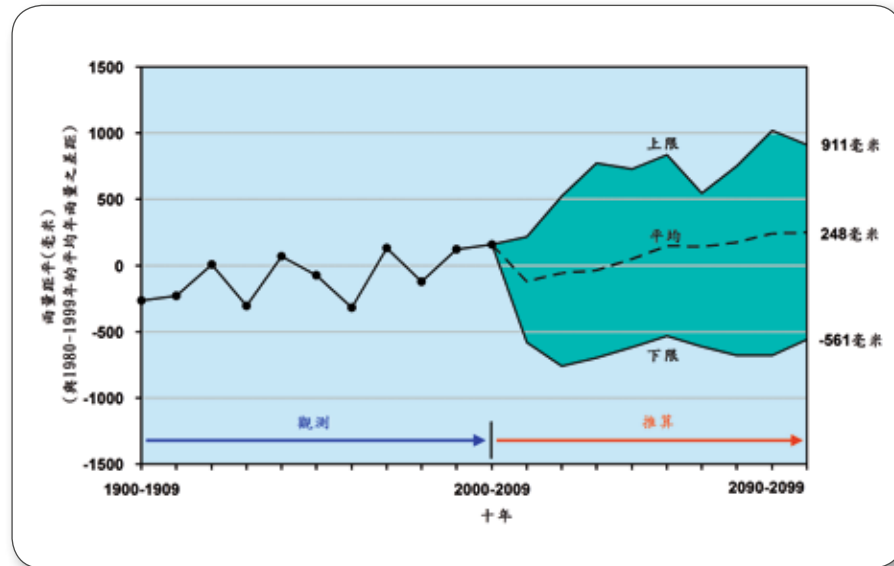


香港年平均氣溫距平過去的變化及未來推算\*  
(相對於1980–1999年的平均)

\*(基於IPCC AR4年平均預測數據)

## 雨量推算

預料本港的平均年雨量在21世紀後期上升。本世紀末最後10年，即2090–2099年，香港天文台總部的平均年雨量會達到2572毫米，比1980–1999年的平均值2324毫米多248毫米。年與年之間的雨量變化會變得更大，出現極端多雨和少雨的年份會增多。



香港年雨量距平的過去變化及未來推算(相對於1980-1999年的平均)\*  
\*(基於IPCC AR4年平均預測數據)

期間	極端多雨的年數 (年雨量超過3187毫米)	極端少雨的年數 (年雨量低於1282毫米)
1885至2000年	2	2
21世紀	10	4

## 海平面上升

預料南海包括香港水域21世紀末的海平面上升幅度很可能跟全球平均接近(即相對於1980–1999年的平均值，上升0.18至0.59米之間)。

## 氣候變化的潛在影響

- 熱浪增多
- 農作物產量減少
- 傳染病蔓延
- 海平面上升，風暴潮增加
- 生態環境失去平衡
- 澇旱頻仍，更多人面對缺水危機

## 我們要行動！

全球氣候變化的主要起因在於人類過分消耗能量和資源，因此減緩氣候變化，人人有責。日常生活中，簡樸的生活方式可減少溫室氣體排放量，我們可以：

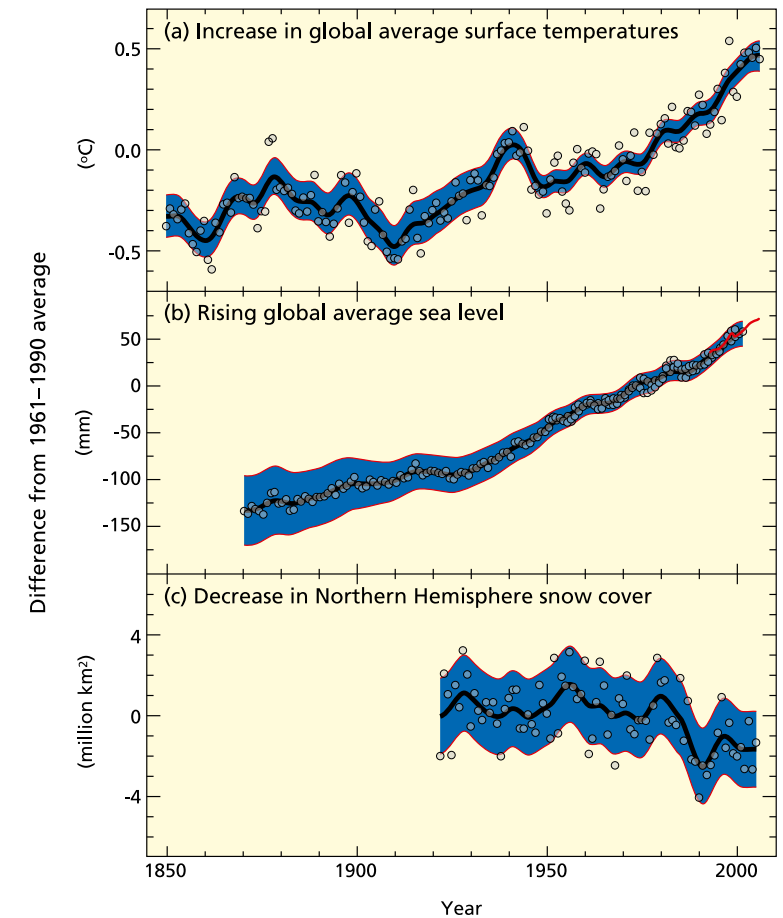
- 節約能源和用水
- 多使用公共交通工具，減少駕駛
- 減少用紙
- 珍惜資源，減少浪費，盡量循環再用廢物
- 珍惜樹木及愛護環境
- 鼓勵親友一起節約

## 相關連結

- 香港天文台氣候變化網頁  
[http://www.weather.gov.hk/climate\\_change/climate\\_change\\_c.htm](http://www.weather.gov.hk/climate_change/climate_change_c.htm)
- 環境保護署氣候變化網頁  
[http://www.epd.gov.hk/epd/tc\\_chi/climate\\_change](http://www.epd.gov.hk/epd/tc_chi/climate_change)
- 政府間氣候變化專門委員會(IPCC)  
<http://www.ipcc.ch/>
- 聯合國氣候變化網頁  
<http://www.un.org/climatechange/index.shtml>

## Our Climate is Changing

According to the Fourth Assessment Report of the United Nations Intergovernmental Panel on Climate Change (IPCC) published in 2007, warming of the climate system is unequivocal and most of the observed increase in globally averaged temperatures since the mid-20<sup>th</sup> century is very likely due to the increase in anthropogenic greenhouse gas concentration. Global warming would also lead to thermal expansion of sea water and extensive melting of ice and snow over ground, resulting in the rise of the global mean sea level.



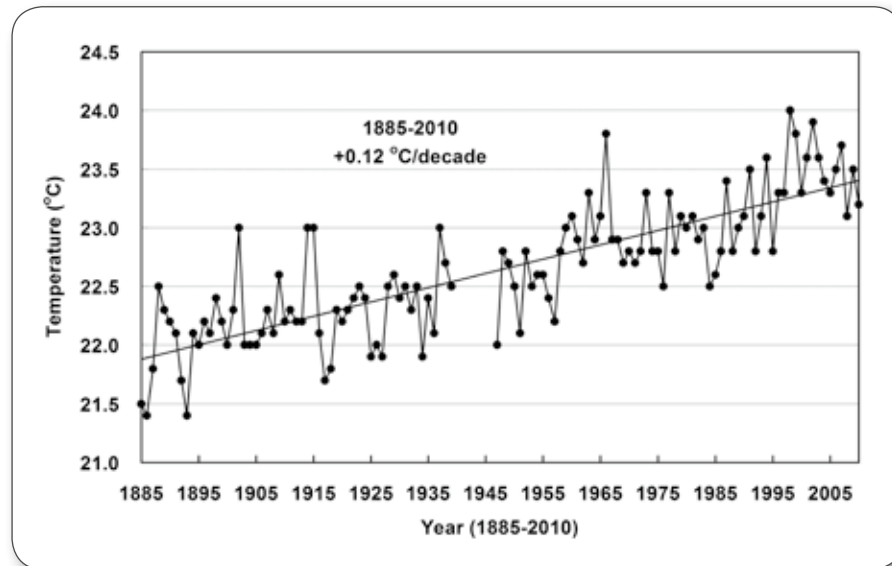
(Source : IPCC, 2007)

### Observed climate change in Hong Kong

According to the analysis of observed data from the Hong Kong Observatory, the climate change in Hong Kong can be attributed to the combined effect of global warming and local urbanization. The trends of the major elements are as follows :

Elements	Trend
Temperature	↑ Increase
Rainfall	↑ Increase
Mean Sea Level	↑ Increase
Cloud amount	↑ Increase
Solar Radiation	↓ Decrease
Hours with reduced visibility *	↑ Increase

\*Number of hours with visibility below 8 km  
(relative humidity below 95 % and not counting rain, mist or fog)



Annual mean temperature recorded at the Hong Kong Observatory Headquarters from 1885 to 2010  
(Data during World War II from 1940 to 1946 is not available)

### Climate Change – Projections for the 21<sup>st</sup> Century

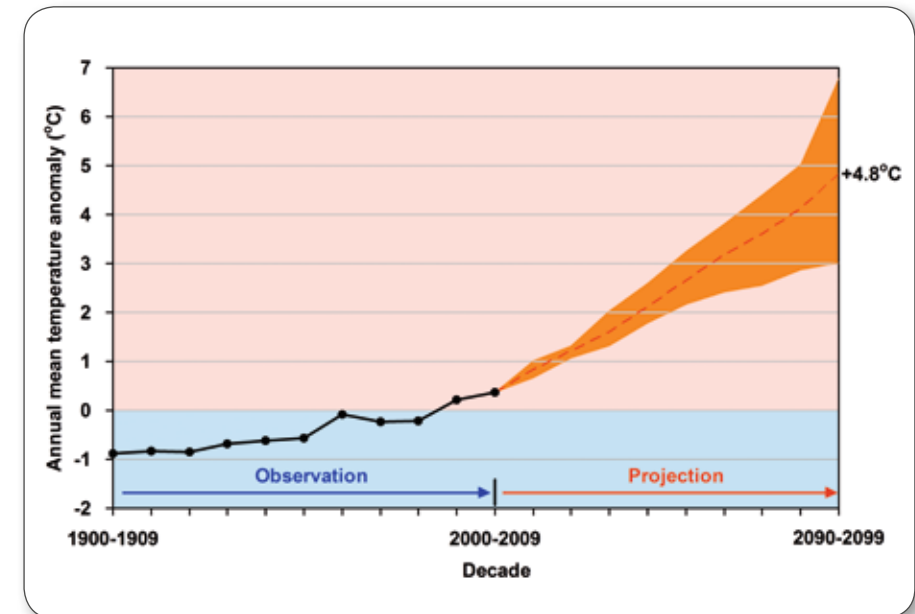
#### Global Situation

Based on projections by climate models, the Intergovernmental Panel on Climate Change in their Fourth Assessment Report indicated that the global average surface temperature will rise by 1.1 to 6.4°C and global average sea level will rise 0.18 to 0.59 m by the end of the 21<sup>st</sup> century (relative to the average of 1980-1999).

#### Situation in Hong Kong

##### Temperature Projection

Compared with the 1980-1999 average of 23.1°C, the annual mean temperature in Hong Kong in the decade 2090-2099 is expected to rise by 4.8°C. The actual outcome will depend on the degree of reduction in greenhouse gas emissions and urbanization in Hong Kong. The number of hot nights and very hot days will increase in summer while the number of cold days will decrease in winter.

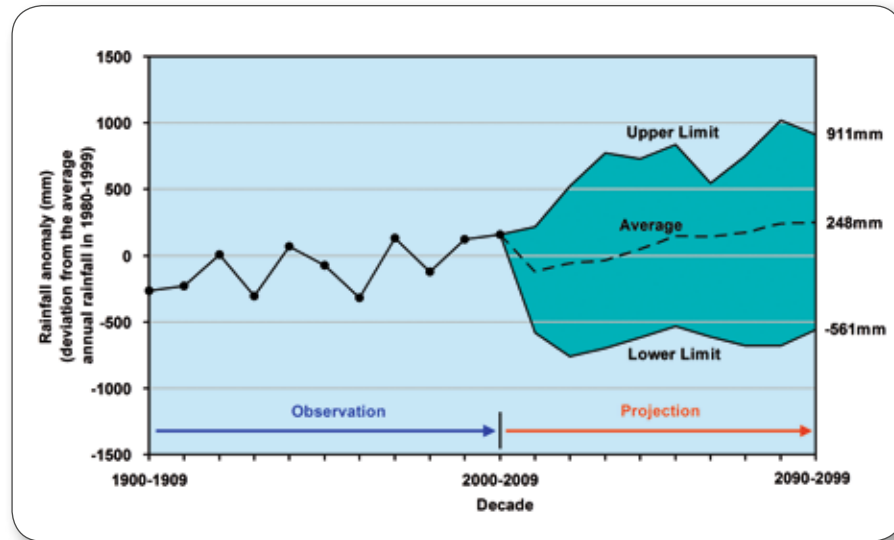


Past and projected annual mean temperature anomaly for Hong Kong\*  
(relative to the average from 1980 to 1999)

\*(based on IPCC AR4 annual mean projection data)

### Rainfall Projection

The average annual rainfall in Hong Kong will increase during the latter half of the 21<sup>st</sup> century. It is expected that, in the last 10 years of this century (2090-2099), the average annual rainfall recorded at the Hong Kong Observatory Headquarters will reach 2572 mm, 248 mm higher than the 1980-1999 average of 2324 mm. The year-to-year variability in rainfall would increase with more extremely wet and dry years.



Past and projected change in annual rainfall for Hong Kong\* (relative to the average from 1980 to 1999)

\*(based on IPCC AR4 annual mean projection data)

Period	No. of extremely wet years (annual rainfall above 3187mm)	No. of extremely dry years (annual rainfall less than 1282mm)
1885-2000	2	2
21 <sup>st</sup> century	10	4

### Rising sea level

It is expected that the mean sea level rise in the South China Sea, including Hong Kong waters, would increase to tally with the global average in the late 21<sup>st</sup> century (i.e. expected to range between 0.18 and 0.59 m, relative to the average from 1980 to 1999).

### Potential Impacts of Climate Change

- More frequent heat waves
- Mean sea level rise and more storm surges
- Decrease in agricultural production
- Ecological and environmental imbalance
- Enhanced spread of infectious diseases
- Frequent floods and droughts, more people facing water shortage crises

### Act Now!

The major cause of climate change is the excessive consumption of energy and resources by human beings. It is our responsibility to combat climate change. A simple life style could reduce greenhouse gas emissions. We can make a difference by taking the following actions:

- Save energy and water
- Use more public transport, drive less
- Use less paper
- Treasure resources, reduce wastage and recycle wastes as much as possible
- Cherish trees and care for the environment
- Encourage your friends and relatives to conserve energy and resources

### Useful Links

- Climate change webpage of the Hong Kong Observatory [http://www.weather.gov.hk/climate\\_change/climate\\_change\\_e.htm](http://www.weather.gov.hk/climate_change/climate_change_e.htm)
- Climate change webpage of the Environment Protection Department [http://www.epd.gov.hk/epd/english/climate\\_change](http://www.epd.gov.hk/epd/english/climate_change)
- Intergovernmental Panel on Climate Change (IPCC) <http://www.ipcc.ch/>
- Gateway to the UN System's Work on Climate Change <http://www.un.org/climatechange/index.shtml>

