

## Eight ways YOU can help stop climate change!

There are many simple measures you can introduce to your daily life that will cut greenhouse gas emissions and help stop climate change! Here are a few suggestions:



### Green Your Commute

- Adopt the "1-3-5" green commute: "Walk within 1 kilometer, cycle within 3 kilometers, use public transportation within 5 kilometers. You'll save money and get into better shape!
- If you can't go car-free, try, and use the smallest, most fuel-efficient, new energy vehicle possible.



### Be Energy Efficient

- Change light bulbs to compact fluorescents or LEDs.
- Unplug computers, TVs and other electronics when not in use.
- Turn off all lights when you leave a room.
- Maintain thermostats at 68°F in colder months and 74°F in warmer months.



### Trim Your Waste

- Garbage buried in landfills produces methane, a potent greenhouse gas. Reducing the amount of waste you produce will help decrease greenhouse gas emissions.
- Recycle paper, plastic, metal and glass.
- Avoid plastic bags and unnecessary plastic packaging.
- Utilize personal water containers for your daily water consumption.



### Use Water Efficiently

- It takes lots of energy to pump, treat, and heat water, so saving water reduces greenhouse gas emissions.
- Take a shower rather than a bath.
- Buy a water efficient showerhead and other water efficient fixtures and fittings.



### Reduce Carbon Footprint When You Shop

- Buy local and seasonal food produce to reduce energy use in transport and storage.
- Buy items with minimal packaging whenever possible.
- Buy secondhand rather than new from garage sales or over the internet.



### Support rural and minority

- Rural communities and ethnic minorities are important stewards of Yunnan's natural resources and landscapes. Supporting these communities will help fight climate change through better management of our forests and agricultural lands.
- Buy products from organic certification farmland to help reduce the use of pesticides and fertilizers.
- Respect traditional knowledge from ethnic minorities, support their capacity building in climate change process, record and promote their accumulated experience of respond to extreme weather and natural disasters.



### Get Informed

- Follow the latest news about climate change.
- Visit [www.ynepb.gov.cn](http://www.ynepb.gov.cn) to get information about climate change.



### Get involved

- Green strategies in your daily life can have a small impact, but the whole planet has to be on board to deal with climate change.
- Tell family and friends that energy efficiency is good for their homes, good for their pockets and good for the environment because it lowers greenhouse gas emissions and air pollution.

References: IPCC (2013) - IPCC Fifth Assessment Report: Climate Change 2013 (AR5) <http://www.ipcc.ch/report/ar5/>  
 Projected Climate Change and Impact on Bioclimatic Conditions for Terrestrial Ecosystems and on BSAP Priority Areas within Yunnan Province (Robert Zomer and Wang Mingcheng from CMES)



Information: This brochure is available at: [www.ynepb.gov.cn](http://www.ynepb.gov.cn) and from Yunnan Environmental Protection Department  
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 Climate change analysis conducted in collaboration with the Center for Mountain Ecosystem Studies (CMES), Kunming Institute of Botany, Chinese Academy of Science, Kunming 650201, Yunnan, PRC  
 Production management: YEPD / AECOM Asia Company Ltd.  
 Design: AECOM Asia Company Ltd. / Excellent Brand Design Co., Ltd.  
 Funding: Asian Development Bank



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Yunnan Environmental Protection Department

## What is Climate Change?

It is widely accepted by the international scientific community that the climate is changing as a result of human activities, particularly burning fossil fuels and land clearing. Climate change poses a significant threat to natural systems and human settlements.

Human activities such as burning oil, coal and natural gas, forest clearance, and intensive agricultural practices release greenhouse gases such as carbon dioxide and methane. These gases trap heat from the sun in our atmosphere, acting like a 'greenhouse' and increasing temperatures.

This enhanced greenhouse effect is referred to as global warming. But climate change is more than a warming world. Increasing temperatures are changing many aspects of weather and can cause changes in the amount, type, and seasonal patterns of rain, and the types and frequency of severe weather events such as droughts and floods.



The Yunnan Government is taking urgent action to help fight climate change. This brochure explains how climate change is affecting Yunnan, and how YOU can help stop climate change by taking simple actions in your everyday life!

## How has the climate changed?



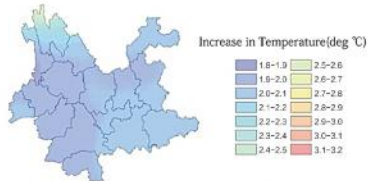
Globally

As a consequence of global warming, the world's climate has changed over the last century. Temperatures increased by 0.74°C from 1900–2000. There have also been more extreme weather events (such as heat waves, heavy rainfall, and typhoons) and fewer frosts. Glaciers and ice-caps have retreated. Sea levels have risen by 10–20 cm as a result of warmer oceans and melting ice-caps and glaciers.



In Yunnan

From 1961–2012, temperatures across Yunnan have increased at a rate of 0.25°C every ten years. The trend has been more pronounced since the late 1980's, with 13 warm winters occurring since 1986. Annual rainfall in Yunnan has declined, and the number and frequency of droughts increased. The years 2009–2011 saw the most severe drought in Yunnan in the last 50 years. These trends of increasing temperatures and changing rainfall patterns are expected to continue in the future. Research conducted by the Yunnan Environmental Protection Department (YEPD) and the Center for Mountain Ecosystem Studies (CMES) has predicted temperatures will rise on average between 1.6 to 2.5°C by 2050.



Mean annual temperatures are expected to rise across Yunnan between 1.6 to 2.5°C by 2050. On the whole, rainfall is expected to increase slightly, but with a higher occurrence of storms and droughts.

## How is climate change affecting our daily lives?

Food

As the climate warms, the air holds more moisture and rainstorms become more intense, damaging crops. Overall precipitation patterns are also changing, bringing more frequent droughts. Warmer temperatures also mean more pests: insects can better survive the milder winters, and aggressive weeds such as *Ageratina adenophora* do much better in warmer conditions than do crop plants.



Invasive weeds such as Crofton Weed (*Ageratina adenophora*) thrive in the wetter and warmer conditions brought about by climate change

Water

Water is becoming scarcer in some regions. Severe droughts, increased evaporation and changes in precipitation patterns are affecting water levels in streams, rivers and lakes. These changes will have consequences for our water supplies, agricultural and aquacultural production



Extended periods of drought will affect our water supplies and agricultural production.

Fire

More wildfires are breaking out as droughts become increasingly common. Fires that go through drought-stricken land spread more quickly and burn longer, destroying forests and homes.



Wildfires such as this one at Anning, 2013, will become more common due to climate change.

Health

Warmer, wetter weather will lead to the spread of tropical diseases. Longer pollen seasons will lead to more air-based allergies. Allergies and asthma will continue to rise. Water-borne diseases such as Dengue, malaria, cholera, typhoid could spread.



Increasingly severe outbreaks of the dengue virus (carried by the Yellow Fever Mosquito) in Yunnan and other southern provinces have been linked to warmer, wetter weather and the growth of cities.

Flooding

Increased damage to villages, cities, and roads is occurring due to sudden downpours, storms, flash floods and prolonged cloudbursts. Contamination of water supplies will be increased by floods. Spending on defending towns from river flooding will likely need to increase.



Heavier rain storms caused by climate change are likely to increase the incidence of flooding in Yunnan.

Ethnic Minorities

The distribution of ethnic minorities in Yunnan overlaps with many areas of high biodiversity value. These regions with fragile environment are amongst the most vulnerable to the impacts of climate change. The livelihoods of poor minorities rely heavily on land, water and other natural resources, so they suffer more seriously in extreme weather disasters.



## How is climate change affecting Biodiversity?

The changing climate is likely to result in impacts on biodiversity across Yunnan as landscapes respond to changes in temperature, precipitation, and seasonality. The latest global climate change modeling result shows a large predicted expansion in the area of the warmer bioclimatic zones, and a corresponding decrease in cold bioclimatic zones. This may cause changes in distribution, propagation time, growth period and increase of extinction rates for plants and wildlife. Species currently restricted to colder areas at high elevations will be especially at risk: as isolated mountain tops become warmer, species occurring in these areas that are already at the limit of their range could become locally extinct.

Climate change will affect on-going landuse changes that will in turn impact biodiversity. For example, as temperatures increase, warm temperate and tropical rainforests will increasingly fall within climatic zones suitable for rubber plantations. They will therefore be at higher risk of clearance for plantation development.

Improving our understanding of climate change impact on biodiversity is among many important efforts that must be implemented if conservation strategies and policies are to be effective within the context of a rapidly changing climate.