

**Droughts Heatwaves Storms**  
**Extreme Weather Events**  
**Wildfires FLOODING**  
Created by Sam Carana for Arctic-news.blogspot.com

# **WHY OLDER AUSTRALIANS SHOULD BE CONCERNED ABOUT CLIMATE CHANGE**

**And why we should be doing  
something about it!**

# Concern for future generations

**Don't you worry about the state of the world we are leaving to our children and grandchildren?**

**I believe our parents' generation was the last generation who could say that they had left the world in a better condition for their children.**

**“We are the first generation to feel the effects of climate change and the last generation to be able to do anything about it.”  
Barack Obama, Former USA President**

# ***A challenge to us all!***

Poem from '*Optimism - Reflections on a life of action*' by Bob Brown

it's 3:23 in the morning  
and I'm awake  
because my great great grandchildren  
won't let me sleep,  
my great great grandchildren  
ask me in dreams  
what did you do while the planet was plundered?  
what did you do when the earth was unravelling?  
surely you did something  
when the seasons started failing?  
as the mammals, reptiles and birds were all dying?  
did you fill the streets with protest  
when democracy was stolen?  
***what did you do  
once you knew?***

*Part of poem from "Hieroglyphic Stairway" by Drew Dillinger*

***How will you answer your grandchildren?***

# Climate Change in the Goulburn-Broken (DSE 2008)

## Medium Emissions 2030 Scenario

CO2 emissions increase moderately until the middle of the century before declining.

By 2100 a global temperature increase greater than 2 degrees is likely.

### Changes in Climate

- Rainfall patterns change, more high-volume rainfall events
- Warmer temperatures with greatest increase in summer.
- More hot days, less cold days, reduction in number of frosts
- Reduction in annual rainfall with greatest reductions in spring
- Drier conditions due to increased evaporation and reduction of humidity

**“Whilst these changes will have long term consequences the impacts of climate change are more likely to be felt through extreme events such as heavy rainfall, heat waves and increased bushfire risk.”**

***Benalla Rural City – “Climate Change Adaptation Action Plan”***

**Current trends indicate changes are happening much faster than the worst case scenario predicted by the IPCC**

# Effects of Climate Change on Older Australians

## Older adults recognised as most vulnerable in times of extreme weather

During the 2009 Victorian heatwave:

- Greatest number of deaths in 75+ age group.
- Number of deaths in those aged 65+ years more than doubled.
- Older adults showed greatest demand for acute health care.

Climate change can act as an **intensifier and substantially increase the magnitude** of pre-existing chronic illness.

Ageing reduces body's ability to **thermo-regulate** thus older adults **particularly sensitive to extreme heat and cold**.

Older adults are more likely to have **functional limitations**, be **socially isolated** and have **financial loss**, which can result in **reduced access to health information** and services and a **diminished ability to evacuate in an emergency**.

# Heatwaves, Illness Events and Mortality

Melbourne, Australia, 2009

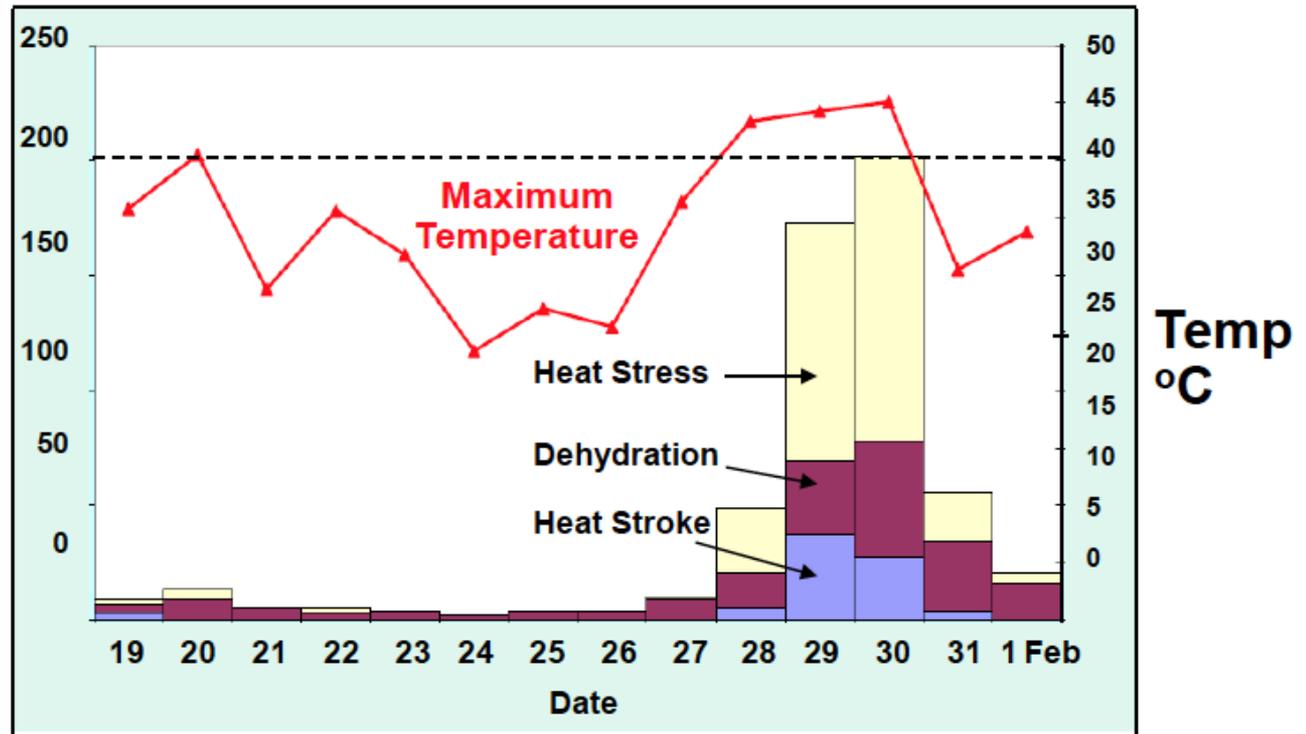
27-31 January 2009:  
maximum  
temperatures 12-15°C  
above summer norm

Number of  
attendances

Jan 29-30:  
60% increase in  
**ambulance call-outs**

126 out-of-hospital  
**deaths** (vs. 44  
expected deaths)

**Ambulance call-outs for heat-related illnesses in  
Metropolitan Melbourne: 19 Jan – 1 Feb, 2009**

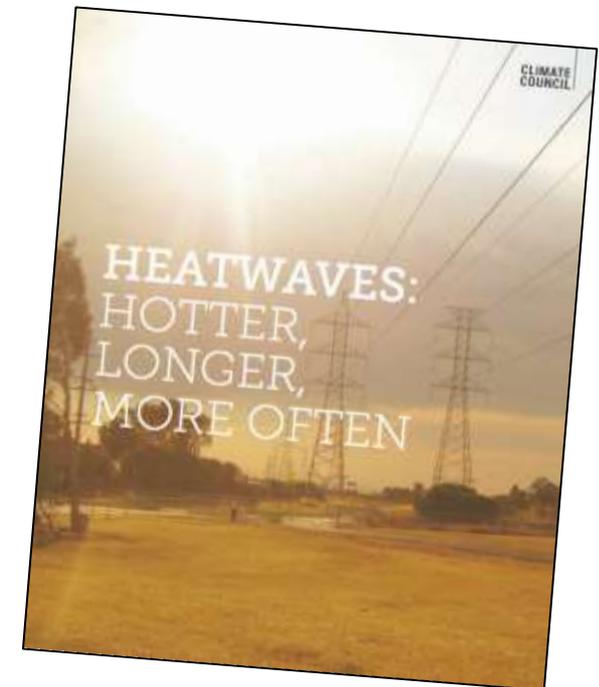


**SOURCE:** January 2009 Heatwave in Victoria: an  
Assessment of Health Impacts. *State of Victoria 2009*

# Records tumble in 2013... and Melbourne gets hotter



Over last 30 years, Melbourne heat waves are occurring 17 days earlier, have become 1.5 degrees hotter, and the maximum temperature of the hottest day is 2 degrees higher, compared to 1950-1980.



## HOW COULD CLIMATE CHANGE

# AFFECT ME & MY FAMILY?

### → PHYSICAL & ECOLOGICAL IMPACTS

These include **heatwaves, floods, droughts, bushfires** and **supercharged storms**.

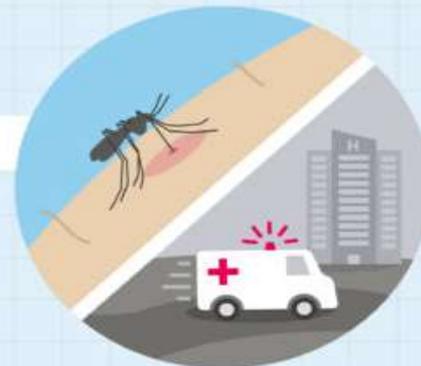


### → SOCIAL & ECONOMIC IMPACTS

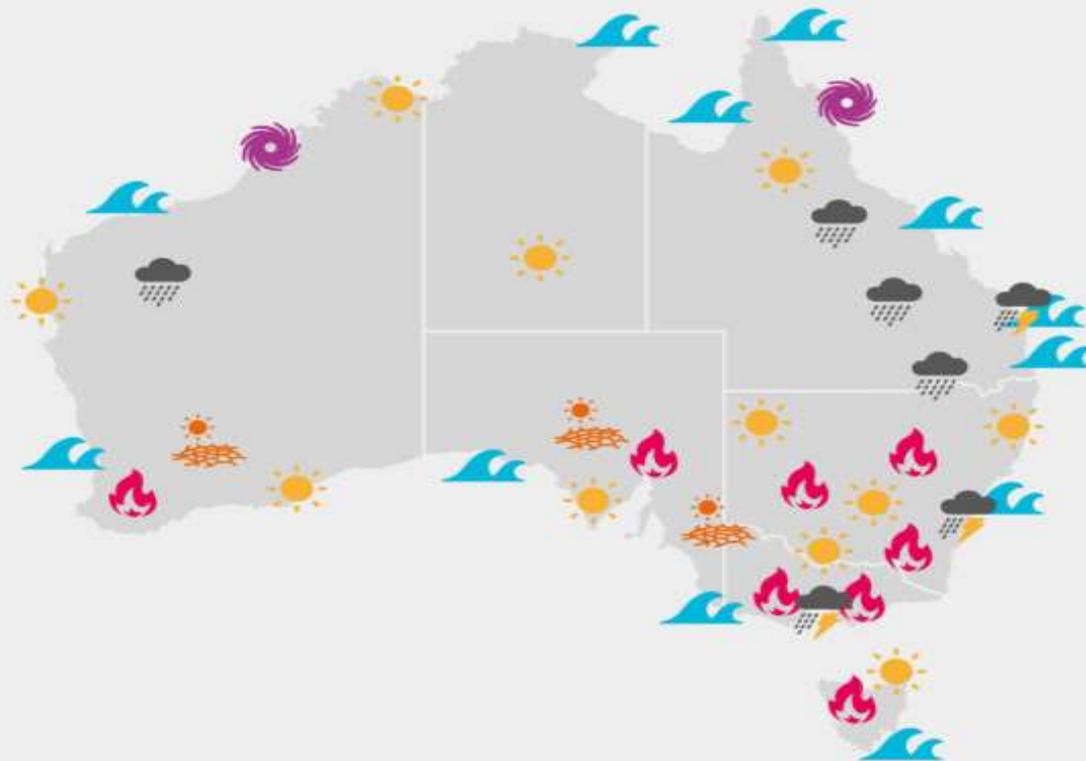
These include **conflict, displacement of people, damage to infrastructure** and **job impacts**.

### → HUMAN HEALTH IMPACTS

These include **infectious diseases, poorer nutrition, mental health, injuries** and **deaths**.



# HOW WILL CLIMATE CHANGE AFFECT AUSTRALIA?



Cyclones are likely to become **more intense**, but less frequent.



Heatwaves will become even **longer and hotter**.



Potential severe thunderstorm days are expected to **increase**.



Extreme rainfall events are expected to become **more intense**.



Higher sea levels will **increase flooding** in coastal cities and towns.



Droughts are likely to happen **even more often**.

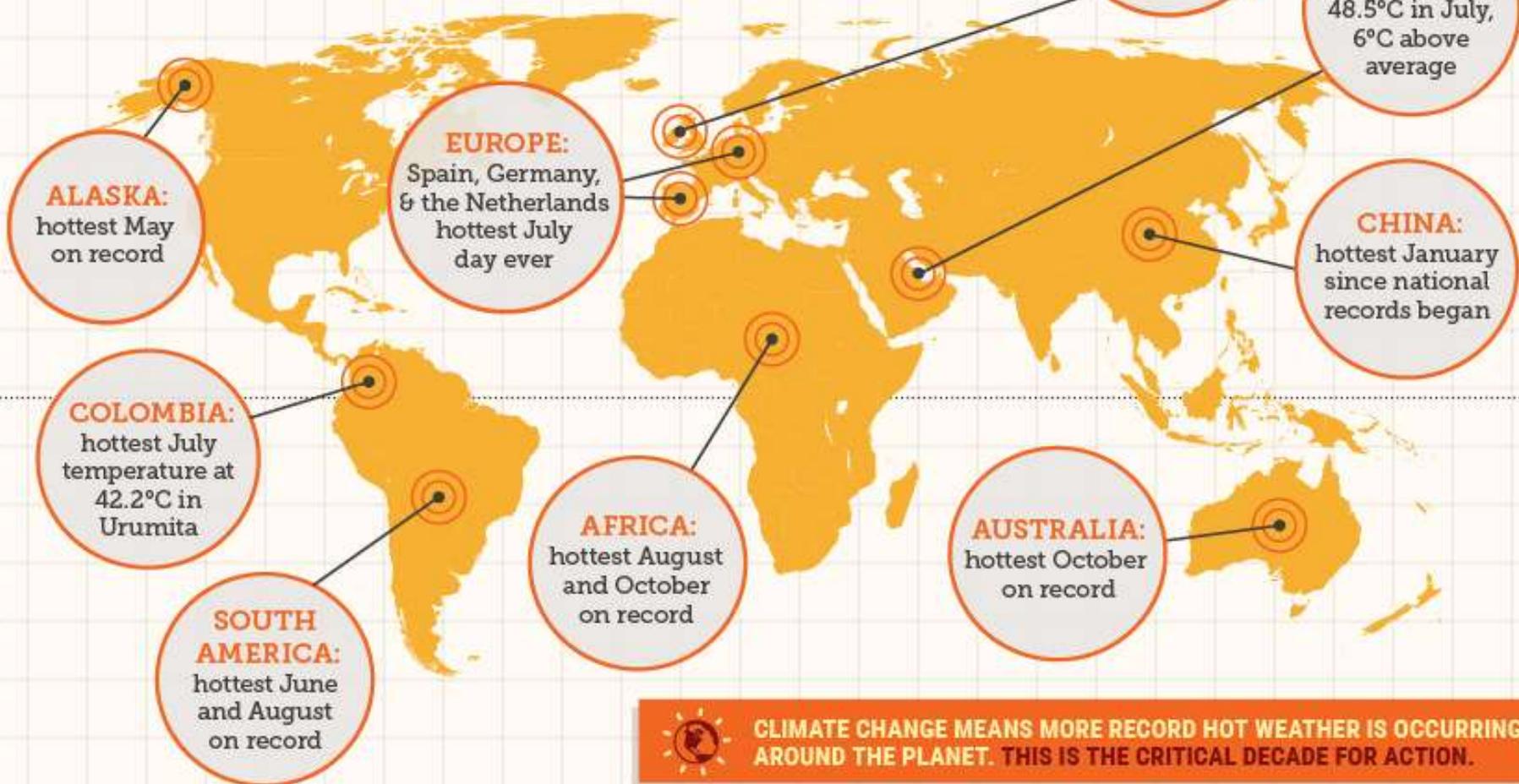


**Hotter and drier** conditions will lead to harsher bushfire weather.

# 2015: WAS THE HOTTEST YEAR IN RECORDED HISTORY



[CLIMATECOUNCIL.ORG.AU/HOTTESTYEAR2015](http://CLIMATECOUNCIL.ORG.AU/HOTTESTYEAR2015)



**CLIMATE CHANGE MEANS MORE RECORD HOT WEATHER IS OCCURRING AROUND THE PLANET. THIS IS THE CRITICAL DECADE FOR ACTION.**

# EXTREME HEAT

## A GLOBAL HEALTH PROBLEM

Climate change means more intense extreme heat events are occurring around the planet. Rapidly transitioning away from fossil fuels is necessary to reduce the risk of further heatwave deaths.

**FRANCE - JULY 2006**

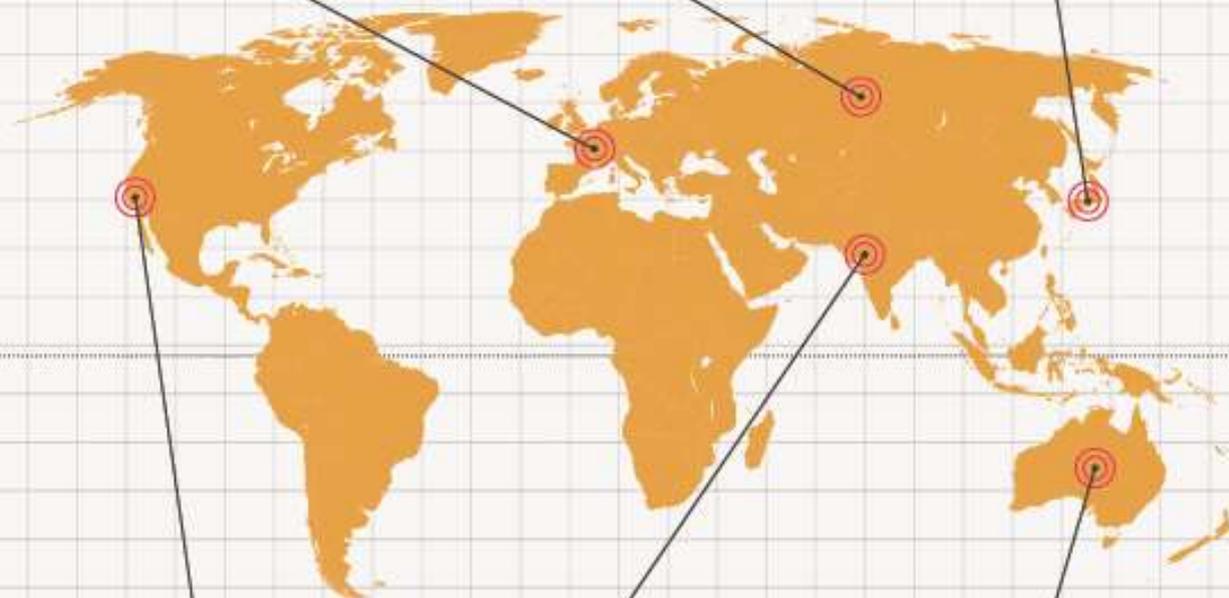
**2,065** additional deaths during heatwaves in France

**RUSSIA - JULY 2010**

**55,736** additional deaths during heatwaves (including smog, wildfires) in Russia

**JAPAN - JUNE 2010**

**1,718** additional deaths during heatwaves in Japan



**USA - JULY 2006**

**131** additional deaths during heatwaves in California

**INDIA/PAKISTAN - MAY 2015**

**3,729** additional deaths during heatwaves in India and Pakistan

**AUSTRALIA - JANUARY 2009**

**347** additional deaths during heatwaves in Australia



# CLIMATE CHANGE IS INCREASING **BUSHFIRE RISK** IN NEW SOUTH WALES

 BUSHFIRE SEASONS STARTING **EARLIER** LASTING **LONGER**

 **8/10** OF THE HOTTEST YEARS ON RECORD SINCE 2002

 **77** CIVILIAN **DEATHS** SINCE 1901

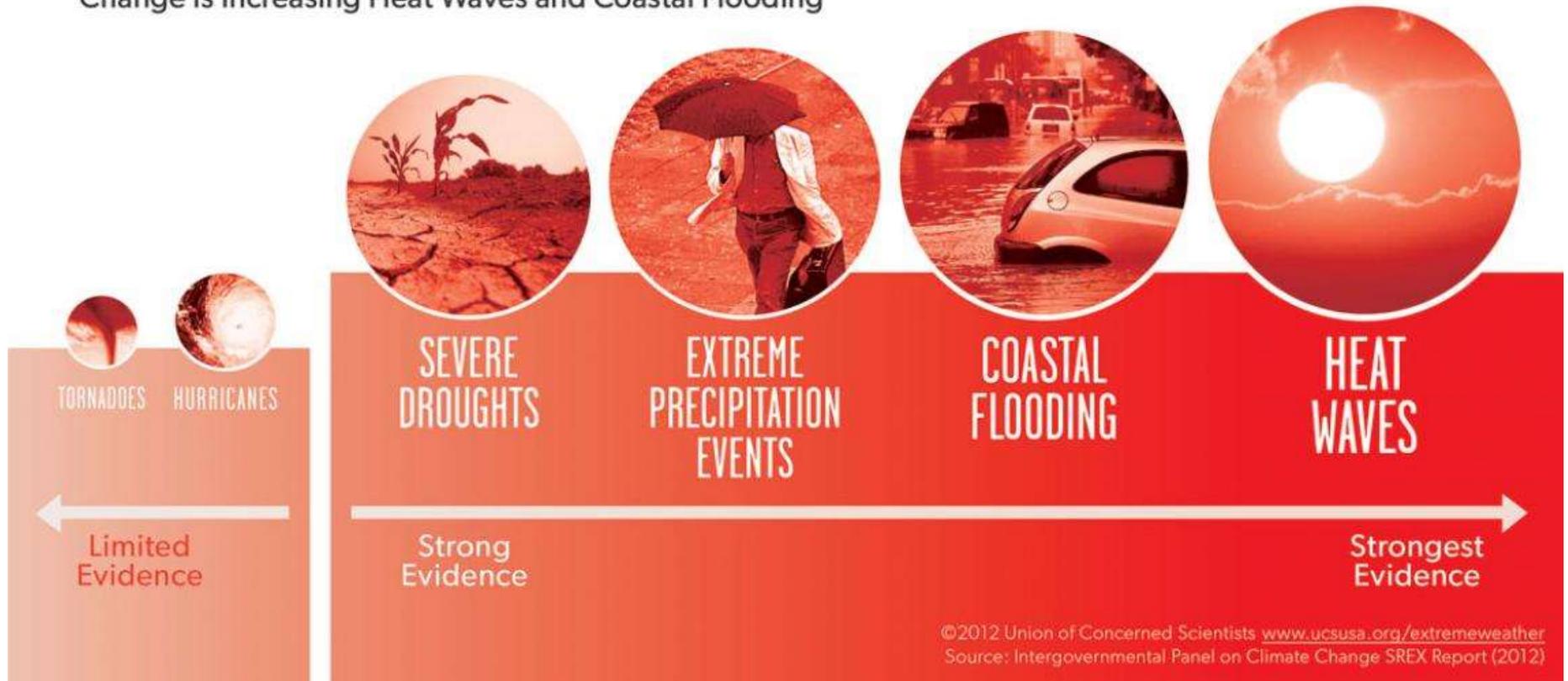
 **\$45 MILLION** IN BUSHFIRE COSTS ANNUALLY

 ECONOMIC COSTS SET TO **DOUBLE** BY 2050



# EXTREME WEATHER & CLIMATE CHANGE

→ Strongest Scientific Evidence Shows Human-Caused Climate Change Is Increasing Heat Waves and Coastal Flooding





**+41 MILLION**  
AFFECTED BY  
**FLOODS**  
IN SOUTH ASIA

United Nations Office  
for the Coordination of  
Humanitarian Affairs

AGRICULTURE  
ACCOUNTED FOR  
**≈ 26% OF**  
**DAMAGES AND LOSSES**  
ASSOCIATED WITH  
CLIMATE-RELATED  
DISASTERS

Food and Agriculture  
Organization of the  
United Nations

**≈ 30%**  
OF THE WORLD  
POPULATION FACE  
**EXTREME  
HEATWAVES**

World Health  
Organization

# Climate risks, extreme events and related impacts 2017

**2ND YEAR OF  
MAJOR  
BLEACHING  
IN THE GREAT  
BARRIER REEF**

EXCEPTIONALLY  
**HEAVY RAINS**  
TRIGGERED  
**DEADLY  
LANDSLIDES**  
IN SIERRA LEONE  
AND COLOMBIA

**MOST  
COSTLY  
HURRICANE  
SEASON  
ON RECORD**

**+892,000  
DROUGHT  
RELATED  
INTERNAL  
DISPLACEMENTS  
IN SOMALIA**

United Nations High  
Commissioner for Refugees

**DESTRUCTIVE  
WILDFIRES  
AROUND THE  
WORLD**

# PROTECTING OUR PLANET STARTS WITH YOU



**BIKE MORE  
DRIVE LESS**



**EDUCATE**

When you further your own education, you can help others understand the importance and value of our natural resources.

**Volunteer!**



Volunteer for cleanups in your community. You can get involved in protecting your watershed too!



**reduce  
REUSE  
recycle**

Cut down on what you throw away. Follow the three "R's" to conserve natural resources and landfill space.

**CONSERVE WATER**



The less water you use, the less runoff and wastewater that eventually end up in the ocean.

**choose sustainable**



**seafood**

Learn how to make smart seafood choices at [www.FishWatch.gov](http://www.FishWatch.gov).

Trees provide food and oxygen. They help save energy, clean the air, and help combat climate change.



**PLANT  
A TREE**



Buy less plastic and bring a reusable shopping bag.



**Don't send  
chemicals  
into our  
waterways.**

Choose nontoxic chemicals in the home and office.



**Long-lasting  
light bulbs  
- ARE A -  
BRIGHT  
IDEA**

Energy efficient light bulbs reduce greenhouse gas emissions. Also flip the light switch off when you leave the room!



# Older Australians and Climate Change

**Older Australians should be as concerned as young Australians about acting on climate change.**

‘Business as usual’ could result in many parts of Earth becoming uninhabitable for humans, with the planet at risk of entering an irreversible “hothouse” climate.

Professor Will Steffen, Australian National University

**And a reminder:**

**What will your great great grandchildren think when they ask:**

**“What did they do once they knew?”**