



Pan American Health Organization



Regional Office of the
World Health Organization

<http://www.paho.org>

Public Health Adaptation Priorities For The Americas

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- **Introduction**
- **Global Environmental Change and Human Health**
- **Health Adaptation**
- **Conclusions**



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Cette présentation a été effectuée le 24 octobre 2006, au cours du symposium "Saurons-nous conjuguer santé et changements climatiques?" dans le cadre des Journées annuelles de santé publique (JASP) 2006. L'ensemble des présentations est disponible sur le site Web des JASP, à l'adresse <http://www.inspq.qc.ca/jasp>.

Weather, An Ancient Human Health Exposure

“Whoever wishes to investigate medicine properly, should proceed thus: in the first place to consider the seasons of the year, and what effects each of them produces for they are not at all alike, but differ much from themselves in regard to their changes. Then the winds, the hot and the cold, especially such as are common to all countries, and then such as are peculiar to each locality”

On Airs, Waters and Places. Hippocrates (Circa 400 B.C)



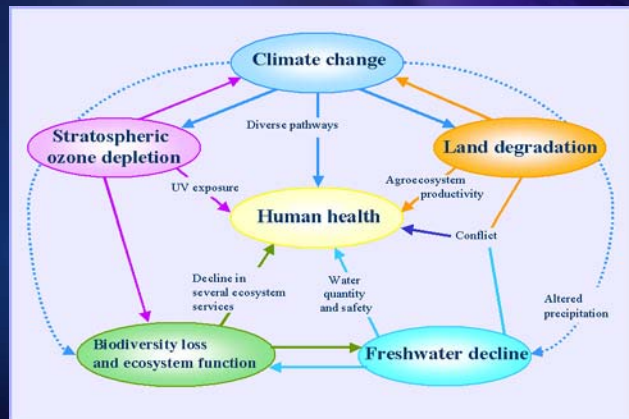
Hurricane Georges, Dominican Republic, 1998

Hurricane Mitch, 2000

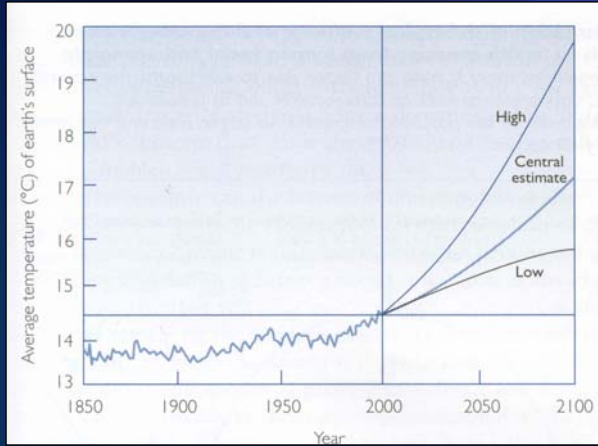


Global environmental change and health

The scale of environmental health problems has expanded from household (e.g. indoor air pollution), to neighbourhood (e.g., domestic wastes) to city (e.g. urban air pollution) to region (e.g. transboundary contamination), to global level.



Achieving Consensus On Climate Change Effects



In its 3rd Assessment Report the IPCC concluded that *“Overall, climate change is projected to increase threats to human health, particularly in the lower income populations, predominantly within tropical/ subtropical countries”*.



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Potential Impacts on Human Health

Most expected impacts will be adverse but some will be beneficial. Generally not novel processes expected but rather, changes in frequency or severity of various familiar health risks, for example:

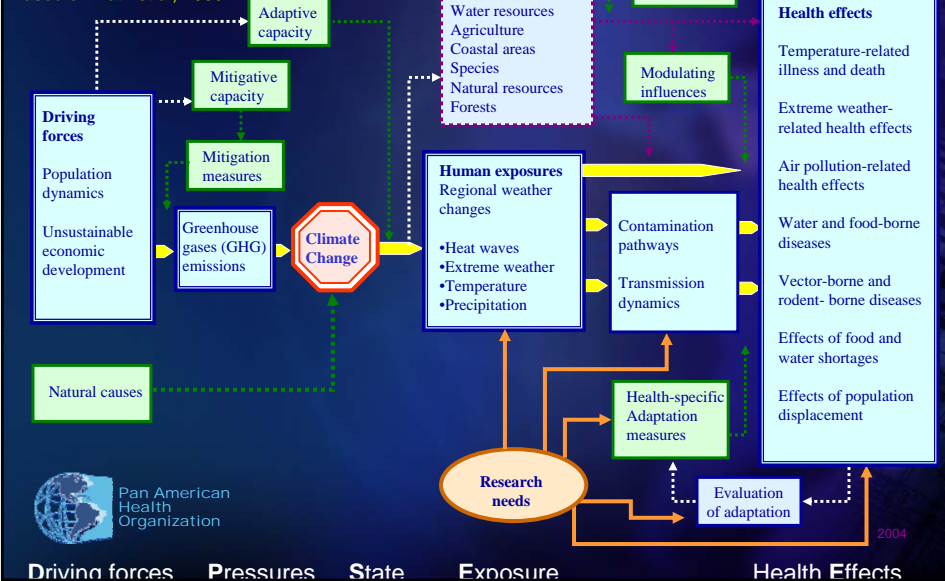
- floods, storms, cyclones and fires
- heat waves and air pollution (stagnant weather conditions)
- change in the range and seasonality of infectious diseases
- change in agricultural productivity
- the health consequences of altered freshwater supplies
- the consequences of population displacement



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Pathways By Which Climate Change Affects Health

Based on Patz et al, 2000

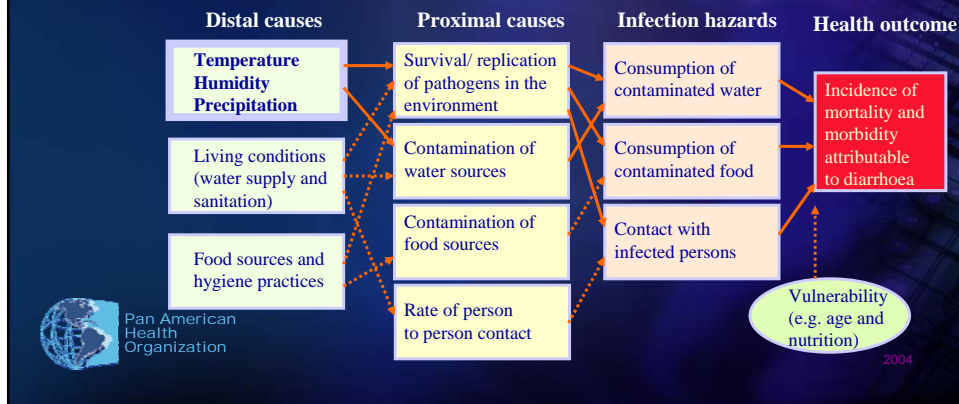


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Does Climate Have An Impact On Health?

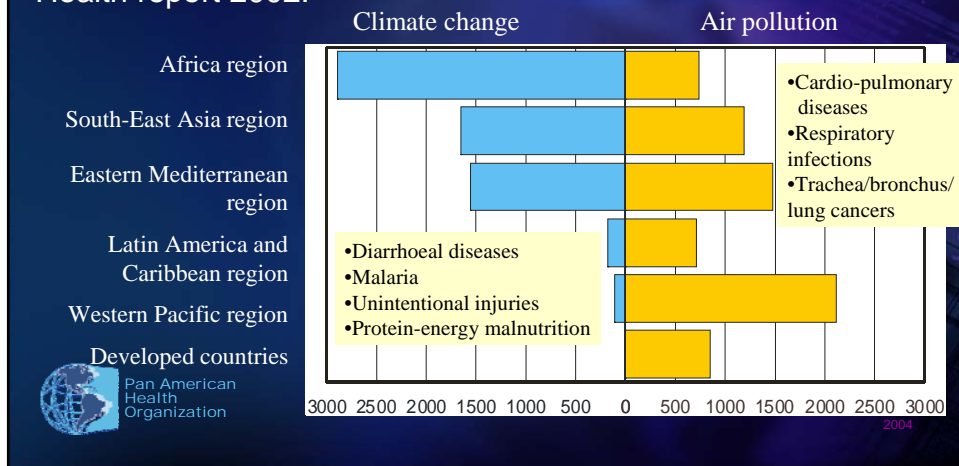
Infectious diseases:

Changes in infectious disease transmission patterns are a likely major consequence of climate change. The prediction of future impacts remains a challenge because of the highly complex causal relationships.



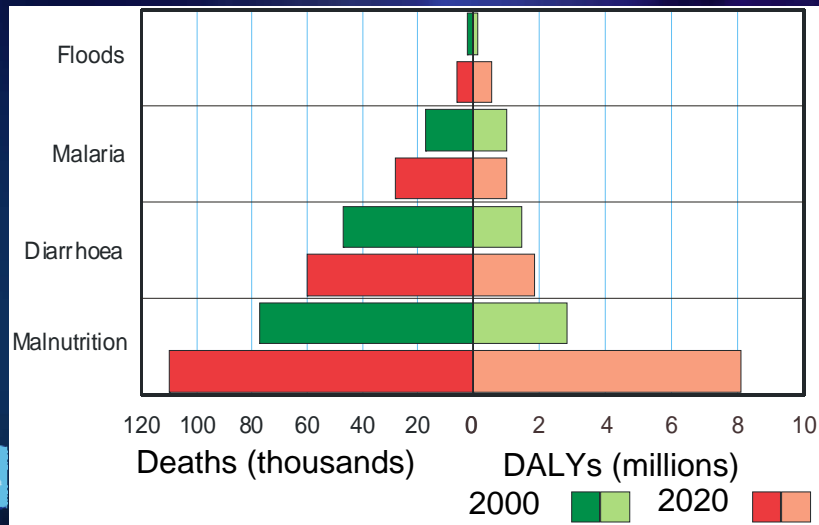
Does Climate Change Have A Large Impact On Health?

Burden of disease by region: Climate change and urban air pollution. Disability Adjusted Life Year per million. World Health report 2002.

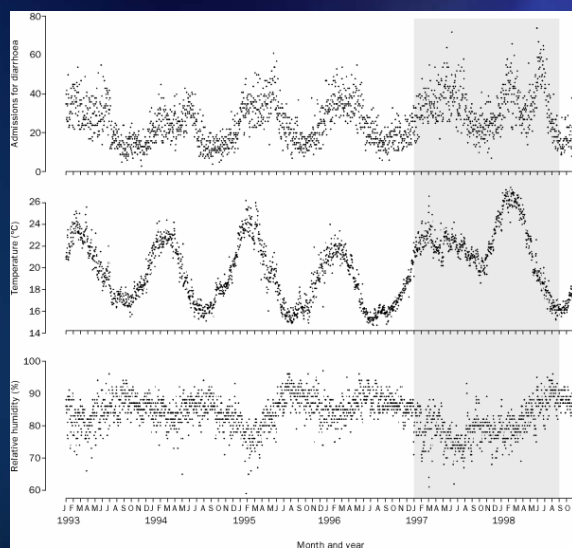


Estimated Death And DALYs Attributable To Climate Change.

Selected Conditions In Developing Countries



Does Climate Have A Measurable Impact On Health?



Diarrhoea increases by 8% for each 1 degree centigrade increase in temperature

(Checkley et al., Lancet, 2000)

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Does Climate Change Have A Measurable Impact On Health?

If 5% increase in diarrhoeal disease for each 1° C temperature increase in countries with GDP < \$6000

And Temperature in 2000 has changed as compared to the average in 1961-1990

Then 2.4% of world-wide diarrhoea in 2000 are attributed to measured changes (increase) in temperature



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(World Health Report 2002)

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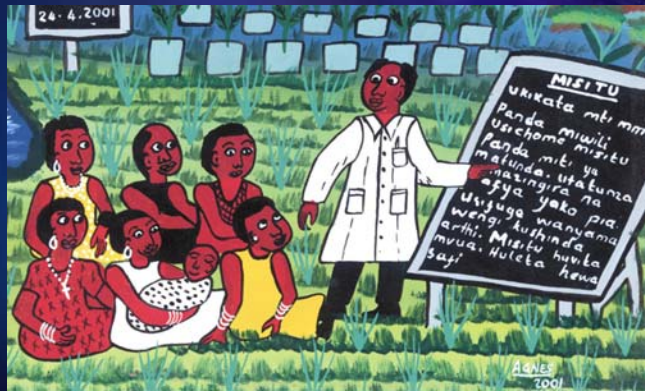
Principles For Health Sector Adaptation

Should be 'demand-driven' by health sector practitioners

- Interventions need to address today's problems as well
- Climate change is an additional argument for public health
- Climate change will eventually make their job harder



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Developing Responses In The Health Sector

Assessments of vulnerability and adaptation options

- Cost-effective (no-regrets) public health interventions
- Implementation of preventative actions and adaptation strategies
- Communication and public awareness

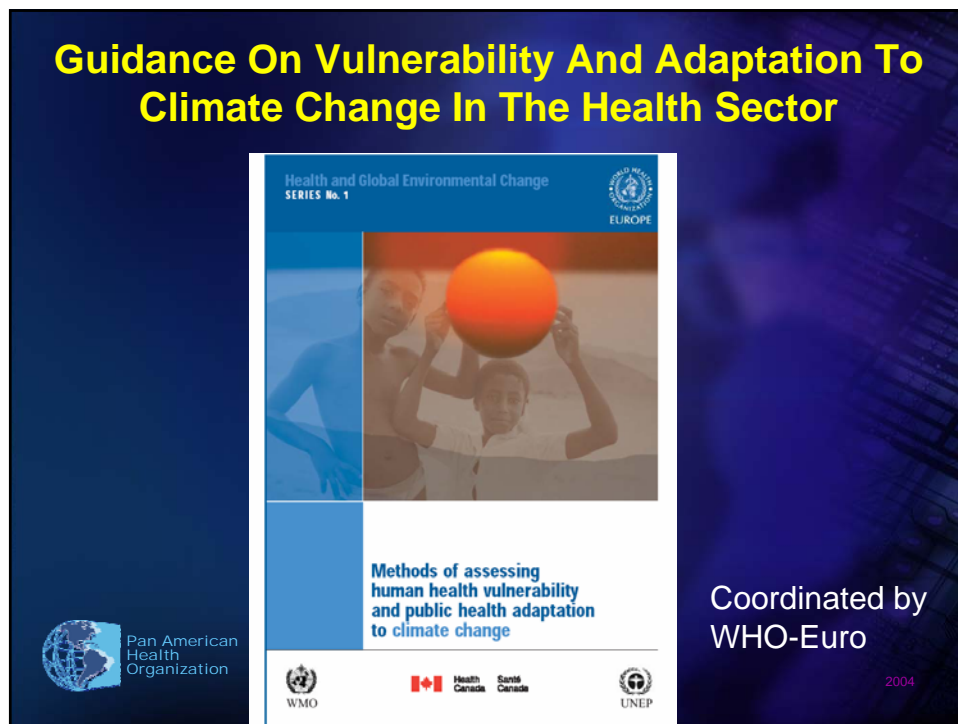
"All scientific work is incomplete - whether it be observational or experimental. All scientific work is liable to be upset or modified by advancing knowledge. This does not confer upon us a freedom to ignore the knowledge that we already have, or to postpone the action that appears to demand at a given time"



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Hill, A.B. The environment and disease: association or causation?
Proceedings of the Royal Society of Medicine 58: 295-300 (1965).
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Guidance On Vulnerability And Adaptation To Climate Change In The Health Sector



Adaptation Options

Some new measures will be necessary:

- Heatwave warning systems
- More flexible surveillance and response measures

Most will be 'win-win' deals: Climate change strengthens case for:

- Better access to clean water and sanitation
- Better infectious disease control
- Greater and more equitable wealth in developing countries

Adaptation is no substitute for mitigation:

- We can't adapt to everything
- Delay on mitigation increases costs and difficulty of adaptation

Vulnerabilities of the Americas

- Increase in frequency and severity of hurricanes and tropical storms
- Increases in infectious diseases
- Expanded area of vector borne diseases
- Sea-level rise
- Decrease in fresh water supply
- Decrease in nutrition



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Public Health Adaptation options for the Americas

- Cost-effective (no-regrets) public health interventions
 - These must encompass interventions for today's problems as well as the perceived changes. These must focus on national priorities.
- Implementation of preventative actions and adaptation strategies
 - We must mitigate as well as implement adaptation measures.
- Communication and public awareness
 - This is key to the success of the above.



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Recommended Actions for the Americas

- Map national vulnerabilities
- Cut greenhouse gas emissions
- Support community-based coping strategies and disaster risk reduction
- Support small-scale agriculture
- Conserve biodiversity and stop deforestation and illegal logging
- Develop and implement clean and efficient energy
- Sustainable urban development



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Up in Smoke? Latin America and the Caribbean. 3rd report
from the working group on climate change and development

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Conclusions

- Climate affects health in diverse ways
- Climate change must inevitably affect health
- Overall, these effects are likely to be negative, potentially large, and concentrated on vulnerable groups in poor countries
- In the short term, strengthening public health systems and specific adaptation to weather conditions can ameliorate these impacts
- Adaptation needs to address current health problems
- In the long term, public health can only be protected by development paths that increase health and wealth of poor populations, without placing undue strain on climate and other natural systems



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