Protecting health in Europe from climate change

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This presentation is done completely independently from the event organizer. I have no conflict of interest to declare with the topic presented.
Who is WHO?

- Since 7 April 1948
- 7000 people working in 150 country offices
- 6 regional offices and headquarter in Geneva

Main areas of work:
- Health systems
- Promoting health through the life-course
- Noncommunicable diseases
- Communicable diseases
- Preparedness, surveillance and response.

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

WHO Constitution
WHO European Centre for Environment and Health
Platz der Vereinten Nationen 1
D-53113 Bonn, Germany

- Centre of technical and scientific excellence on environmental and work-related impacts on health.
- Provide Member States with state-of-the-art evidence on existing and emerging environmental health risks.
- Develop policy advice and international guidelines, methods and tools to inform and support decision-making.
- Assist Member States in identifying and implementing policies to protect and promote health.
The global environmental burden of diseases

ENVIROMENTAL IMPACTS ON HEALTH
WHAT IS THE BIG PICTURE?

FACT:
23%
of all global deaths are linked to the environment.
That's roughly 12.6 million deaths a year.

WHERE IS IT HAPPENING?

3.8 million
in South-East Asia Region

3.5 million
in Western Pacific Region

2.2 million
in Europe Region

1.4 million
in Eastern Mediterranean Region

Climate change is everybody's business
Climate change: definition

A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

Global Temperature is Rising

- Temperature has increased by over 0.8°C since 1880.
- Each of the last three decades has been successively warmer at the Earth’s surface than any preceding decade since 1850.

Global surface temperature change for the end of the 21st century:

- is likely to exceed 1.5°C relative to 1850 to 1900 for almost all RCP scenarios

Climate change affects health

<table>
<thead>
<tr>
<th>What is familiar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health is sensitive to shifts in weather patterns and other aspects of climate change</td>
</tr>
<tr>
<td>Climate change is already adding to the burden of disease and illness, world-wide</td>
</tr>
<tr>
<td>Most vulnerable are those whose health is most affected by the present day climate</td>
</tr>
<tr>
<td>Largest risks: under-nutrition, extreme weather events and infectious disease</td>
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</tbody>
</table>
What we know?
Number of deaths per million due to extreme weather events by European subareas (1991-2015)

<table>
<thead>
<tr>
<th></th>
<th>Flood and wet mass movement (^{(a)})</th>
<th>Cold event</th>
<th>Heat wave</th>
<th>Storm</th>
<th>Wildfire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Europe</td>
<td>3.55</td>
<td>29.02</td>
<td>11.69</td>
<td>1.82</td>
<td>0.56</td>
</tr>
<tr>
<td>Northern Europe</td>
<td>1.11</td>
<td>1.62</td>
<td>10.85</td>
<td>4.30</td>
<td>0.01</td>
</tr>
<tr>
<td>Southern Europe</td>
<td>10.50</td>
<td>1.50</td>
<td>177.52</td>
<td>1.78</td>
<td>1.30</td>
</tr>
<tr>
<td>Western Europe</td>
<td>2.80</td>
<td>0.87</td>
<td>187.68</td>
<td>3.81</td>
<td>0.17</td>
</tr>
<tr>
<td>Total</td>
<td>17.96</td>
<td>33.01</td>
<td>387.74</td>
<td>11.71</td>
<td>2.03</td>
</tr>
</tbody>
</table>

(a) including landslides

Note: Numbers are per 1000,000 people.
Heatwave: August 2003

70,000 excess deaths in 12 European countries over three months


Russia 2010:
1 month heat wave and fires approx 11,000 excess deaths

Cold weather can have significant health effects

Every winter there are over 200,000 excess deaths across Europe and the increase in mortality is greater in the warmer Mediterranean area than in colder northern and central European countries. Although climate change is expected to result in a certain degree of warming, cold weather and cold wave events will still occur.

Flooding is the most common natural disaster in the European Region. Estimates for the WHO European Region based on data from EM-DAT indicate that floods have killed more than 6500 people, affected 10 million others, and caused billions in losses in the period 1991–2015.
Water scarcity and drought events

Examples of vector-borne diseases in the WHO European Region

Mosquito-borne
- Dengue fever
- Chikungunya
- Malaria
- West Nile fever (WNF)

Sandfly-borne
- Leishmaniasis

Tick-borne
- Lyme disease
- Tick-borne encephalitis (TBE)
- Crimean–Congo haemorrhagic

- 77 000 Europeans on average fall sick from vector-borne diseases every year.
- Mosquito species, such as *Aedes aegypti*, are re-emerging, and *Ae. albopictus* is emerging.
What can be expected?
High level of diversity

- Arctic/Subarctic and Polar:
  - projected increases in temperatures and heavy precipitation;
  - permafrost reduction, retreat of glaciers, increase of lakes;
  - risk of injury and illness due to these extreme changes;
  - food insecurity;
  - impacts on livelihoods of indigenous people.

- Northern and Western Europe:
  - observed and projected hot days increase;
  - observed and projected increase in precipitation;
  - projected increase in dryness and short term droughts;
  - shift from cold to heat related mortality in England and Wales;
  - river and coastal flooding;
  - extension of seasonal activity of pests and plant diseases;
  - northern expansion of tick disease vectors from south.

- Southern Europe and Mediterranean:
  - most sensitive to hot weather and highest heat wave exposure;
  - increased heat wave mortality and morbidity;
  - increase food born disease;
  - increase in dryness and desertification;
  - reductions in food production;
  - increase in forest fires;
  - changes in distribution of water borne and vector borne diseases.

- Central Asia:
  - projected increase in hot days;
  - increased mean temperature;
  - spatially varying trends for precipitation and dryness;
  - increases in food production in north eastern Kazakhstan;
  - reductions in food production in Turkmenistan and Uzbekistan;
  - adequate water supply is major challenge and could be exacerbated by temperature increases.

- Central and Eastern Europe:
  - hot day increases projected for east central but not currently observed;
  - projected increase in winter precipitation and decrease in summer precipitation;
  - projected increase in dryness and short term droughts;
  - increase in forest fires and air pollution;
  - northern expansion of tick disease vectors from south.

The boundaries and names shown on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.
• No good news.....

• Under a high emissions scenario (RCP8.5), very extreme heat waves as strong as those or even stronger are projected to occur at least every three years in the second half of the 21st century.

The major increases in ill-health in the European Region will occur through

• Expected further impacts of extreme weather events on health
• Disruption and stress for health services
• Changing distributions of infectious diseases
• Changes in air quality, food and water quality and security
• Consequences for health of lost work capacity and reduced labor productivity
Within a changing climate, a health system should

- Recognize, monitor, anticipate, communicate, and prepare for changing climate related health risks, drawing upon and using the full spectrum of available knowledge and resources
- Prevent, respond to, manage, and cope with uncertainty, adversity, and stress
- Innovatively adjust and adapt operations to changing risk conditions
- Recover from crisis and setbacks with minimal outside support
- Learn from experience and improve system capacity for future
- Lead sustainability
Two Broad Responses Adopted by the UNFCCC

Mitigation

Actions taken to cut net emissions of greenhouse gases to reduce climate change and to preserve and enhance GHG sinks and reservoirs

Adaptation

Actions taken to help cope with changing climate conditions and impacts

Source: UN CC Learn: Section 1: The International Climate Change Policy Framework
The Paris agreement as a public health treaty

- Sets ambitious limits to warming - Less than 2°C, aim for 1.5°C
- Obliges countries to make "Nationally Determined Contributions" to reduce carbon emissions and to increase resilience
- Commits to mobilizing US$100 billion/year in climate financing

SDG 13 underlines that the task is being advanced under the UNFCCC in order to minimize the duplication of efforts and optimize finite resources.
Climate change and health in the European Ministerial Environment and Health Process

- 1989: Climate change recognized
- 1999: Early human health effects
- 2004: Extreme weather events and renewable energy
- 2010: • Parma Commitment to Act  
  • Regional Framework for Action
- 2017: Climate change and health as one of propriety areas

Frankfurt Charter On Environment and Health

London Declaration
Budapest Declaration
Parma Declaration
Ostrava Declaration

World Health Organization
Organisation mondiale de la Santé
Weltgesundheitsorganisation
Всемирная организация здравоохранения
Ostrava Public Health Priorities:

- Improve air quality for all;
- Ensure access to safe drinking-water, sanitation and hygiene for all;
- Minimize the adverse effects of chemicals;
- Prevent and eliminate the adverse effects of waste management and contaminated sites;
- Strengthening adaptation to and mitigation of climate change;
- Support cities and regions to become healthier;
- Build the environmental sustainability of health systems.
Health and well-being are an outcome, a determinant and an enabler of the Goals.

......progress on all of these aspects of sustainable development will be undermined if the world is not successful in SDG 13, on ‘Climate Action’.
WHO/ECEH supports European countries

- Elaboration and communication of scientific evidence, risks and how to reduce climate health risks;
- Awareness raising and education;
- Building institutional and workforce capacity;
- A public health approach to adaptation and mitigation;
- Mainstreaming health in other policies

**WHO mandate:**
- Resolution on Climate change and Health: WHA 61.19 in 2008
- Health 2020: the European policy for health and well-being
- Environment and Health Processes.... WHO Resolution EUR/RC67/R4
Merci beaucoup pour votre attention