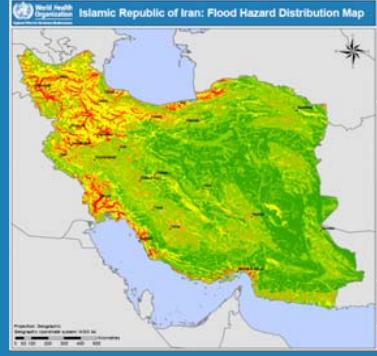
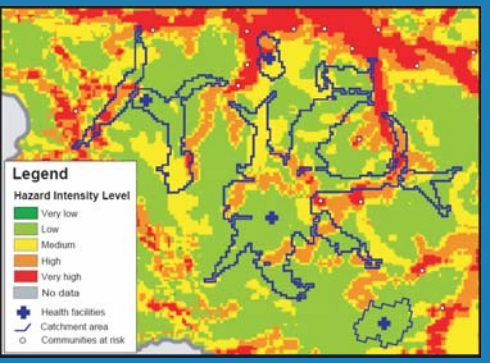




WHO operational procedures and needs in terms of hydro-meteorological information

Dr Giuseppe Annunziata
Dr Steeve Ebener
Dr Diarmid Campbell-Lendrum

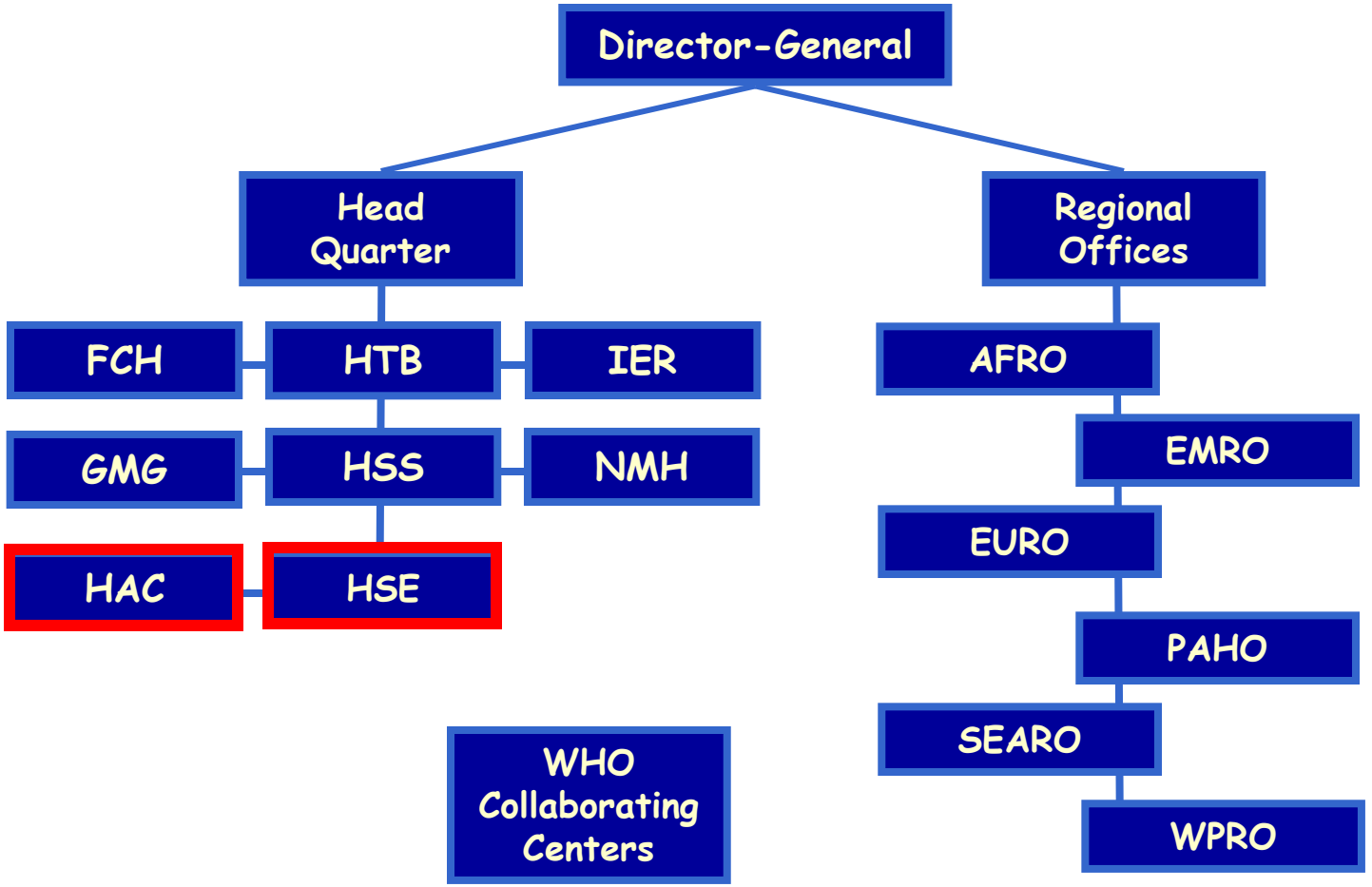
Working-Level Brainstorming Session on Meteorological Services to Support Humanitarian Planning and Response; WMO HQ, 17 April 2009

World Health Organization

Outline of the presentation

- **WHO's structure**
- **Example of procedures/activities and needs**
  - **WHO e-atlas of disaster risk and Vulnerability and Risk Analysis & Mapping (VRAM)**
  - **Elements of the HAC contingency planning and HAC Alert system**
  - **Health protection from climate change (HSE)**
- **Conclusion**

WHO's structure



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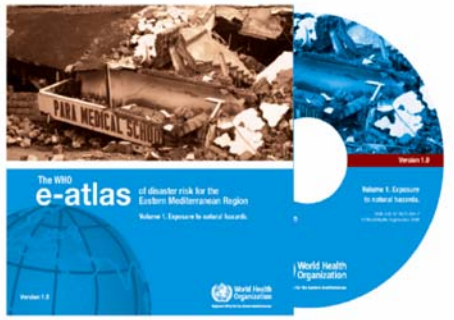
The first volume of the WHO e-atlas of Disaster Risk



Spatial distribution of five natural hazards:

- **Earthquakes**
- **Floods,**
- **Heat,**
- **Wind speed**
- **Landslides**
- **Heat Wave** (NEW)

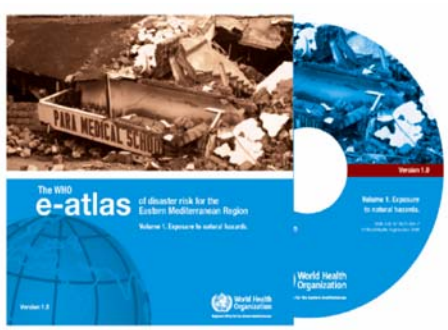
Based on meteorological data covering the 1994-2005 period

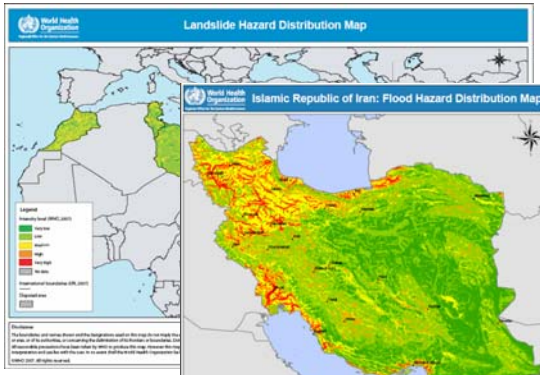
Plan to add other hazards to the list including drought and health specific hazards

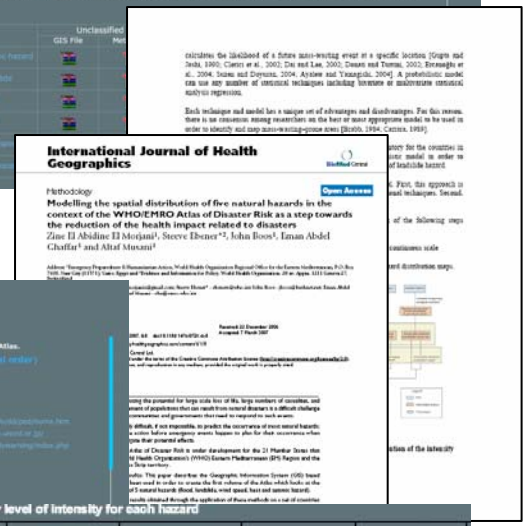
Hydro-meteorological dimension

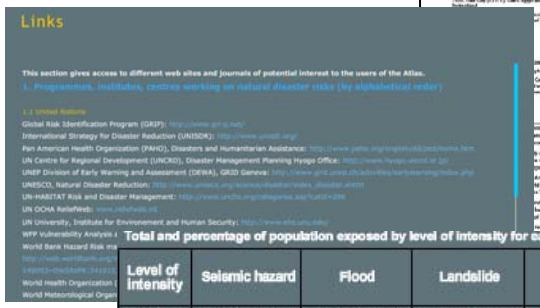
http://www.emro.who.int/eha/e-atlas.htm

The first volume of the WHO e-atlas of Disaster Risk









Risk : Hazard x Vulnerability / Capacity

Vulnerability and Risk Analysis & Mapping platform (VRAM)

Total and percentage of population exposed by level of intensity for each hazard

Level of intensity	Seismic hazard	Flood	Landslide	Wind speed 2 year return period	Wind speed 5 year return period	Wind speed 10 year return period
Very low	58,754,073 (11%)	82,454,233 (15%)	21,901,337 (4%)	1,303,573 (<1%)	44,824 (<1%)	3,095 (<1%)
Low	99,483,154 (18%)	167,829,117 (31%)	195,018,907 (36%)	522,248,012 (96%)	343,747,929 (63%)	142,594,875 (26%)
Medium	265,329,863 (49%)	161,208,243 (30%)	288,620,685 (53%)	17,628,129 (3%)	197,137,802 (36%)	395,401,386 (73%)
High	93,355,962 (17%)	94,892,245 (17%)	33,497,327 (6%)	101 (<1%)	249,457 (<1%)	3,179,758 (<1%)
Very high	22,102,095 (4%)	30,781,775 (6%)	221,062 (<1%)	0 (0%)	0 (0%)	718 (<1%)
No data	2,678,313 (<1%)	4,737,846 (<1%)	4,444,124 (<1%)	523,643 (<1%)	523,643 (<1%)	523,643 (<1%)

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What is the VRAM ?

A resource for:

- WHO to conduct its operation in countries (baseline data)
- WHO Member States to develop their capacity to assess and analyse health risks (mortality, morbidity and disability) and incorporate the results in emergency preparedness and response planning

A technical unit with expertise in:

- Technical capacity assessment
- Data collection and cleaning including GPS
- Statistical analysis
- GIS, mapping and spatial analysis

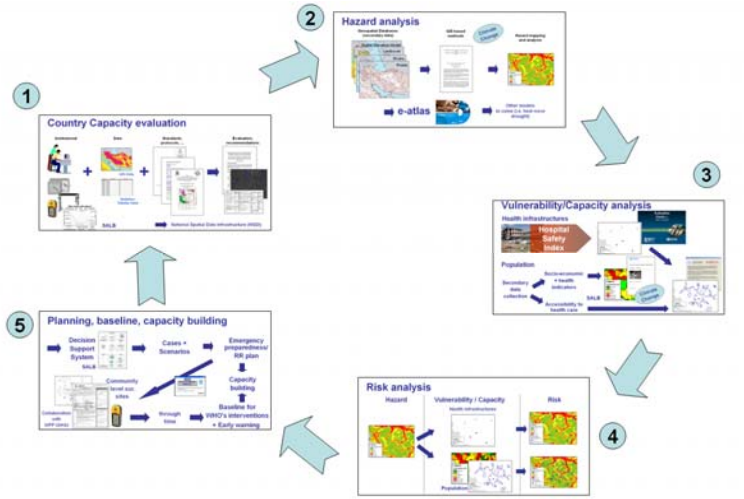
What is the VRAM ?

A slowly growing network to:

- Expand the technical capacity of the VRAM unit
- Leverage already existing work
- Conduct new research
- Be closer to countries

A process to:

- evaluate technical capacities in countries
- conduct a systemic vulnerability and risk analysis
- support the development of national and local capacities



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Current and planned activities (e-atlas, VRAM)

In countries:

- Africa: Ghana, Ethiopia, Eritrea, Nigeria
- Americas: Mexico

  + Potential others to come: Yemen, Zambia,...

Development of methods/protocols/tools

- tool to support sampling
- community level questionnaire to support population vulnerability surveillance
- drought hazard distribution model
- Revision of volume 1 of the e-atlas and its application over other WHO Regions

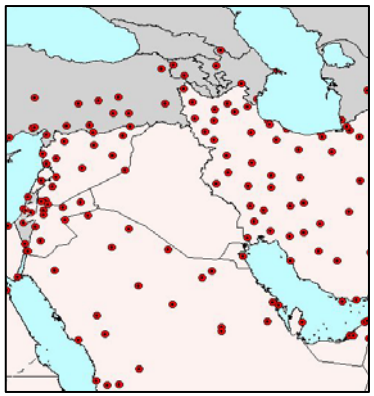
Current source of data and needs (e-atlas, VRAM)

Source of hydro-meteorological data:

- Global Surface Summary of the Day Data produced by the National Climatic Data Center (NCDC)

Needs:

- Other source of climatic data to fill the gaps
- Expertise to collaborate on the creation/review of hazard distribution models, for example:
  - drought, heat waves
  - plume modeling (fires, chemicals, radiological and biological materials)
- Connection with the National Meteorological and Hydrological Services (+ MOH part of early warning)



Contingency planning for humanitarian emergencies

- A management tool used to ensure that adequate arrangements are made in anticipation of a crisis. This is achieved primarily through engagement in a planning process leading to a plan of action, together with follow-up actions. (OCHA)

Humanitarian crises contingency planning : the process

- Risk and vulnerability assessment that includes identifying and prioritizing potential public health threats that may occur locally or regionally.
- Analysis of humanitarian impact.
- Define appropriate plans and clear goals.
- Identify the processes and resources for achieving goals.

Humanitarian crises contingency planning : key features & challenges

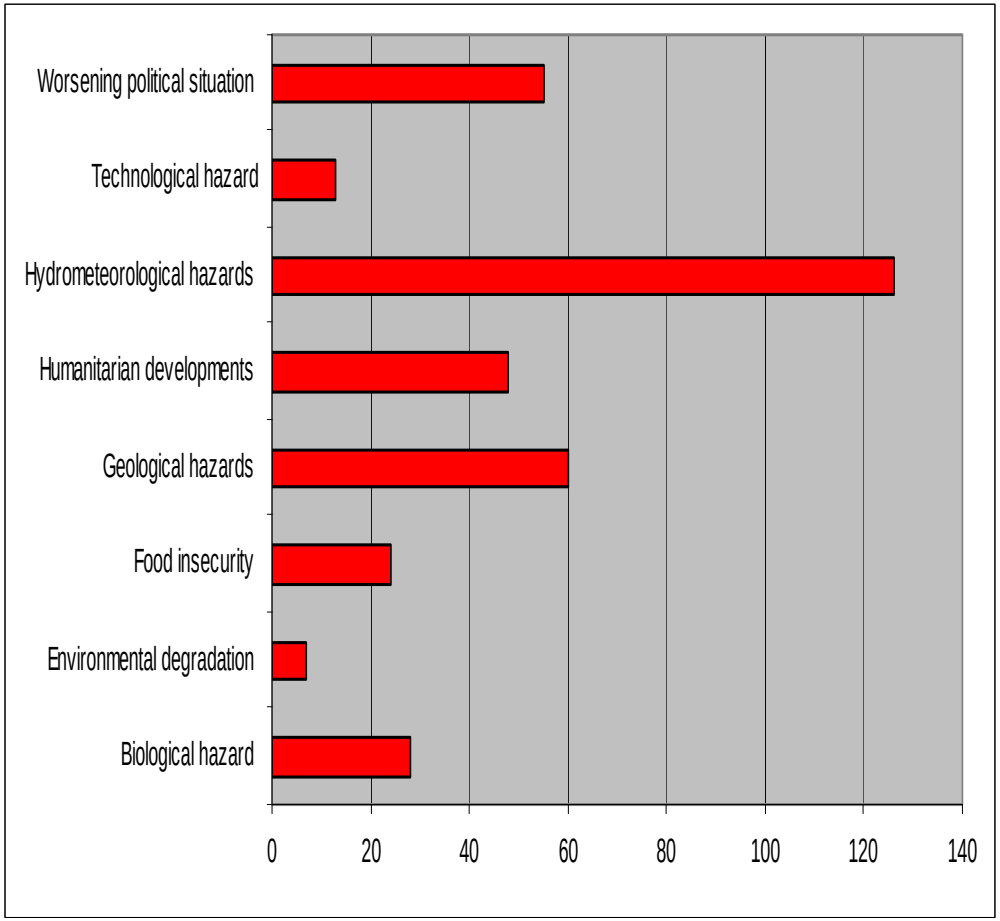
- Field driven
- Participatory
- Periodically updated as conditions change
- Drive actions

Humanitarian crises early warning: the HAC Alert Database

- **An internet-based system gathering, on real-time basis, reports, news, maps and relevant correspondence on events that may evolve into a humanitarian public health crisis requesting WHO/HAC intervention**

The HAC Alert Database: the purpose

- **Provide a common information platform**
- **Contribute to increasing HAC readiness to crises**
- **Prompt coordinated action**
- **Support global analysis, statistics and research**



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The HAC Alert Database: key features & challenges

- **Centralized**
- **Prompting field feedback**
- **Promoting standard categories**
- **Triggering actions**

Contingency planning and early warning in Humanitarian Health Action: needs

- Predictable and timely weather forecast
- Standard classification and categorization of meteorological hazards
- Global overview and local details
- Follow up and trends

Strategic Relevance to Health Protection from Climate Change

- UN Secretary-General now emphasises the "human face" of climate change.
- Identified by WHO DG as a top priority, selected as theme for World Health Day 2008.
- Climate and health linked in World Met. Day 2009.

Countries are requesting action:

193 Nations agree on actions to protect health from climate change

Climate change and health

The Sixty-first World Health Assembly,

Having considered the report on climate change and health;[1]

Recalling resolution WHA51.29 on the protection of human health from risks related to climate change and stratospheric ozone depletion and acknowledging and welcoming the work carried out so far by WHO in pursuit of it;

Recognizing that, in the interim, the scientific evidence of the effect of the increase in atmospheric greenhouse gases, and of the potential consequences for human health, has considerably improved;

Noting with concern the recent findings of the Intergovernmental Panel on Climate Change that the effects of temperature increases on some aspects of human health are already being observed; that the net global effect of projected climate change on human health is expected to be negative, especially in developing countries, small island developing States and vulnerable local communities which have the least capacity to prepare for and adapt to such change, and that exposure to projected climate change could affect the health status of millions of people, through increases in malnutrition, in death, disease and injury due to extreme weather events, in the burden of diarrhoeal disease, in the frequency of cardiorespiratory diseases, and through altered distribution of some infectious disease vectors;

Noting further that climate change could jeopardize achievement of the Millennium Development Goals, including the health-related Goals, and undermine the efforts of the Secretariat and Member States to improve public health and reduce health inequalities globally;

Recognizing the importance of addressing in a timely fashion the health impacts resulting from climate change due to the cumulative effects of emissions of greenhouse gases, and further recognizing that solutions to the health impacts of climate change should be seen as a joint responsibility of all States and that developed countries should assist developing countries in this regard;

Recognizing the need to assist Member States in assessing the implications of climate change for health and health systems in their country, in identifying appropriate and comprehensive strategies and measures for addressing these implications, in building capacity in the health sector to do so and

Objectives of WHO workplan
I. Awareness raising

Making clear that the ultimate justification for action on climate and the environment is **to improve human wellbeing**

Informing policy makers and the public on practical actions to protect populations from weather related hazards, and to reduce climate change

WHO SEARO. © Shehzad Noorani/Still Pictures

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II: Generating evidence

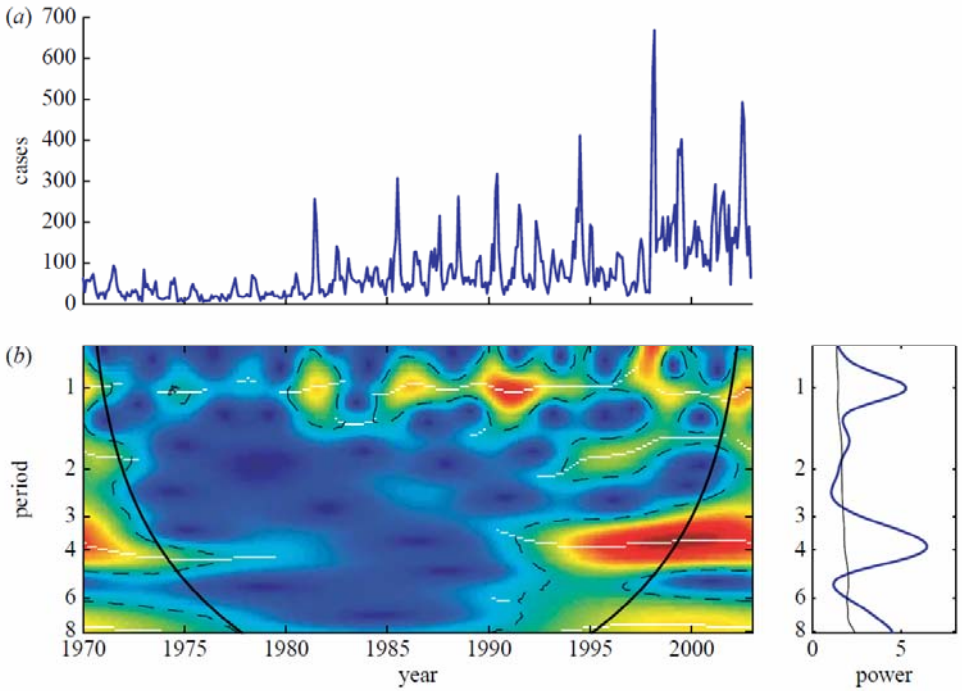
Assessing the health **risks** from climate change

Identifying effective **interventions**

Measuring health- effects of decisions in **other sectors**

Supporting improved **decision-making**

Evaluating the necessary **resources**



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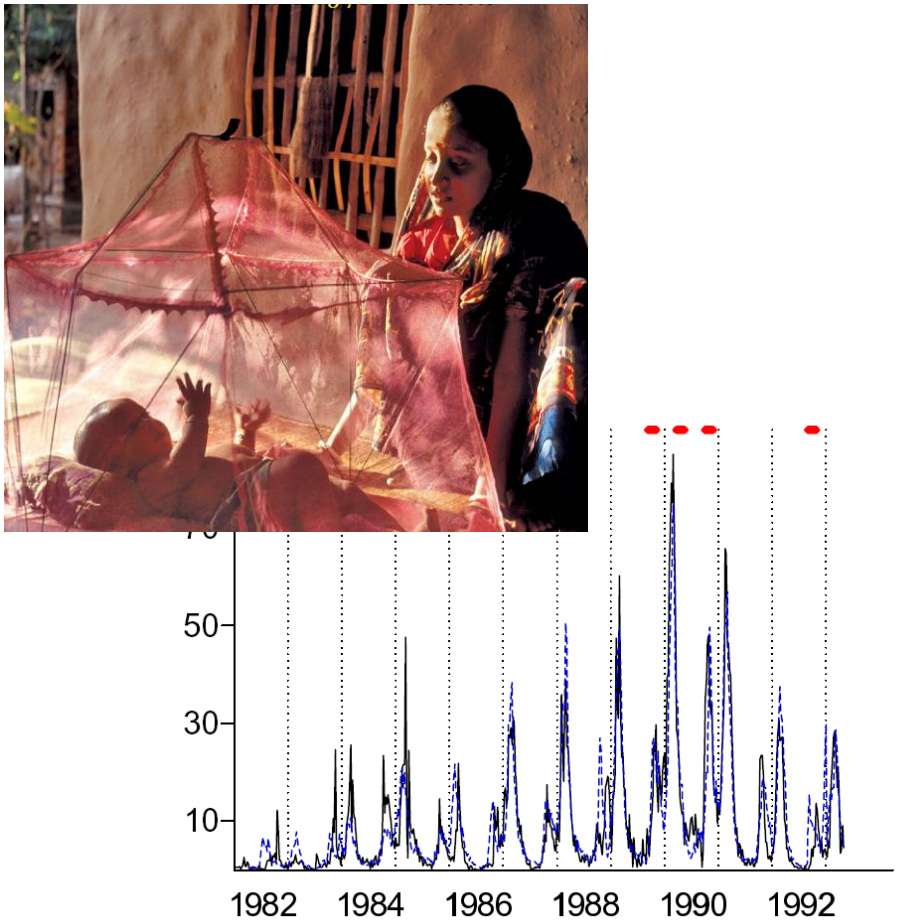
III: Strengthening health systems

Strengthening public health systems to cope with additional threats posed by climate change

From basic health interventions to climate-based early warnings for extreme-weather events and infectious disease outbreaks



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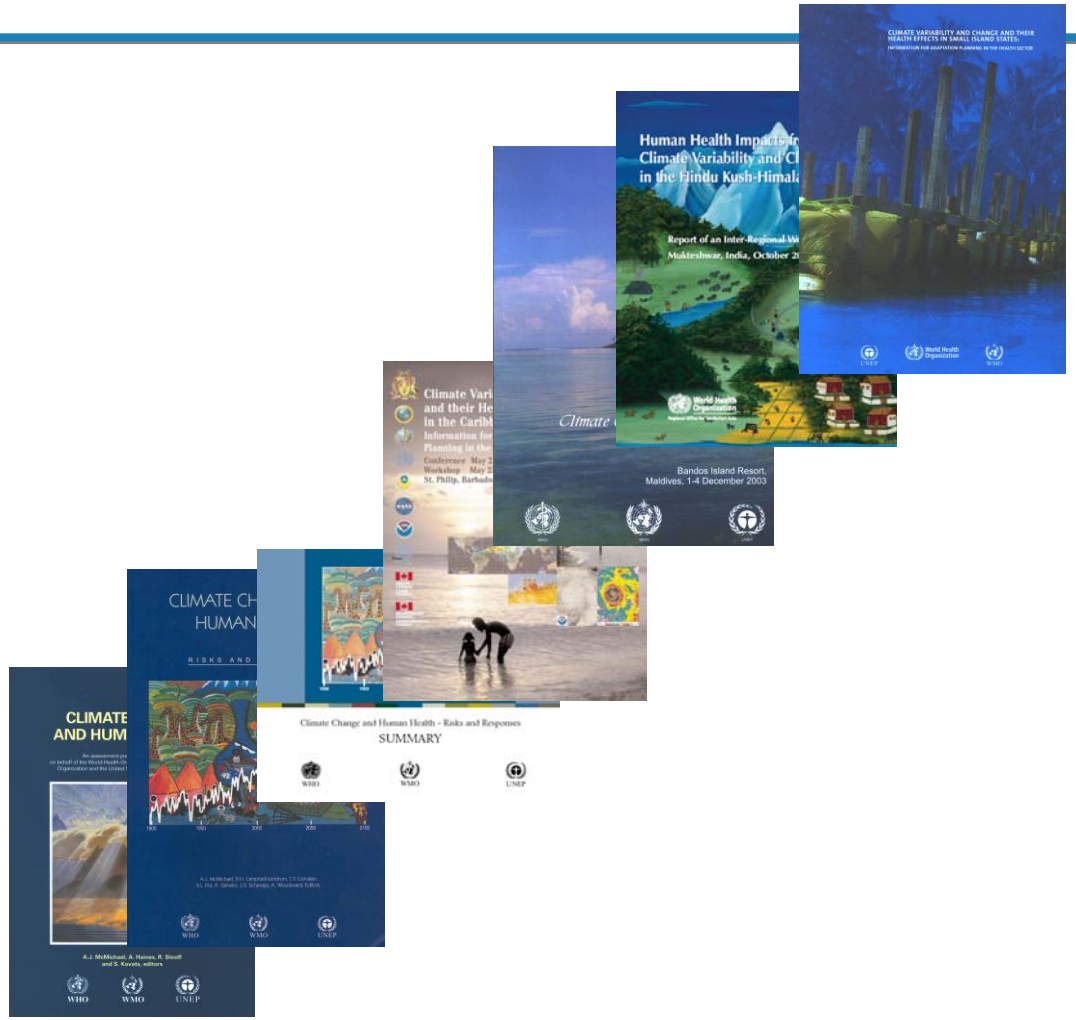
IV: Building partnerships

WHO and WMO have collaborated on reports, capacity building and application projects for many years

This provides a basis for **sustained and streamlined collaboration** to define, supply and resource appropriate met. services for health needs



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Conclusion

- **Presented here only 3 examples of procedures/activities which have specific needs in terms of hydro-meteorological information**
- **Collaboration between WHO and WMO is already taking place but this could certainly be expanded and this at different levels (national, regional and global)**

Thanks for your attention

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