

IPCC brings first volume of new climate change assessment

The Intergovernmental Panel on Climate Change (IPCC) in February released the first volume of its fourth assessment report. The report will in four volumes present a comprehensive and rigorous picture of the global state of knowledge on climate change. The part now released discusses the physical science basis of climate change. It underlines key concerns of the Red Cross and Red Crescent Movement.

For first, there is no doubt climate change is here. The report states that 'warming of the climate system is now unequivocal'. Besides changes in global temperature, there have been numerous other widespread changes: in rain, snow and wind patterns and the occurrence of extreme weather. More intense and longer droughts have been observed over wider areas since the 1970s, particularly in the (sub)tropics. The frequency of heavy rain and snowfall events has increased over most land areas, and heat waves are occurring more often. Intense tropical cyclone activity in the North Atlantic has increased, and there are suggestions of such increase also in other regions. Some things have not changed. There is no clear trend in the annual number of tropical cyclones, and no changes have been observed in the frequency or intensity of hail and dust storms, tornados and lightning.

The report is outspoken on whether the observed changes are due to the burning of fossil fuels: 'Most of the observed increase in globally averaged temperatures since the mid 20th century is *very likely* due to the observed increase in anthropogenic greenhouse gas concentrations.' The previous IPCC report (2001) still used the term 'likely'.

Since humans are most seemingly responsible for the changes so far, it is clear to the IPCC that climate change will continue and probably accelerate. Faster changes will be certain if we continue to emit greenhouse gases. But even if we stop burning fossil fuels today, global warming and sea level rise will continue for several centuries – bringing further increases in extreme weather events as heatwaves, heavy rain and snowfall. Also, the regions affected by drought will become larger and future tropical cyclones will intensify, with higher peak wind speeds and more heavy rainfall.

The first volume of *Climate Change 2007* was produced by over 600 authors from 40 countries. Representatives from 113 governments formally endorsed its main conclusions, making them a basis for international climate policy. The IPCC will release the second report in April 6th on impacts and adaptation, and the third in May on how to reduce greenhouse gas emissions. Its synthesis report on all findings will be published later this year.

The first volume's summary is available at www.ipcc.ch.