



UN and the World Bank Warning: Urgent Action Needed to Avoid Climate Tipping Point

Washington D.C., 23 February 2009 – The world is quickly approaching tipping points for abrupt climate changes, perhaps even within a few years according to the United Nation’s Environmental Program’s (UNEP) just-released [Year Book 2009](#). The UN agency warns that urgent action is needed to avoid catastrophic climate events such as major food and water shortages, shifts in weather patterns, and “[destabilization of] major ice sheets that could introduce unanticipated rates of sea level rise within the 21st century.” The report notes that climate changes are occurring much faster than anticipated by the latest Intergovernmental Panel on Climate Change (IPCC) report. While earlier estimates forecast up to ½ a meter rise in sea level in the coming century, updated calculations suggest that the rise may be as high as 2 meters.

Melting ice sheets and glaciers in the northern and southern hemispheres will not only contribute to sea level rise, but will also leave many regions around the world without basic water resources for human consumption and industrial production. Last week the [World Bank](#) presented devastating news to an audience in Lima, Peru – glaciers in the Andes mountain range, on which the majority of Peruvians depend for basic water needs, may disappear within the next 20 years unless immediate action is taken to mitigate climate change. The coastal area of Peru has already lost 12 percent of its water supply from glacial melt, affecting 60 percent of the country. Bolivia and Ecuador, which depend on nearby glaciers for water, are also facing serious shortages.

Combating rising temperatures and slowing the rate that ice and snow are melting requires fast responses. One near-term solution is to focus on black carbon, or soot, an aerosol that scientists assert may be the second largest contributor to climate change after CO₂ and that has an enhanced impact on snow and ice melt. Black carbon is emitted from incomplete combustion of burning fossil fuels and biomass, and contributes to climate change in two ways: while in the atmosphere, the dark particles absorb heat and warm the air; when it falls on ice and snow, it also absorbs more solar radiation, leading to more rapid melting, which then leads to less reflective ice, in a dangerous accelerating feedback cycle.

UNEP reports that, “Soot may be a contributor to the disappearance of glaciers in some regions and could even explain the accelerated rates of melt in the Himalaya-Hindu-Kush,” relying on a scientific paper by V. Ramanathan and G. Carmichael. The scientists urge rapid reduction of black carbon emissions to slow warming in the near term and help avoid passing the temperature thresholds for abrupt climate changes. Unlike CO₂, where a significant fraction remains in the atmosphere for over a thousand years, black carbon only stays in the atmosphere for a few days to a week. Hence, reducing black carbon emissions has an immediate effect on global warming. Reductions also have major health benefits for millions who currently live in heavily polluted areas and risk disease and death from breathing polluted air.

“In contrast to reductions in black carbon soot, cuts in CO₂ emissions, while essential, do not produce

significant cooling for at least a thousand years,” stated Durwood Zaelke, President of IGSD. Zaelke attended UNEP’s Governing Council meeting in Nairobi last week to urge fast action on black carbon and other strategies that can produce fast climate mitigation, including using the Montreal Protocol ozone treaty to quickly phase-down HFCs that have high global warming potential, and expanding the production of biochar, which is a carbon negative strategy that can significantly reduce current CO₂ concentrations on decadal timescales.

“The UNEP and World Bank reports are clear: the world is facing serious danger, and we have to take urgent and aggressive action now—starting with black carbon reductions—to avoid devastating consequences of passing tipping points,” added Zaelke.

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