

Energy Access and Clean Air



V. Ramanathan

**Webinar on "Cutting carbon, improving health"
Organized by WHO/Health Canada/International Federation of
Medical Students Association
June 28,2012**





Kyetrak Glacier: 1921
Cho Oyu, Himalayas.



Kyetrak Glacier: 2009
Cho Oyu, Himalayas.

**Credits:David Brashears,
Glacier Works**

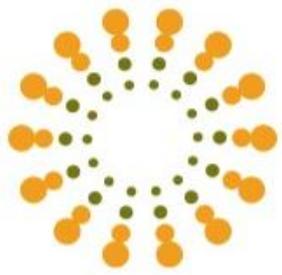
Greenhouse Effect Due to Chlorofluorocarbons: Climatic Implications

V. Ramanathan

Abstract. *The infrared bands of chlorofluorocarbons and chlorocarbons enhance the atmospheric greenhouse effect. The enhancement may lead to an appreciable increase in the global surface temperature if the atmospheric concentrations of these compounds reach values of the order of 2 parts per billion.*



One molecule of CFC has the same greenhouse effect as the addition of more than 10000 molecules of Carbon Dioxide to the Atmosphere



project surya

Fighting Climate Change Now

3 Billion can not afford fossil fuel

**Annual Deaths from indoor
smoke** (Martin et al, 2011)

• **872,000 children under Age 5**

• **1,093,000 Adults**



www.projectsurya.org



Mukteshwar, Himalayas

23.10.2009 07:26

Photo: Ramanathan



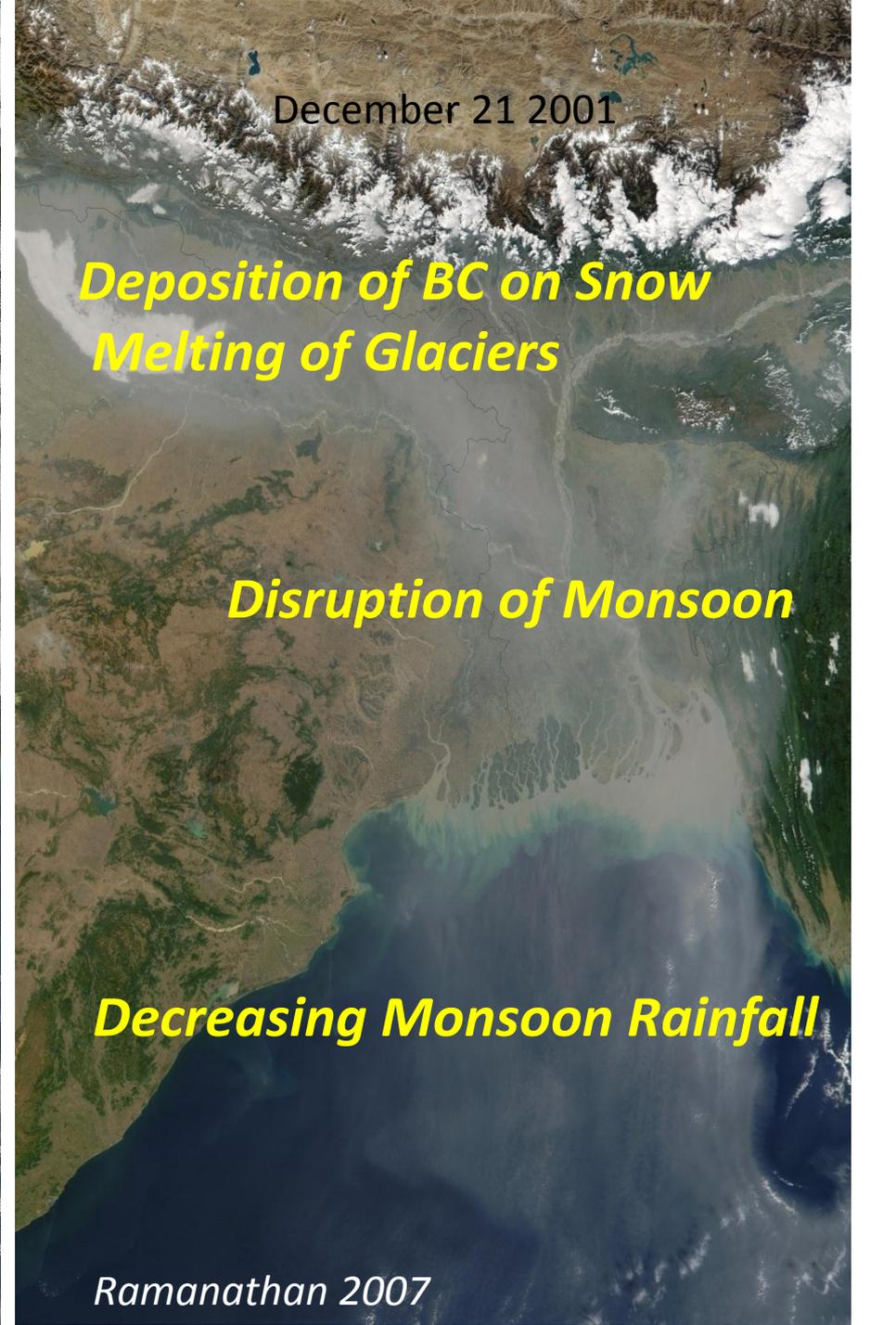
November 14 2006

UNEP Assessment Report
On ABC and Asia: Ramanathan et al, 2008

>
*Deaths from outdoor smoke (ABC)
can be large*

Millions of Tons of Crop Damages

NASA-MODIS



December 21 2001

*Deposition of BC on Snow
Melting of Glaciers*

Disruption of Monsoon

Decreasing Monsoon Rainfall

Ramanathan 2007

Energy Access, Health and Climate Mitigation

David Victor and V. Ramanathan

**1) We have known for a long time that soot is closely linked to
Adverse Health**

All countries have compelling reasons to address.

2) We have known for a long time how to control these emissions.....

The controls are even more at hand than originally thought.

**3) We have NOT known for a long time just how powerful soot and
Other Short Lived Climate Pollutants are on the climate.....**

But here the evidence is pouring in.

**4) When you put items 1-3 together you end up with an attractive
Political Strategy.....**

particularly in -China, India and the US.