

Divecha Centre for Climate Change

Indian Institute of Science Bengaluru



SIXTH JEREMY GRANTHAM LECTURE ON CLIMATE CHANGE

GLOBAL CLIMATE CHANGE
A perspective from the past
climate in the world's highest mountains

Wednesday
9 April 2014, 4 pm
FACULTY HALL
Indian Institute of
Science
Bengaluru

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Glaciers serve both as recorders and early indicators of climate change. Over the past 35 years our research team has recovered climatic and environmental histories from ice core records from both Polar Regions and from low to mid-latitude, high-elevation ice fields. These records demonstrate that the current warming at high elevations in the mid- to lower latitudes is unprecedented for the last two millennia. Remarkable similarities over the last 1000 years between high resolution ice corerecords from high elevations in the Himalayas and the tropical Andes of South America argue for large-scale teleconnections across the Pacific Ocean basin. The 1789 to 1800 CE event was associated with a very strong El Niño and was coincident with the Boji Bara famine which was a consequence of extended droughts that led to over 600,000 deaths in central India by 1792. The ongoing widespread melting of high-elevation glaciers and ice caps, particularly in low to middle latitudes, provides strong evidence that a large-scale, pervasive and, in some cases, rapid change in Earth's climate system is underway