

CLIMATE – NEWS

ISSUE – 31 January to March 2012



ICFRE – CLIMATE CHANGE NEWS

Indian Council of Forestry Research and Education,
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ICFRE CLIMATE NEWS

ONE WEEK DST TRAINING FOR WOMEN SCIENTISTS AND TECHNOLOGISTS ON “CLIMATE CHANGE AND CARBON MITIGATION” FROM 06 TO 10 FEBRUARY 2012 AT ICFRE DEHRADUN

One week training programme for women scientists and technologists on “Climate Change and Carbon Mitigation” was organized by the Biodiversity and Climate Change Division at ICFRE, Dehradun from 06 to 10 February 2012. During One week training programme the following important topics on Climate Change and Carbon Mitigation were presented and discuss. CO₂ Flux measurements using Eddy Covariance, Climate change and Disaster Management, EIA as a Tool for Climate Change adaptation and Mitigation, Climate Change Mitigation through CDM projects: Policy, Modalities and Institution in India, Climate Change impact on Glaciers: observation and Facts, Impacts of Climate Change on Agriculture, and Carbon markets for CDM Projects.



25 scientists and technologists participated in this course. The training programme was sponsored by the Department of Science and Technology, Government of India New Delhi. The programme was highly appreciated by the participants.

TWO DAYS TRAINING WORKSHOP FOR IFS OFFICERS ON “THE SIGNIFICANCE AND SCOPE OF REDD/REDD+ FOR INDIAN FOREST” AT ICFRE, DEHRADUN

Two days training workshop for IFS officers on "The significance and scope of REDD/REDD+ for Indian forest" was organized by the Biodiversity and Climate Change Division from 13 to 14 February 2012 at ICFRE Dehradun. The training workshop was Inaugurated by Dr. V.K. Bahuguna, D.G. ICFRE. The following topics were cover during two days training workshop – Overview of REDD/REDD+ concepts: UNFCCC debates and scope for India's forest, Policy initiatives by Government of India and national strategy to implement REDD+, Developing Carbon Inventories for REDD+: Assessment of carbon stocks in India's Forest, REDD+ implementation Joint Forest Management and Involvement of local communities and Monitoring, Reporting and Verification of REDD/REDD+ activities.



18 IFS officer from different state forest department participated in this training workshop, sponsored by the Ministry of Environment and Forests, Government of India, New Delhi. The programme was highly appreciated by the participants.

NATIONAL CLIMATE NEWS

MONSOON PATTERN CHANGING ?, INDIA-UK STUDY TO FIND IF CLIMATE CHANGE AFFECTING SEASONAL RAINS

Amit Bhattacharya,
29 February, 2012 The Times of India, New Delhi

New Delhi: How will climate change affect the Indian monsoon in the coming years and decades? Given the crucial importance of the annual rains for the country's food and water needs, scientists from 10 institutions in India and the UK have mounted the most comprehensive research exercise yet to answer that question.

The Rs 10 crore project - called South Asian Precipitation: A Seamless Assessment (SAPRISE) is bringing together around 35 scientists who would scrutinize all factors that impact rainfall in the region.

"The project will look at how climate change is likely to affect each of these drivers. It's a three-year programme and at the end of it, we hope to have a significantly better understanding of the monsoon and Indian rainfall in general," said Krishna Achuta Rao of IIT Delhi, who is the project's lead principal investigator on the Indian side.

The mega programme, part of a larger study of the Indian water cycle, is being jointly funded with the Ministry of Earth Sciences (MoES) putting in Rs 3.5 crore and the UK government 1million pounds. Last week, participating scientists from India and Britain met for the first time. "Although work began a few months ago, we all met to discuss what exactly each team would be doing so that everybody is on the same page," said Achuta Rao, an associate professor at IIT's Centre for Atmospheric Sciences.

Other SAPRISE experts have been drawn from Kanpur and Kharagpur IITs, the India Meteorological Department, the Indian Institute of Tropical Meteorology, the National Centre for Medium Range Weather Forecasting and the Indian Centre for Climate and Societal Impacts Research. From Britain, the UK Met Office and universities of Reading and Exeter are part of the project.

SAPRISE is different from another big MoES project, the Monsoon Mission, launched to evolve better models to predict the monsoon. Achuta Rao said researchers would look at the affect of climate change on El Nino-La Nina patterns, differences in sea temperatures in Indian Ocean (called Indian Ocean dipole) and in the Bay of Bengal. For instance, there's debate among scientists on whether climate change is causing a shift from the traditional form of El Nino to one known as El Nino Modoki," he said. Also under scrutiny will be the role played by sunlight-absorbing aerosols in enhancing or depressing rainfall, which has been another subject of debate.

"In the end, we hope to use the latest seamless modeling techniques to see how these various factors interact with each other and together impact rainfall in the medium and long terms," said Achuta Rao.

INTERNATIONAL CLIMATE NEWS

TIME OF YEAR IMPORTANT IN PROJECTION OF CLIMATE CHANGE EFFECTS ON ECOSYSTEMS

15 February, 2012 Science Daily

<http://www.sciencedaily.com/releases/2012/02/120215155300.htm>

Does it matter whether long periods of hot weather, such as last year's heat wave that gripped the U.S. Midwest, happen in June or July, August or September?

Scientists studying the subtle effects of heat waves and droughts say that when such events happen makes a big difference.

Based on more than 25 years of data from the National Science Foundation (NSF) Konza Prairie Long-Term Ecological Research (LTER) site in Kansas--one of 26 such NSF LTER sites across the globe--ecologists looked at how droughts and heat waves affect grass growth during different months of the year.

The journal *Proceedings of the National Academy of Sciences (PNAS)* published their results today.

"A major challenge in studying climate change is separating the effects of long-term trends from interannual variation," says Saran Twombly, program director for NSF's LTER Network.

"This study identifies variation in the timing and magnitude of drought and heat as keys to an ecosystem. The results highlight the importance of long-term data to understanding the complex interactions that underlie ecological responses to climate change."

The researchers found that droughts reduced grass growth most in early June, while heat waves reduced grass growth only during late July. Neither drought nor heat waves in August or September seemed to have an effect on grass growth.

"Future projections need to incorporate predictions of not only how much climate will change, but when during the year changes will happen," says Joseph Craine of Kansas State University, the paper's lead author.

Co-authors of the paper are Jesse Nippert, Adam Skibbe and Stacy Hutchinson of Kansas State University; Andrew Elmore of the Appalachian Laboratory, University of Maryland Center for Environmental Science; and Nathaniel Brunsell of the University of Kansas. "That the effects of climate change on grasslands depend on when they happen may not be much of a surprise--little snow in winter may have less effect than low rainfall in summer, for example," Craine says.

The sensitivity of grasslands to the timing of drought and heat waves was a big surprise, however. "Heat waves mattering only during late July was not something we expected," says Craine. "Everyone seemed to think that August heat waves and drought would have major effects on grass productivity, but we couldn't find any."

The effects of drought and heat waves in fact declined over the summer season. Other studies showed that drought and heat waves affect parts of ecosystems differently. "For example, in some grass species, flowering is altered by drought in May, and in others by drought in August," Craine says.

Bison that graze the prairie don't seem to respond to heat waves, but may gain more weight in years with drier weather--provided that droughts come in late June or early July rather than in August or later.

The researchers are looking at long-term records from other LTER sites to determine whether there's a uniformity to the Konza findings. "If these patterns are general across ecosystems," the scientists write in their paper, "predictions of ecosystem response to climate change will have to account not only for the magnitude of climate variability but also for its timing."

INDIAN MINISTER 'SHOCKED' CO2 EMISSION CUTS SEEN AS U.N. GOAL

By Nita Bhalla

20 February, 2012 Alert Net, New Delhi

<http://www.trust.org/alertnet/news/indian-minister-shocked-co2-emissions-cuts-seen-as-un-goal>

New Delhi (Alert Net Climate) India's rural development minister has slammed a United Nations report which includes reducing CO₂ emissions as a development target agreed by poor countries, saying it was a "mistake" and that the international body was "sending the wrong signal".

Jairam Ramesh, a former environment minister, was India's voice - echoing that of many developing nations in refusing to commit to legally binding targets to cut greenhouse gas emissions in international climate change negotiations.

Developing countries including India say such restrictions would unfairly curb their ability to develop, and that richer developed nations – who have historically emitted the majority of climate-changing gases – should be responsible for making most of the world's legally binding emissions cuts.

During Friday's launch of a new progress report on the Millennium Development Goals (MDGs) a set of eight global targets aimed at improving the lives of many of the world's poor agreed and agreed to in 2000 by 192 U.N. member states - Ramesh said he was in "shock" after reading the report.

"I think the mistake that you did was to send this report to me in advance," he told officials from the Asian Development Bank (ADB), the U.N. Development Programme (UNDP) and

the Economic and Social Commission for Asia and the Pacific (ESCAP), which had published the report.

"I was shocked to see. There is no other word to describe my sentiment except a sense of shock. Because nowhere in the Millennium Development Goals was the reduction of CO₂ emissions a target. Nowhere. At no point of time," he said.

India is the world's third largest emitter of climate-changing gases after the United States and China, and rapid economic growth and consumption are driving up production of planet-warming carbon dioxide from coal-fired power plants, transport and industry. But the government - like those in many other parts of the developing world - has long insisted it will not accept binding emissions reduction targets in any new climate deal because to do so would harm the economy and stall its aim to lift millions out of poverty.

A number of developed countries have accepted such limits on their emissions, but some major polluters – including Canada and Russia – have failed to meet their goals and others – particularly the United States have never agreed to binding restrictions.

The MDGs aim by 2015 to reduce child and maternal mortality, halve poverty and hunger, provide universal primary education, improve gender equality and halt the spread of HIV/AIDS.

But while there is a goal on environment sustainability, this pertains only to reducing the loss of forest cover, halving the number of people without clean water and sanitation and improving the lives of slum dwellers. "Remember the MDGs are only for developing countries and no developing country has accepted the goal of a reduction in absolute CO₂ emissions," said Ramesh. He said including an emissions reduction goal among the MDGs was a very serious conceptual, intellectual and analytical flaw.

INDIGENOUS PEOPLES AT FOREFRONT OF CLIMATE CHANGE OFFER LESSONS ON PLANT BIODIVERSITY

27 February, 2012 Science Daily
<http://www.sciencedaily.com/releases/2012/02/120227132839.htm>

Humans are frequently blamed for deforestation and the destruction of environments, yet there are also examples of peoples and cultures around the world that have learned to manage and conserve the precious resources around them. The Yanasha of the upper Peruvian Amazon and the Tibetans of the Himalayas are two groups of indigenous peoples carrying on traditional ways of life, even in the face of rapid environmental changes.

Over the last 40 years, Dr. Jan Salick, senior curator and ethnobotanist with the William L. Brown Center of the Missouri Botanical Garden has worked with these two cultures. She explains how their traditional knowledge and practices hold the key to conserving,

managing and even creating new biodiversity in a paper released in the new text, "Biodiversity in Agriculture: Domestication, Evolution, and Sustainability," published by Cambridge University Press.

The Yanésya and Tibetans are dramatically different peoples living in radically dissimilar environments, but both cultures utilize and highly value plant biodiversity for their food, shelters, clothing and medicines.

"Both cultures use traditional knowledge to create, manage and conserve this biodiversity, and both are learning to adapt to and mitigate the effects of climate change," said Salick. "They have much to teach and to offer the world if we can successfully learn to integrate science and traditional knowledge."

The Yanésya live a few hundred meters above sea level at the headwaters of the Amazon basin in central Peru. The people possess traditional knowledge about one of the most diverse tropical rainforests in the world. Salick studied the cocona (*Solanum sessiliflorum*), a fruit native to the upper Amazon, nutritionally important especially for women and children. She found the Yanésya have increased the genetic diversity of the species over time through preferential selection of oddly sized and shaped fruits.

"In the case of cocona, fruits produced by seed look like fruits of the mother plant, regardless of the pollen donor this is known as maternal inheritance," said Salick. "The Yanésya appreciate this inheritance, which gives them security in knowing exactly what they will harvest when they plant seeds. Amazonian peoples are selecting not only physical plant characteristics that they like (fruit), but also plant breeding systems to perpetuate them. We can admire and emulate how these people domesticate plants, create biodiversity and manage it to sustain their future."

NEW ADVANCES IN SCIENCE OF CARBON ACCOUNTING

6 March, 2012 Science Daily

<http://www.sciencedaily.com/releases/2012/03/120306142549.htm>

Determining with precision the carbon balance of North America is complicated, but researchers at Oak Ridge National Laboratory have devised a method that considerably advances the science.

In developing their approach, a team led by Daniel Hayes of the Department of Energy's ORNL took advantage of inventory records from the United States, Canada and Mexico that track changes in the amount of carbon in various reservoirs such as plants, soils and wood. From these data, they made estimates of the current rate of atmospheric carbon dioxide sequestration over North America. This allowed researchers to calculate the state of the science in determining North America's carbon balance.

"Our results highlight both consistencies and mismatches among methods for quantifying sources and sinks of CO₂ at sub-national scales and across different sectors such as forest, crop and other lands," Hayes said. "Depending on the approach, estimates suggest that the land-based sink offsets approximately 20 to 50 percent of total continental fossil fuel emissions."

The researchers noted that land and ocean sinks -- which are sequestering carbon about equal amounts of carbon globally -- are neither permanent nor fixed. Whether they continue to operate is a research question with critical implications. Hayes and colleagues found that much of the current carbon sequestration in North America is associated with the forest sector in the Northwest and Southeast.

"North American land ecosystems are thought to act as a relatively large sink for atmospheric CO₂, but both its current magnitude and response of this sink to future conditions are highly uncertain," Hayes said. The role played by North America is considerable as it may be responsible for up to a third of the combined global land and ocean sink of atmospheric CO₂. That ability to sequester carbon, however, may change given the influences of drought, wildfires and insect outbreaks that lead to carbon losses.

At odds in the carbon balance equation are the two most common assessment approaches -- based on either top-down or bottom-up perspectives. From the top-down perspective, atmospheric models typically estimate much greater sink strength than bottom-up, or land ecosystem models. The inventory-based estimate is lower still than the average land model.

Each approach has strengths and weaknesses, and they all have substantial uncertainties. Modeling approaches are the primary tool available for making climate projections, but these rely on a large number of complicated and often poorly understood processes. Models are mainly based on physical, chemical and biological principles whereas inventories can track things like the movement of carbon in food and wood products that are influenced by social and economic factors.

Inventory methods like those used for this study have the benefit of extensive and repeated measurements yet there are many processes thought to be important that go unmeasured. "You can't measure everything everywhere all of the time, especially in the future," Hayes said, "so we need models to fill in the gaps." Scientists continue research to address knowledge gaps and uncertainties in each of these approaches.

"Ultimately, confidence in our ability to understand and predict the role of the North America carbon cycle in the global climate system will increase as new estimates from these different approaches begin to more closely converge and are combined in more fully integrated monitoring systems," Hayes said.

While there is still a huge range in estimates of CO₂ sources and sinks, this paper, recently published in the journal *Global Change Biology*, represents a major step toward reconciliation of the global carbon cycle. This could be especially relevant to policymakers.

NEW RESEARCH CAN SAVE TROPICAL FORESTS

25 March, 2012 Science Daily

<http://www.sciencedaily.com/releases/2012/03/120325102603.htm>

Scientists from the University of Gothenburg, Sweden, have investigated how much carbon the natural forests of Sri Lanka contain. The results are important for work to reduce deforestation of tropical countries, and for international negotiations in climate policy relating to a new climate agreement.

Global deforestation can be reduced by measuring the amount of carbon contained in natural forests. The measurements may make it possible for tropical countries to receive compensation from developed countries for the retention of forests.

Deforestation is responsible for approximately 12% of global greenhouse gas emissions. Most deforestation takes place in tropical forests, and it is important, therefore, to reduce the felling of such forests, in order to reduce total emissions of greenhouse gases.

Short-term profitability

One problem is that felling trees often gives a greater profit in the short term than allowing the forest to remain. However, it is possible to change the economic conditions such that countries can profit by allowing forests to stand.

Climate negotiations led by the UN in recent years have discussed a way of reducing global deforestation known as REDD+. This involves tropical countries being paid by developed countries if they retain or increase their tropical forests.

"But in order for REDD+ to work in practice, it's important to develop efficient systems for measuring the carbon in the forests, and such systems are deficient in Sri Lanka," says Eskil Mattsson, research student in physical geography at the Department of Earth Sciences, University of Gothenburg.

The carbon content of trees

One aspect of the work he has carried out in collaboration with Swedish and Sri Lankan colleagues involves measuring the carbon content of various types of natural forest in Sri Lanka. This meant carrying out measurements on approximately 20,000 trees. The results show that deforestation is responsible for nearly half of the greenhouse gas emissions that originate from human activity in Sri Lanka. There are, however, large differences between the amounts of carbon that different types of forest contain.

"The calculations are important in order to estimate the costs and benefits of reducing deforestation, since the levels of compensation will be based on the amount of carbon in the forest," says Eskil Mattsson.

UPCOMING EVENTS

WORLD CONGRESS ON WATER, CLIMATE AND ENERGY

13-18 May, 2012 Dublin , Ireland

This meeting is the inaugural meeting of the Congress on Water, Climate and Energy, and participants will explore the topics of resilient and sustainable cities with a focus on climate change adaptation and mitigation. The meeting will further examine how to incorporate climate change adaptation and uncertainty into the city vision and infrastructure, and will include solutions such as the role of regulation, technologies and smart networks. The meeting is organized by the International Water Association in partnership with the UN World Water Assessment Programme (WWAP), the UN Human Settlements Programme (UN-HABITAT), and ICLEI-Local Governments for Sustainability.

venue: The Convention Center **location:** Dublin (Dublin), Ireland **phone:** +35314003660
e-mail: info@iwa-wcedublin.org **www:** <http://iwa-wcedublin.org>

BONN CLIMATE CONFERENCE MAY 2012

14 to 25 May, 2012 Maritim Hotel in Bonn.

http://unfccc.int/meetings/bonn_may_2012/meeting/6599/php/view/schedule.php

The 36th sessions of the Subsidiary Body for Implementation (SBI) and of the Subsidiary Body for Scientific and Technological Advice (SBSTA), the fifteenth session of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA), the seventeenth session of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP) and the first session of the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) will take place concurrently from 14 to 25 May. All sessions will be held at the Maritim Hotel in Bonn.

Further information on the sessions will be available at a later stage.

CLIMATE ADAPTATION FUTURES: SECOND INTERNATIONAL CLIMATE CHANGE ADAPTATION CONFERENCE 2012

29 to 31 May, 2012 Tucson (Arizona), United States of America

Co-hosted and convened by the University of Arizona (US) and the Programme of Research on Climate Change Vulnerability, Impacts and Adaptation (PROVIA) of the UN Environment Programme (UNEP), this conference will focus on adaptation to climate variability and change. The conference intends to bring together researchers, policy makers, and practitioners from developed and developing countries to share insights into the challenges and opportunities that adaptation presents.

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www: <http://www.adaptation.arizona.edu/adaptation2012>

WORLD CLIMATE 2012 WORLD CONFERENCE ON CLIMATE CHANGE AND HUMANITY

14 to 15 June, 2012 Vienna, NO, Austria

Website: <http://www.vienna-conference.com/worldclimate/index.html>

Contact name: Elena Ringo

World Conference on Climate Change and Humanity is a multi-disciplinary conference related to the studies in the field of climate change and global warming.

Organized by: Informationstechnische Gesellschaft ADEO, Austria

Deadline for abstracts/proposals: 15 April 2012

CLIMATE CHANGE AND WATER RESOURCES

10 to 11 July, 2012 Ismailia, Egypt

Website: <http://eses-catrina.com>

Contact name: Prof. Dr. Abdel Raouf Moustafa

The Conference has become the most important annual gathering in ESES. It will be an opportunity for the international community to exchange ideas and develop a common vision for the future of world climate change and water resources.

Organized by: Egyptian Society for Environmental Sciences (ESES)

Deadline for abstracts/proposals: 22 April 2012 [add this deadline to Google Calendar]

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