



# CLIMATE – NEWS

ISSUE – XVI

January to March, 2008

**ICFRE – CLIMATE CHANGE NEWS From the Biodiversity and Climate Change (BCC) Division, Indian Council of Forestry Research and Education, P.O: New Forest, Dehra Dun – 248006**

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## CLIMATE CHANGE INTERNATIONAL NEWS

### **JAPAN SHOULD SET 2020 CO<sub>2</sub> REDUCTION TARGET NOW, SAYS WWF**

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([http://www.panda.org/news\\_facts/newsroom/index.cfm?uNewsID=123281](http://www.panda.org/news_facts/newsroom/index.cfm?uNewsID=123281))

WWF points out that the over-exploitation of fossil fuels - such as coal, gas and oil - is putting the whole of humanity under threat from climate change. Japan's announcement that it will reduce its carbon emissions in absolute terms is to be welcomed but making this action dependent on that of "other major emitters" including developing countries is met with reservations by WWF.

The global conservation organization called on Prime Minister Fukuda, this year's President of the G8 group of industrialized countries, to take clear responsibility and, with the other rich countries, show the urgently needed leadership to tackle global warming by pledging a 2020 absolute reduction target. Prime Minister Yasuo Fukuda was speaking at the World Economic Forum in Davos, Switzerland; he recognized the urgency of the challenge when he called for a global agreement that would lead to a peak and decline in global greenhouse gas emissions. However, according to science, this peak should come in 10-15 years, rather than the 10-20 years offered by PM Fukuda if we are to reach 50% emissions reduction by mid century. The Prime Minister said that Japan would promote new criteria for setting "fair" reduction targets for countries for the second phase of the Kyoto Protocol starting in 2013, based on a bottom-up approach from each sector's energy efficiency levels. Unfortunately he also proposed to change the base year from 1990 which would punish those countries that took early action.

The bottom-up approach would further delay urgently needed action and increase the risk of warming well above the danger limit of 2 degrees. WWF believes Japan, being one of the world's richest countries, can and should lead the world in tackling climate change by announcing its own 2020 emissions reduction target now.

“PM Fukuda’s speech while accepting for the first time the need for further cuts in carbon pollution still reflects the position of the Japanese industry federation, Nippon Keidanren, which continues to oppose the Kyoto framework and simply will not accept any serious reduction commitments”, says Yurika Ayukawa, Special Advisor to WWF-Japan Climate Change Programme. “The Nippon Keidanren stands in the way of Japan taking progressive steps forward, such as a cap and trade scheme or carbon tax, which would enable Japan to commit to such a much needed deep cuts in emissions.”

## **GLOBAL WARMING MAY RAISE TUNDRA WILDFIRE RISK**

Phil Mckenna, 5 March 2008 NewScientist.com news service

(<http://environment.newscientist.com/article/dn13408-global-warming-may-raise-tundra-wildfire-risk.html>)

Arctic tundra fires may increase significantly as a result of continued global warming, warns a new study examining the relationship between historic changes in climate, vegetation, and wildfires in Alaska.

And as about a third of the world's soil-based carbon is locked in high-latitude tundra and boreal forest ecosystems, the release of carbon dioxide from an increase in burning tundra could also play a significant role in fuelling further warming, the study's authors add.

Warming temperatures may increase the amount of vegetation available to burn, by prompting a shift from tundra comprising mainly of small herbs and grasses to shrub tundra, suggests the study. "As the climate changes, biomass will increase in the tundra and with it will come more fires," explains Philip Higuera of Montana State University in Bozeman, US. With more plant matter available to burn, plus a drier climate due to warming, the risk of fires increases.

### **Burning bushes**

Higuera and colleagues collected core samples from the bottom of four lakes along the southern slope of northern Alaska's Brooks Range. By radiocarbon dating the samples and teasing out fossilised pollen grains from within the sediment, they were able to piece together the exact plant communities that existed in the region at the end of the last Ice Age, from 14,000 to 9,000 years ago. At the beginning of the period, vegetation on the southern slope was much like the herbs, grasses and low lying shrubs found in tundra ecosystems north of the Brooks Range today. But starting 10,000 years ago, they found shrub tundra – tall birch shrubs that are likely to have grown up to 2 metres in height – predominating. Charcoal fragments found within the sediment suggest that this denser tundra burned every 140 years on average, nearly twice as often as tundra is believed to burn in Alaska today.

## **WARNINGS OVER FUTURE FOOD CRISIS**

BBC News 24, 6 March 2008

(<http://news.bbc.co.uk/1/hi/uk/7282196.stm>)

A world food crisis can be expected in the coming decades as our demand for food outstrips our ability to produce it, a UK government adviser has warned. New chief science adviser, Professor John Beddington, said the crisis could be as serious as climate change and may hit sooner.

The world's 6.5 billion population is expected to reach nine billion by 2050. This, combined with growing consumption as poverty is alleviated, will put huge pressure on food supplies. He told BBC News: "Something is actually happening out there for very good reasons, namely that poverty is being alleviated. "To some extent we are actually trying - and properly so - trying to eliminate poverty. Now as poverty is eliminated big changes in consumer demand occur."

Climate change is expected to worsen the problem, reducing rainfall and affecting crop growth. Added to this, efforts to tackle climate change - by using biofuels instead of fossil fuels - are taking more land away from food production.

## **INDIA CAN LEAD THE WORLD IN CLIMATE CHANGE SOLUTION: AL GORE**

15 March 2008 Filed Under: Latest India News

<http://www.freshnews.in/india-can-lead-the-world-in-climate-change-solution-al-gore-23190>

Nobel Peace Laureate Al Gore has said that India, as an advanced developing country, can lead the world in renewable energy technologies as part of a solution to the climate change crisis. "India has proven its capability in sectors like Information Technology and can be a leader in the world in developing new renewable technologies to combat climate change," he told reporters in New Delhi.

Gore was speaking at the launch of the India chapter of 'The Climate Project', a US-based non-profit organisation that supports the former Vice-President's efforts in promoting climate change activism globally. Asked about the differences between developed and developing countries on greenhouse gas emission cuts, Gore said fast developing nations like India has a right to aspire for higher standard of living and set whatever goals they think are appropriate.

Using 21st century-efficient technologies is the relevant issue today, not the comparison in emissions by countries, he said. "India itself is vulnerable to effects of climate change and can be a part of the solution," he said.

Gore said there is need for a change in the US policy on climate and whoever comes to the White House after the November presidential polls will have to take necessary steps. "My country is the largest source of pollution and most responsible for creating the problem. We need a change in policy in the US," said the environmental activist who has won an Oscar for his documentary on global warming, "An Inconvenient Truth".

Asked whether economic recession fears and paucity of time before the December 2009 climate meet will push aside climate change issues from the agenda of the new US President,

Gore said they were working on building a “groundswell of public opinion” to ensure that the US take a position of leadership on climate change in the Copenhagen conference. The 2009 climate meet aims at concluding a comprehensive new global climate treaty to replace the Kyoto Protocol by 2013.

## ICFRE NEWS

### ONE WEEK REFRESHER TRAINING COURSE FOR IFS OFFICERS AT ICFRE, DEHRADUN

7-11 January 2008

A one week refresher training course for Indian Forest Service officers on “Climate Change and Relevance to Forestry Sector” was organized by the Biodiversity and Climate Change Division at ICFRE Dehradun from 7th – 11th January 2008. 16 IFS officers of different states participated in this course, sponsored by the Ministry of Environment and Forests, Government of India, New Delhi. The programme was highly appreciated and rated by the participants.



## **NATIONAL WORKSHOP ON “FORESTRY PROJECTS FOR CLIMATE CHANGE MITIGATION IN INDIA: STAKEHOLDERS DIALOGUE AND CAPACITY BUILDING”**

21 and 22 February 2008, SCOPE Complex, New Delhi

A two day national workshop on “Forestry Projects for Climate Change Mitigation in India: Stakeholders Dialogue and Capacity building” was organized by the Indian Council of Forestry Research and Education, at SCOPE Complex, New Delhi on 21-22 February 2008. The workshop was inaugurated by the Chief Guest, Dr Prodipto Ghosh, Distinguished Fellow, TERI and Former Secretary to the Government of India, MoEF, Shri P. R. Mohanty, Director General Forests and Special Secretary to the Government of India, was the Guest of Honour. A total of 88 delegates participated in the workshop.

The workshop provided an opportunity to know more about existing CDM regulations, their applicability to forestry projects, available markets, and how various stakeholders can develop meaningful projects for host country approval, and subsequently for CDM project registration.



### **Recommendations of the Workshop**

- Preparation of a Handbook including chapters on technical, operational and management issues.
- Preparation of a Directory of DOEs/CDM Consultants/Organisations active in CDM A/R project preparations.
- Climate Change cell in ICFRE be strengthened along with creation of climate change cells in Regional Institutes and Centres of ICFRE and state forest departments.
- Identification and delineation of potential project areas using remote sensing technology for the entire country may be taken up.
- Preliminary identification of eligible areas for CDM A/R projects using land records and participatory rural appraisal.
- Explore markets for CDM A/R projects including non-compliance markets and disseminate information.
- Establishment of a revolving 'India Carbon Fund'.



- Creation of a “CDM Facilitation Fund” with grant to ICFRE by the MoEF, to assist SFDs in the preparation of a few projects on pilot basis and capacity building.

## **INTERNATIONAL WORKSHOP ON “DEVELOPING METHODOLOGY FOR ASSESSMENT OF ENHANCEMENT OF FOREST CARBON STOCKS DUE TO CONSERVATION, SUSTAINABLE MANAGEMENT OF FORESTS, AND INCREASE IN FOREST COVER”**

7-8 March 2008, SCOPE Complex, New Delhi

An international workshop on “Developing Methodology for Assessment of Enhancement of Forest Carbon Stocks due to Conservation, Sustainable Management of Forests, and Increase in Forest Cover” was organized by the Indian Council of Forestry Research and Education, on 7-8 March 2008 at New Delhi under the aegis of the Ministry of Environment and Forests, New Delhi.

The workshop focused on the possible methodological approaches, and modalities and procedures for assessing positive increment in forest carbon stocks due to i) increase in forest cover, and ii) sustainable management of forests/conservation.



The workshop was inaugurated by the Chief Guest, Shri Namo Narain Meena, Hon’ble Minister of State for Environment and Forests, Government of India. A total of 68 delegates including representatives from eight countries – China, UK, Papua New Guinea, Sri Lanka, Thailand, India, Bhutan and Malaysia participated in the workshop. Shri Jagdish Kishwan, Director General, ICFRE welcomed the participants, Shri J.C. Kala, Former Director General of Forests and Secretary to the Government of India, Ministry of Environment and Forests, was the Guest of Honour.

During the workshop, presentations were made by experts on technology and methodologies for assessment of enhanced carbon stocks due to conservation, sustainable management of forests, and increment in forest cover. Representatives from eight countries gave country

presentations on policy and methodological approach focusing on conservation, sustainable management of forest and increment in forest cover under Reducing emissions from deforestation in developing countries.

## **Summary Report**

- Same incentives for one unit of carbon saved (reduced deforestation/degradation) and one unit of carbon added (conservation/sustainable management of forests)
- Ecosystem services have additional value
- Baseline stocks
  - consider valuation of baseline stocks including one time payment at reduced rates
- Need for development of expertise in modern technological tools to assess forest carbon pools and changes therein
- Financial assistance needed for capacity building in developing countries
- Developing countries to share facilities and resources for capacity building
- Remote sensing combined with field inventory as an important and cost effective tool in assessing and verifying forest carbon stocks and changes therein
- Development of a blue print for national forest carbon estimation in developing countries

## **PARTICIPATION OF DG, ICFRE IN THE BANGKOK CLIMATE CHANGE TALKS 2008**

United Nations Conference Centre (UNCC) of the Economic and Social Commission for Asia and the Pacific (ESCAP), Bangkok, Thailand, 31 March 2008 – 4 April 2008  
(<http://www.irinnews.org/report.aspx?ReportId=77551>)

As part of the Government of India delegation lead by Shri Shyam Saran, Prime Minister's Special Envoy on Climate Change, Shri Jagdish Kishwan, Director General, Indian Council of Forestry Research and Education attended the United Nations-sponsored meeting in the Thai capital, from 31 March to 4 April 2008, aimed at developing a work programme for the next two years to help countries draw up a deal to cut greenhouse gas emissions after 2012, when the first phase of the Kyoto Protocol expires. The climate change talks in Bangkok convened sessions of both the Ad hoc Working Group on Long-term Cooperative Action (AWGLCA) under the Convention (first session) and the Ad hoc Working Group on further Commitments for Annex I Parties under the Kyoto Protocol (first part of the fifth session), during which Parties needed to advance the Bali Road Map agreed last December. The AWGLCA Work Programme finalised at Bangkok includes a workshop on Reducing Emissions from Deforestation; and Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks in Session 3 to be held in July / August 2008.

The five-day conference was aimed at building on the Kyoto Protocol, in which 37 industrialised countries and the European Community committed to reducing emissions by at least five percent against 1990 levels by 2012. New scientific findings show that even if the

Kyoto targets are reached, it would still not be enough to avoid the most severe impacts of climate change, including water stress, agricultural changes, severe weather conditions, urban displacement and the possibility of submergence of low-lying island nations.

## **UPCOMING EVENTS**

### **FOREST DAY: SHAPING THE DEBATE ON FORESTS AND CLIMATE CHANGE IN CENTRAL AFRICA**

Yaoundé, 24 April 2008

([www.cifor.cgiar.org/Events/CIFOR/forest\\_day\\_cameroon.htm](http://www.cifor.cgiar.org/Events/CIFOR/forest_day_cameroon.htm))

Cameroon. Forest Day aims to provide a regional perspective on the issue of forests and climate change. A broad range of forest stakeholders are expected to analyze the social, economic, scientific, technological and political issues, to provide a stepping stone for informed climate policies in the region. For more information contact: Janneke Romijn; tel: +237-2222-7449/7451; fax: +237-2222-7450; e-mail: ForestDay-Cameroon@cgiar.org; Internet: [http://www.cifor.cgiar.org/Events/CIFOR/forest\\_day\\_cameroon.htm](http://www.cifor.cgiar.org/Events/CIFOR/forest_day_cameroon.htm)

### **EFFECTS OF CLIMATE CHANGE ON THE WORLD'S OCEANS**

Gijon, Spain, 19- 23 May, 2008

(<http://www.globalcarbonproject.org/meetings/index.htm>)

The Symposium will focus on the major issues of climate change that affect the oceans: oceanic circulation, climate modelling, cycling of carbon and other elements, acidification, oligotrophy, changes in species distributions and migratory routes, sea-level rise, coastal erosion, etc. There is a session on "Marine carbon cycling and other biogeochemical cycles" Website: <http://www.pices.int/meetings/>, Contact: Corinne Le Quere [c.lequere@uea.ac.uk](mailto:c.lequere@uea.ac.uk)

### **INTERNATIONAL GEF WORKSHOP ON EVALUATING CLIMATE CHANGE AND DEVELOPMENT: RESULTS, METHODS AND CAPACITIES**

Alexandria, Egypt 10-13 May 2008

([www.iisd.ca/upcoming/linkagesmeetings.asp?id=7](http://www.iisd.ca/upcoming/linkagesmeetings.asp?id=7))

The GEF Evaluation Office is organizing this workshop, which will permit sharing of experiences in evaluating projects and programs aimed at the nexus between climate change and development. Special attention will be paid to the results reported and whether there is convergence in findings throughout agencies. The workshop aims to realize the potential of evaluations to contribute to climate change mitigation and adaptation. For more information contact: tel: +1 202 458 8537; e-mail: [IntWorkshop@TheGEF.org](mailto:IntWorkshop@TheGEF.org); Internet: <http://www.esdevaluation.org>

### **28TH SESSIONS OF THE UNFCCC SUBSIDIARY BODIES**

Bonn, Germany, 2 - 13 June 2008

(<http://www.iisd.ca/upcoming/linkagesmeetings.asp?id=5>)

The 28th sessions of the Subsidiary Bodies of the UN Framework Convention on Climate Change (UNFCCC) – the Subsidiary Body for Implementation (SBI) and the Subsidiary



Body for Scientific and Technological Advice (SBSTA) – are scheduled to take place from 2-13 June 2008, in Bonn, Germany. In addition, the second meeting of the Ad Hoc Working Group on Long-Term Cooperative Action, a new body established at COP 13 in Bali, is expected to be held alongside the SBI and SBSTA. The resumed fifth session of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol will also be held at the same time. For more information contact: UNFCCC Secretariat; tel: +49-228-815-1000; fax: +49-228-815-1999; e-mail: [secretariat@unfccc.int](mailto:secretariat@unfccc.int); Internet: [http://unfccc.int/meetings/unfccc\\_calendar/items/2655.php?year=2008](http://unfccc.int/meetings/unfccc_calendar/items/2655.php?year=2008)

## **HIGH-LEVEL CONFERENCE ON WORLD FOOD SECURITY AND THE CHALLENGES OF CLIMATE CHANGE AND BIOENERGY**

Rome, Italy, 3 - 5 June 2008

(<http://www.iisd.ca/upcoming/linkagesmeetings.asp?id=5>)

The UN Food and Agriculture Organization (FAO) is organizing this conference, which will address food security and poverty reduction in the face of climate change and energy security. The conference will seek to contribute to the UN system efforts in the field of climate change. A series of expert meetings and stakeholder consultations will take place during the January-April 2008 period as part of the preparatory process. For more information contact: Office of the Assistant Director-General, Natural Resources Management and Environment Dep; tel: +39 06 57051; fax: +39 06 570 53064; e-mail: [cccb-secretariat@fao.org](mailto:cccb-secretariat@fao.org); Internet: [http://www.fao.org/foodclimate/home.html?no\\_cache=1&L=7](http://www.fao.org/foodclimate/home.html?no_cache=1&L=7)

## **28TH MEETING OF THE OPEN-ENDED WORKING GROUP OF THE PARTIES TO THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE LAYER**

Bangkok, Thailand, 7 - 11 July 2008

(<http://www.iisd.ca/upcoming/linkagesmeetings.asp?id=5>)

This meeting is tentatively scheduled to take place in Bangkok, Thailand, from 7-11 July 2008. For more information contact: Ozone Secretariat; tel: +254-20-762-3850/1; fax: +254-20-762-4691; e-mail: [ozoneinfo@unep.org](mailto:ozoneinfo@unep.org); Internet: <http://ozone.unep.org/>

## RECENT STUDIES

### INCREASED CARBON DIOXIDE IN ATMOSPHERE LINKED TO DECREASED SOIL ORGANIC MATTER

Debra Levey Larson (dlarson@uiuc.edu) University of Illinois at Urbana-Champaign, 11 March 2008

([http://www.eurekalert.org/pub\\_releases/2008-03/uoia-icd031108.php](http://www.eurekalert.org/pub_releases/2008-03/uoia-icd031108.php))

URBANA - A recent study at the University of Illinois created a bit of a mystery for soil scientist Michelle Wander – increased carbon dioxide in the atmosphere was expected to increase plant growth, increase plant biomass and ultimately beef up the organic matter in the soil -- but it didn't. What researchers found instead was that organic matter decay increased along with residue inputs when carbon dioxide levels were increased and they think the accelerated decay was due to increased moisture in the soil.

“Going into the study, the assumption was that higher levels of carbon dioxide in the atmosphere will increase crop yield and soil organic matter,” said Wander. “We did see a 30 percent increase in above- and below- ground soybean biomass so we expected that to be mirrored in soil organic matter, but there wasn't an increase. In fact, organic matter levels may have even been lower than in plots not exposed to elevated carbon dioxide levels.”

The study was conducted at U of I's SoyFACE facility – an open air laboratory in which rings of pipes surround corn and soybean crops and can be exposed to various levels of carbon dioxide, ozone or both pumped through the pipes. The findings from the study are published in the February issue of Plant and Soil.

“My student Adriane Peralta and I were looking at younger soil organic matter that would be most influenced by today's practices and we were expecting a big change -- a 30 percent increase in soil organic matter, reflecting the changes we saw above ground.

“The source of carbon is plant biomass, so we would expect increased yield, increased biomass, increased soil organic matter in the soil. This kind of positive feedback would be good because it could offset the increases in decay that will result from rising temperature,” said Wander. She explained that the increases in carbon dioxide levels in the atmosphere insulate the earth and contribute to global warming. Average annual air and soil temperatures are increasing while winters are getting shorter. By the end of the century, maximum daily temperatures could rise by 5 to 12 degrees Fahrenheit in winter and 5 to 20 degrees Fahrenheit in summer.

“We know that microbial activity is directly influenced by an increase in temperature if other factors, like moisture aren't limiting their growth,” she said. “Increased decomposition of organic matter is undesirable from a soil quality and climate perspective; microbial degradation of organic stocks releases carbon and nitrogen and over the long term this reduces soil's productivity and ability to resist erosion, plus it returns the carbon dioxide to the atmosphere.” All of this talk about using agricultural lands to mitigate climate change depends upon our ability to keep the carbon in soil reserves.

Wander said that carbon dioxide is rising every year in the atmosphere because of human use of fossil fuel and deforestation. “We attribute the higher soybean yields over the past several decades to the rising carbon dioxide levels in the Earth’s atmosphere – some attribute a 10 percent increase in soybean yields already due to this carbon dioxide fertilization effect.

“Most models or projections of the future assume the carbon dioxide fertilization effect would be a good thing for agriculture and the world’s food supply and have a benefit to soil organic matter, but more and more we are finding things are a little more complicated. What our study shows is that in this system, rising carbon dioxide levels are not contributing to soil health after all.

“So, we had a bit of a mystery to solve. Where did the organic carbon that was added by increased plant growth go” We know for certain that soil organic matter stocks result from the balance of inputs and decay so we had to look at factors influence decomposition. Nutrient levels soil pH and available N were all high in this fertile field and so we ruled these factors out.”

Wander and Peralta suspect soil moisture plays a role. Wander points out that changes in rainfall are another important aspect of climate change and notes that we are already seeing shifts in the distribution of rainfall with increases in winter and spring rains with drier summers. Dry conditions can constrain plant growth and microbial decay rates. So, what they saw in the SoyFACE plots, was evidence of an important feedback -- where crops exposed to elevated carbon dioxide became more water use efficient. “When plants take up moisture they open their stomata -- the pores through which they transport both carbon dioxide and water and when plants satisfy their need for carbon dioxide they can close those stomata and conserve water. This appears to have happened at SoyFACE in both corn and soybean crops. So, moisture feedbacks that increased microbial activity might solve the mystery”. Wander said it’s a little tricky to project the future with these findings, because they are manipulating carbon dioxide but not rainfall in the SoyFACE test plots.

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