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सहायक महानिदेशक  
जैवविविधता एवं जलवायु परिवर्तन  
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**भारतीय वानिका अनुसंधान एवं शिक्षा परिषद**  
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार की एक स्वायत्त संस्था)  
पो० ओ० न्यू फॉरेस्ट, देहरादून – 248 006 (उत्तराखण्ड)  
**INDIAN COUNCIL OF FORESTRY RESEARCH & EDUCATION**  
(An Autonomous body under the Ministry of Environment, Forests and Climate Change, Government of India)  
P. O. New Forest, Dehradun – 248 006 (Uttarakhand)

No. 8-8/2014/ BCC/ ICFRE/

Dated: 01 September 2014

To

*All Scientific Ministries of GOI/Departments/R&D Organizations/  
PSU/Central and State Universities/State Councils for Science and Technology*

**Sub.: Training Programme on “Climate Change and Carbon Mitigation” to be held at ICFRE, Dehradun from 13-17 October 2014 under the ‘National Programme for Training of Scientists and Technologists working under Government Sector’– reg.**

Sir/Madam,

Indian Council of Forestry Research and Education (ICFRE), Dehradun will be organizing a training programme on “**Climate Change and Carbon Mitigation**” for scientists and technologists working under Government sector from 13-17 October 2014 at Dehradun. The training programme is sponsored by the Department of Science and Technology, Government of India under the “National Programme of Training of Scientists and Technologists working under Government Sector”.

The training programme is open for scientists, technologists, and academicians (engaged in R&D in any discipline of science and technology) working under Central/State Government, Public Sector Undertaking, Autonomous Research Organisations, Government Research Laboratories, Central/State Universities and Colleges. Scientists, technologists and academicians having completed minimum of five years of service in Group “A” and having age of less than 58 years are eligible to participate in the training programme. Publicity vouchers of training programmes containing the detailed information and nomination form alongwith biodata format are enclosed. Duly filled in nomination form with the recommendation of Controlling Officer may kindly be sent well in advance to the undersigned under intimation to the Under Secretary (Training) DST, New Delhi.

You are requested to kindly **nominate two eligible Scientists/Technologists/ Academicians/ Professor** for aforesaid training programme from your department/organization/university. Travel expenses of participants for participating in the training programmes shall be borne by the nominating organizations whereas boarding & lodging and local transport expenses of the participants at Dehradun shall be borne by ICFRE.

Yours faithfully,

(Dr. T. P. Singh)

Encl.: As above

**Training Programme on**

# **Climate Change and Carbon Mitigation**

**for Scientists and Technologists Working in Government Sector**

**13 - 17 October 2014**



**Sponsored by:**

**Department of Science and Technology  
Ministry of Science and Technology, Government of India**



**Organized by:**

**Biodiversity and Climate Change Division, Directorate of Research  
Indian Council of Forestry Research and Education  
P. O. New Forest, Dehradun – 248 006**



Introduction	<p>Climate change is one of the greatest challenges of present time. The threat is really perceptible, and has tangible impacts upon nature and life forms. Fossil fuel burning and deforestation have emerged as principal anthropogenic sources of rising atmospheric carbon dioxide and other green house gases, and consequential global warming. Indeed, there is compelling, comprehensive, consistent and objective evidence that human are altering the climate in ways that threaten our societies and the ecosystems. However, it is still possible through cooperation among international community and individual countries to stabilize carbon dioxide and other green-house gases concentration in the atmosphere.</p> <p>Scientists and technologists working in Government sector have limited exposure to the challenge of climate change and national/international efforts and initiatives in this direction. There is a need for exposure of scientists and technologists to this multidisciplinary area of scientific knowledge. Considering the importance of convergent and synergetic approach in management of science and technology in the changing global scenario, Department of Science and Technology has awarded one week training programme to Indian Council of Forestry Research and Education on “Climate Change and Carbon Mitigation” for Scientists and Technologists working in Government sectors during the current financial year.</p>
Training Objectives	<p>The training course will provide an excellent opportunity to scientists and technologists working in Government sector to know about the science of climate change, reports and projections of Intergovernmental Panel on Climate Change (IPCC) about climate change and natural ecosystems, international systems of UNFCCC and Kyoto Protocol, national scenario and climate policies, climate change mitigation and adaptation strategies, existing CDM regulations, REDD plus, carbon markets, and how various stake holders may develop meaningful projects that get host country approval and CDM registration.</p>
Training Modules	<p>Training modules cover the following topics:</p> <ul style="list-style-type: none"> <li>➤ Introduction to climate change and carbon mitigation</li> <li>➤ Climate change mitigation and adaptation: international and national institutional mechanism</li> <li>➤ National Action Plan on Climate Change</li> <li>➤ Climate change modeling and projections</li> <li>➤ Impact of climate change on forest ecosystems and mitigation &amp; adaptation strategies</li> <li>➤ Impact of climate change on biodiversity</li> <li>➤ Impact of climate change on agriculture and mitigation &amp; adaptation strategies</li> <li>➤ Impact of climate change on water resources and mitigation &amp; adaptation strategies</li> <li>➤ Impact climate change on glaciers</li> <li>➤ Energy sector and its role in climate change mitigation and adaptation</li> <li>➤ Industry and transport sectors and its role in climate change mitigation and adaptation</li> </ul>

	<ul style="list-style-type: none"> <li>➤ Evaluation of ecosystem services and carbon evaluation in the Himalayan Forests</li> <li>➤ Carbon trading and concept of CDM &amp; REDD+ for climate change mitigation</li> <li>➤ Changing Climate Scenario: Group discussion based on movie show</li> <li>➤ CO<sub>2</sub> Flux measurements using Eddy Covariance</li> <li>➤ Field/institution visit</li> <li>➤ Panel discussion: Training need exercise</li> <li>➤ Valedictory session</li> </ul>
<b>Methodology/ Pedagogy</b>	Methodology includes class room lectures with audio visual, experience sharing, group discussion, movie show, case studies and field/institutions visit. Active participation is solicited from participants.
<b>Resource Persons</b>	<ul style="list-style-type: none"> <li>➤ Dr. G.S. Goraya, Deputy Director General (Research), ICFRE</li> <li>➤ Dr. S.P. Singh, Deputy Director General (Admin.), ICFRE</li> <li>➤ Dr. T.P. Singh, Assistant Director General (Biodiversity and Climate Change), ICFRE</li> <li>➤ Sh. M.P. Singh, Head, Climate Change and Forest Influence Div., FRI, Dehradun</li> <li>➤ Dr. Laxmi Rawat, Head, Forest Ecology &amp; Environment Division, FRI, Dehradun</li> <li>➤ Sh. V.R.S. Rawat, Scientist 'E', Biodiversity and Climate Change Division, ICFRE</li> <li>➤ Dr. Anita Srivastava, Scientist 'E', Biodiversity and Climate Change Division, ICFRE</li> <li>➤ Dr. M.K. Gupta, Head, Forest Soil and Land Reclamation Division, FRI, Dehradun</li> <li>➤ Dr. Shilpa Gautam, Scientist 'D', Biodiversity and Climate Change Division, ICFRE</li> <li>➤ Dr. R.S Rawat, Scientist 'C', Biodiversity and Climate Change Division, ICFRE</li> <li>➤ Prof. S. P. Singh, Chair for Excellence, FRI (Deemed) University, Dehradun</li> </ul> <p>Distinguished external resource persons from Indian Institute of Remote Sensing, Wadia Institute of Himalayan Geology, Indira Gandhi National Forest Academy, Indian Agricultural Research Institute, Indian Institute of Tropical Meteorology, Indian Institute of Petroleum, and National Institute of Hydrology shall also be invited for sharing their vast experience on different aspects of climate change and carbon mitigation in the training programme.</p>
<b>Training Programme Director</b>	<p>Dr. T.P. Singh, IFS</p> <p>Assistant Director General (Biodiversity and Climate Change)</p> <p>Indian Council of Forestry Research and Education</p> <p>P. O. New Forest, Dehradun – 248006 (Uttarakhand)</p> <p>Tel: 0135 – 2750296/ 2224823, Fax: 0135 – 2750296</p> <p>Email: tpsingh@icfre.org, adg_bcc@icfre.org</p>
<b>Target Group of the Training</b>	Scientists/Technologists holding scientific posts/ working in scientific Ministries/Department of Government of India and State Governments, Autonomous Institutions/Public Sector Undertakings of Central/State Governments, Research and Development Institutions/ Research Laboratories of Central/ State Governments, Central and State Universities, State Science and Technology Councils.

Eligibility Criteria for Participation in Training	<ul style="list-style-type: none"> <li>➤ Scientists/technologists, who have completed 5 years of services in a Group A, are eligible for participation in one week training programme.</li> <li>➤ Age of scientists/technologists should be less than 58 years (as on 01/07/2013).</li> <li>➤ Periodicity for attending the training programme is once in a block of two year (starting from 2012-13).</li> </ul>
How to Apply for Participation in Training	Scientists/Technologists interested for this training programme may apply in the prescribed proforma (attached with the letter) duly recommended by the Controlling Officer of the Department/Organisation and send the same well in advance to ADG (Forests & Climate Change), ICFRE, Dehradun. Prescribed proforma of nomination form alongwith biodata format for participating in the training programme can be downloaded from ICFRE web site ( <a href="http://www.icfre.gov.in">www.icfre.gov.in</a> ).
Lodging/Boarding and Transportation Facilities	Lodging/boarding and local transport facilities (picking and dropping from local air port/railway station/bus station and field visit) to the participants during the training programme will be provided and arranged by ICFRE.
Expectation from Participants	The training will review all the relevant issues, develop briefs of the studies needed, and prepare a strategy for undertaking the research. Participants shall be ready with their experiences for sharing, and are welcome to bring brief case studies as well.

### Brief about the ICFRE

Indian Council of Forestry Research and Education (ICFRE) is an autonomous body of the Ministry of Environment, Forests and Climate Change, Government of India. ICFRE is an apex body in the national forestry research system, has been undertaking the holistic development of forestry research through need based planning, promoting, conducting and coordinating research, education and extension covering all aspects of forestry. The Council deals with the solution based forestry research in tune with the emerging issues in the sector, including global concerns such as climate change, conservation of biodiversity, combating desertification and sustainable management of natural resources. ICFRE has 9 research institutes (AFRI, FRI, HFRI, IFB, IFGTB, IFP, IWST, RFRI, TFRI) and 3 research centres located in different parts of the country to cater forestry research needs of different bio-geographical regions of the nation.

ICFRE is proactive in the field of forests and climate change, and is contributing significantly to climate change issues relevant in the forestry sector at national and international levels. ICFRE is actively engaged in capacity building of stakeholders in various aspects of climate change since 2003.

ICFRE Hqs. is located in Forest Research Institute campus which is set in a lush green estate spread over 450 hectares. FRI campus houses well equipped laboratories, National Library and Information Centre, herbarium, arboreta, botanical garden, bambusetum, museums and experimental fields. FRI has three officer rest house/scientist hostels. Most of the accommodations are with A/C facilities. The total capacity of officer rest house/scientist hostels is more than 50, on single occupancy basis. Sports facilities are also available in the campus. Morning yoga/health sessions will also be arranged for the participants during the training programme.