ClimFishCon 2020

International Conference on
‘Impact of Climate Change on Hydrological Cycle,
Ecosystem, Fisheries and Food Security’

February 11 - 14, 2020  Cochin, India

URL: www.climfishcon.org

First Announcement

Theme: Climate change effective adaptations
for a secure future

Jointly Organised by
Cochin University of Science and Technology
School of Industrial Fisheries, Kochi and
Department of Fisheries, Govt. of Kerala

In association with Govt. of India and Govt. of Kerala
Background:

Climate change has emerged as the most pressing global challenge of the 21st century. There is an increasing understanding that climate change transcends political boundaries and affects the whole global population. Global temperature is soaring, which has already been now 1°C higher than the pre-industrial level. If the current rate of greenhouse gas emissions continues, then the global temperature will rise to 1.5°C above the pre-industrial level between 2030 and 2052. It will directly affect water vapour concentrations, clouds, precipitation patterns, and stream flow patterns, which are all related to the water cycle. Sea level has been reported to be increasing at a rate of 0.1 to 0.2 mm/year while Sea Surface Temperature (SST) showed an increase of 0.6 to 1°C over the last century whereby storms are able to absorb more energy from the resultant warmer oceans causing extreme weather events, heavy rainfall and storm surges, leading to devastating coastal damage and loss of lives. Climate change has a dramatic effect on natural ecosystems and environment often leading to acceleration in biodiversity loss. These impacts will have a knock-on effect on many communities and sectors that depend on natural resources, such as agriculture, fisheries, aquaculture, energy and tourism. Our weather patterns are also changing increasing the risk of both heavy rains followed by extreme droughts as experienced in some of the tropical countries including India. A focussed discussion by the experts pooled internationally on climate change and accompanying risks of both heavy rains and extreme droughts has been found essential in understanding the factors underlying such crisis. Research findings have shown that climate change is also altering aquatic ecosystems, driving shifts in physical and chemical processes, ecological communities and the distribution and abundance of commercially important species. Consequently, the resources and services from the inland and marine ecosystems will be impacted and everyone, who are benefitted from these goods and services are vulnerable. Ocean warming and acidification can also affect growth and reproduction processes of many marine organisms, which may reduce stock availability of several commercial species. Fisheries and aquaculture sectors are crucial resources in terms of ensuring food security which are also increasingly vulnerable, due to their close relationship and multifaceted interaction with the climate change effects. The Conference will also advance our understanding on the vulnerability and resilience of the coastal communities who are depending on the coast and coastal resources for their well being and dwelling, and will also discuss about the societal consideration of risks, opportunities and actions needed.

Against this backdrop, the School of Industrial Fisheries, Cochin University of Science and Technology, Kochi, India and Department of Fisheries, Government of Kerala, in association with various ministries of the State of Kerala and Union Government of India are jointly organising an International Conference on Impact of Climate Change on Hydrological cycle, Ecosystems, Fisheries and Food Security (ClimFishCon 2020), during 11-14 February 2020 at Kochi, India.

Objectives of the International Conference are:

- To provide a unique academic and scientific platform to discuss our understanding and research achievements in the field of climate change and its consequences and risks in terms of changing hydrological cycles and perturbations that have taken place in oceans and other aquatic ecosystems;
- Explore the factors underlying the changes in weather patterns and the consequential risk from deluge and extreme drought conditions;
- Facilitate the synthesis of information on how climate-related changes will influence oceans, marine and inland ecosystems, hydrological cycles, fisheries and aquaculture, coastal communities and society at large.

Conference will include invited plenary sessions, key note addresses, lead paper presentations, contributed paper sessions and poster sessions with extended period for discussions, and special events that will explore topics having regional importance.
1. Hydrometeorology and hydrology
   - Weather system changes and their practical consequences;
   - Hydrological cycles;
   - Hydrological hazards - flood and extreme drought conditions - societal implications, flood control;
   - Water conservation; monsoon variability.

2. Natural hazards and disaster risk management
   - Natural disasters - cyclone, hurricanes, deluges and drought, tidal waves, storm surges;
   - Predictability of extreme weather events and environmental tipping points;
   - Monitoring and surveillance systems;
   - Risk reduction and disaster preparedness;
   - Post-disaster management and mitigation strategies.

3. Pollution
   - Climate change and environmental pollution;
   - Green house gas emission trends, sources and impacts;
   - Risks, remediation methods and techniques pertaining to air, water, soil and plastic pollution.

4. Marine and coastal ecosystems
   - Physico-chemical, geological and biological changes;
   - Nutrient influx and transport;
   - Biological productivity and ocean warming;
   - Changes in community structure and trophic levels;
   - Food web structure and functional changes;
   - Harmful algal blooms;
   - Ocean acidification and its impact on ocean processes.

5. Changing biodiversity scenarios
   - Biodiversity status of major aquatic ecosystems; biodiversity loss;
   - Extinct, threatened or endangered species and their rehabilitation and conservation;
   - Habitat fragmentation and loss;
   - Biodiversity changes due to migration;
   - Biodiversity based economy, humanwell being and livelihood security.
6. **Capture fisheries**
   - Dwindling catches of commercially important species;
   - Regime shifts-vertical and high latitude-wise;
   - Phenological changes in fishes;
   - Species extinction, overfishing and fishery collapses, restoration of stocks;
   - Trophic cascading effects;
   - Sustainable resource management;
   - Invasive species;
   - Reduction of carbon footprint in fisheries.

7. **Aquaculture**
   - Ecological and environmental changes-water and soil quality, carrying capacity, nutrient dynamics, waste management, climate resilient species and innovative farming systems;
   - Selective breeding for higher temperature and salinity tolerant species;
   - Threats to aquafarms and production loss;
   - Carbon footprint reductions in aquafarms; introduction of cleaner and greener technologies;
   - Impacts of feeds, fishmeal, feed ingredients;
   - Combating potential diseases.

8. **Food and nutritional insecurity**
   - Dependence on fisheries and aquaculture for food and livelihood security;
   - Responsible utilisation of fish - hygiene and primary processing, value addition;
   - Diversification in fishery products, trends in trade and consumption of fish;
   - Global and regional supply and demand trends and prospects;
   - Food fish consumption and pricing trends;
   - Climate linked geopolitical and economic consequences of food security;
   - Climate change induced food borne diseases.

9. **Climate change and socio-economic scenarios**
   - Economic and social costs of climate change;
   - Socioeconomic status of coastal communities;
   - Vulnerability, livelihood and employment security;
   - Coastal infrastructure and living standards;
   - Adaptive capacity and mitigation measures.
1. **Workshop on Weather Changes - Deluge and Severe Drought**
   - Discussion on the factors underlying crisis such as natural disasters, massive flooding followed by severe drought;
   - Links between climate change and drought, extreme heat, precipitation and cyclones;
   - Vulnerability to disasters, preparedness and management.

2. **Workshop on Impact of Climate Change on Coastal Wetlands**
   - Role of wetlands in coping with climate change;
   - Wetland values and services;
   - Carbon trading in wetlands;
   - Protection of life and livelihood of coastal communities.

3. **Stakeholders Conclave (Fishers, Aquafarmers, Processors and Exporters)**
   The Conference will also provide an opportunity for stakeholders involved in fishing, aquafarming and processing and exporting of seafood for presenting their views on impact of climate change in their respective domains and offer suggestions for mitigation of the impacts. The presentations will be done by the selected representatives from each sector.

**Conference Secretariat**

**Conference Chair**
Prof. (Dr) B. Madhusoodana Kurup, Founder Vice-Chancellor, KUFOS, Kochi.

**Co-Chairs (Technical Committee)**
Prof. (Dr) K. Gopakumar, Former DDG (Fisheries), ICAR;
Prof. (Dr) N. Chandramohanakumar, Director, Centre for Marine Biotechnology, School of Marine Sciences, CUSAT, Kochi.

**Co-Chairs (Exhibition Committee)**
Dr. K.K.C. Nair, Former Scientist-in-Charge, Regional Centre, CSIR-NIO, Kochi;
Dr. V.N. Sanjeevan, Former Director, CMLRE, Kochi.

**Co-Chairs (Special Workshop Climate Change in Wetlands)**
Dr. Harikumar, P.S., Senior Principal Scientist, CWRDM, Kozhikode;
Dr. J. Sundaresan Pillai, CSIR, NISCAIR, New Delhi.

**Co-Chairs (Workshop on Weather Changes - Deluge and Severe Drought)**
Prof. (Dr) K. Mohankumar, Honorary Director, ACARR, CUSAT, Kochi;
Dr. K.V. Thomas, Dean, Faculty of Climate Variability and Aquatic Ecosystems, KUFOS, Kochi.

**Co-Chairs (Stakeholders Conclave)**
Dr. N.G.K. Pillai, Former Director, ICAR-CMFRI, Kochi;
Dr. K. Sunil Mohamed, Principal Scientist & Head-in-Charge, MFD, ICAR-CMFRI, Kochi.
Sri. Alex K. Ninan, Regional President, SFAI, Kochi.

**Secretary General**
Dr. M.R. Boopendranath, Principal Scientist (Retd.), ICAR-CIFT, Kochi.

**Organising Secretary**
Prof. (Dr) M. Harikrishnan, Director SIF, CUSAT, Kochi.

**Secretaries**
Dr. Saly N Thomas, Principal Scientist, ICAR-CIFT, Kochi;
Prof. (Dr) S. Suresh Kumar, Director, SOST, KUFOS, Kochi;
Dr. K. Ranjeet, Assoc. Professor & Head, Department of Aquatic Environment Management, KUFOS, Kochi.

**General Conveners**
Sri. P. Sahadevan, Additional Director of Fisheries, Directorate of Fisheries, Govt. of Kerala;
Dr. K. Ajith Joseph, Director, NERCI, Kochi.

**Convenors**
Sri. Dineshan Cheruvat, Joint Director, NIFAM, Dept. of Fisheries, Govt. of Kerala;
Dr. Mini Sekharan, Assistant Professor, SIF, CUSAT, Kochi;
Dr. S. Sabu, Assistant Professor, SIF, CUSAT, Kochi.

**Treasurer**
Dr. Shibu, A.V, Assistant Professor, SIF, CUSAT, Kochi.
**Registration**

Registration is a prerequisite for attending the conference. Registration can be done through the Conference website www.climfishcon2020.org

**Registration fee**

<table>
<thead>
<tr>
<th>Category</th>
<th>National Participant</th>
<th>National student participant</th>
<th>National stake holders representing fishing aquaculture and processing sectors</th>
<th>International participants</th>
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</thead>
<tbody>
<tr>
<td>Early bird Registration fee, before 30th November 2019.</td>
<td>Rs. 6000</td>
<td>Rs. 3000</td>
<td>Rs. 4000</td>
<td>US$ 200</td>
</tr>
<tr>
<td>Registration fee, after 30th November 2019.</td>
<td>Rs. 7000</td>
<td>Rs. 3500</td>
<td>Rs. 5000</td>
<td>US$ 250</td>
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<tr>
<td>Spot Registration fee.</td>
<td>Rs. 10000</td>
<td>Rs. 6000</td>
<td>Rs. 7000</td>
<td>US$ 350</td>
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<tr>
<td>Part Registration (Workshop/ Stake holders Conclave; Cost per item)</td>
<td>Rs. 2000</td>
<td>Rs. 1000</td>
<td>Rs. 1000</td>
<td>US$ 50</td>
</tr>
</tbody>
</table>

**Payment of registration fee:**

Online payment through website: www.climfishcon.org

Payments can be made directly through net banking or by Demand Draft to the following account: ClimFishCon2020 Conference Secretariat, School of Industrial Fisheries, Cochin University of Science and Technology, Kochi -16, India.

Bank details for Wire Transfer

- **Name of Account:** CLIMFISHCON 2020
- **Account Number:** 00000038418776295
- **IFSC Code:** SBIN0008614
- **CIF No.:** 90309581360
- **Name of the Bank:** State Bank of India
- **MICR Code:** 682002009
- **and Address:** Broadway, Ernakulam
- **Branch:** Broadway Branch, Ernakulam

**Submission of Abstracts**

Abstracts for oral and poster presentations, must be submitted online as per details provided in the Conference website www.climfishcon.org. The authors are encouraged to submit high quality abstracts for oral and poster presentations. All abstracts will be subjected to a blind peer review process and categorized for oral or poster presentation by the Screening Committee. Those who are interested to make poster presentation, they can do so. Guidelines for the preparation and submission of abstracts will be made available in the Conference website. At least one of the authors of the abstract must register for the Conference before the deadline for considering the abstract for presentation. Upon payment of the registration fee, a confirmation email would be sent to the presenting author.

Authors interested to get their article published in the partnered journal (details will be made available in the website) can express their willingness during submission of abstract itself. Authors shall submit their full length research paper as per the journal format, to the Organising secretary (mail@climfishcon.org, climfishcon@gmail.com, climfishconchair@gmail.com) before the deadline, which will undergo double-blind peer review before being considered for publication. Authors are requested to consult the guidelines (http://www.bioone.org/page/coas/authors) carefully before preparation of the manuscripts.

Poster presentations are encouraged as the slots available for oral presentation are limited. The poster sessions will be scheduled concurrently along with concerned oral presentation sessions in the Conference. Instructions for preparation of posters will be made available in the Conference website.

Young Scientist award: Scientist below the age of 35 can contest for young scientist award under various themes of the conference subject to the condition that the papers shall be the outcome of high quality research on original ideas/concepts. Young researchers will also be supported by travel assistance subject to eligibility.

**Deadline for Submission of abstracts:** 1st December 2019.
**Last date of communicating acceptance for presentation:** 31st December 2019.
**Last date for submission of full paper:** 15th January 2020.
Keynote and Invited speakers

A panel of internationally renowned experts across the globe working in the relevant areas in various focal themes of the Conference will be presenting papers. Names will be made available in the Second Announcement and in the Conference website.

Who should attend?

Academics, scientists, researchers, students, entrepreneurs, administrators, policy makers, fishers, aqua farmers, processors, seafood exporters, NGOs and other interested stakeholders.

Conference Venue

Kochi (Cochin), the commercial, fiscal and industrial capital of Kerala state, well known as ‘Gods Own Country’ is situated on the south west coast of India. Kochi, the national hub of fisheries and ocean related activities where most of the premier Universities and R&D institutions in fisheries and ocean sciences of the country are located. Historically, Kochi has the reputation of being the centre from where the International Indian Ocean Expedition (IIOE) (1956-65) was launched. Kerala, the most literate and prosperous state in India is flanked by the Arabian Sea on the western side and the Western Ghats with its rich biodiversity on the eastern side. Kochi has a tropical climate and in February, weather is pleasant, with the temperature ranging between 30° and 31°C. Nedumbassery is the nearest international airport which is about 35 km from the venue. Chinese fishing nets (Cheenavala), Fort Kochi beach, St. Francis Church, Santa Cruz Basilica, Jewish Synagogue, Dutch Palace, Boigatty Palace, Hill Palace are some of the tourist attractions. Kovalam, Thekkady, Munnar and Kanyakumari are some of the tourist attractions nearby Kochi.

ClimFishCon EXPO 2020

ClimFishCon Expo 2020, a mega exhibition also planned as part of ClimFishCon 2020. This exhibition will provide a wonderful opportunity to scientific, educational and commercial institutions to exhibit and showcase their activities, products and services to the public. The exposition will also serve as a platform to showcase the progress achieved in areas such as aquaculture, fisheries, fishing methods, fishery forecasting, information on living and non-living resources, disaster forecasting, marine instrumentation, remote sensing, value-added seafood, human resource development and other related areas. A seafood festival will be an added attraction of ClimFishCon EXPO 2020. The exhibition will be conducted in fully air conditioned stalls. Organisations or business groups in India and abroad are welcome to participate in the Expo by getting approval from the Conference Secretariat and registering for the same. Each stall having area of 100 sq. ft. will be available for the exhibitors at a cost Rs. 50,000 on a first cum first serve basis. For the registration of exhibition stall, please contact Organising Secretary, ClimFishCon 2020. Details of stall layout will be available in the Conference website.

Dates to remember

Early bird Registration deadline: 30th November 2019
Regular Registration deadline: 15th January 2020
Deadline for Submission of abstracts: 1st December 2019
Last date for submission of full papers: 15th January 2020.

Post Conference Tours

Several options for Post Conference Tours are provided which include: (i) Boating and backwater cruises; (ii) Mountain and hill resorts; (iii) Beach resorts; (iv) Coral reefs of the Lakshadweep Islands; (v) Fish processing estates and (vi) Cultural heritage sites

Contact details

For details of the Conference and Expo, please contact:
Organising Secretary, ClimFishCon 2020
Dr. M. Harikrishnan,
Professor & Director, Conference Secretariat,
School of Industrial Fisheries, Cochin University of Science and Technology, Kochi - 682 016, India
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E-mail: mail@climfishcon.org; climfishcon@gmail.com; climfishconchair@gmail.com
Fax: +91 484 2365952 URL: www.climfishcon.org
About the Organisers

Cochin University of Science and Technology (CUSAT)
CUSAT was established in February 1986 reorganising the erstwhile University of Cochin by the Govt. of Kerala. The academic structure comprises of ten faculties and 28 departments and 18 centres sprawling over three campuses at Thrissikkara, Lakeside Campus of Ernakulam and Pulinkunnu Campus at Alappuzha. CUSAT offers U.G, P.G, M.Phil. and Ph.D. programs and the student strength is around 3000.

School of Industrial Fisheries, CUSAT
The School of Industrial Fisheries was established in 1998 by reorganising the Dept. of Industrial Fisheries which was established in 1976. The School offers Two post graduate programs in Fisheries besides M.Phil. and Ph.D. programs in multidisciplinary subjects such as Aquaculture, Fisheries Resources Management, Fishing Technology, Fish Processing Technology and Fisheries Management.

Dept. of Fisheries, Govt. of Kerala
The Fisheries Department of Kerala, governed by the Minister for Fisheries, is considered to be one of the most important productive and developmental sectors of the state. The vision of the Department is the upliftment of fishing community, through implementation of the policy of the Government of Kerala for their socio-economic development. Responsibilities of the Department are to undertake various production oriented schemes, serving as agency for facilitating sustainable fishery and conservation of fishery resources and expansion of aquaculture in the state.

COMMITTEES

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U. D. Mishra, Minister for Agriculture
U. D. Mishra, Minister for State and Science Technology
U. D. Mishra, Minister for Earth Sciences
U. D. Mishra, Minister for Environment, Forest & Climate Change
Sri. P. Sivashanmugam, Chief Mentor of Kerala

Patron
Sri. K. J. Menon, Director, Indian Institute of Science, Bangalore
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Sri. K. N. Rao, Director, Indian Institute of Science, Bangalore
Sri. S. V. Ramachandran, Director, Indian Institute of Science, Bangalore
Sri. V. M. Tandon, Director, Indian Institute of Science, Bangalore
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Sri. V. P. Menon, Secretary, Indian National Science Academy

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Sri. S. V. Ramachandran, Chairman, Indian National Science Academy
Sri. V. M. Tandon, Secretary, Indian National Science Academy
Sri. V. P. Menon, Secretary, Indian National Science Academy

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Prof. V. L. Aiyar, Director, National Institute of Oceanography, Goa
Prof. S. K. Vadlamudi, Director, National Institute of Oceanography, Goa
Prof. V. L. Aiyar, Director, National Institute of Oceanography, Goa

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Prof. K. S. Subramanian, Former Director, ICMR, Kochi
Prof. K. S. Subramanian, Former Director, ICMR, Kochi
Prof. K. S. Subramanian, Former Director, ICMR, Kochi
Prof. K. S. Subramanian, Former Director, ICMR, Kochi

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