





# **India-EU Workshop on Marine Primary Production** 12<sup>th</sup> -15<sup>th</sup> March 2013

# Cochin

# Co-organized with KERALA UNIVERSITY OF FISHERIES AND OCEAN STUDIES (KUFOS), PANANGAD, COCHIN

#### Agenda

Venue: KUFOS Auditorium, Panangad, Cochin – 682 506.

#### Tuesday 12th March 2013 - Morning session

#### 9.00 am - Registration

9.30 am	WELCOME - Dr. Ajith Joseph. K, Director, NERCI & Prof. Ola. M.	
	Johannessen, Chairman, Steering committee, INDO-MARECLIM	
	<b>3</b> ,	
9.40 -	Presidential address - Prof. B. Madhusoodana Kurup, Vice-Chancellor,	
9.50 am	KUFOS, Kochi.	
3.50 am	NOT GO, NOGHI.	
9.50 -	INAUGURATION	
10.05		
	<b>Dr. V. N. Sanjeevan,</b> Director, Centre for Marine Living Resources & Ecology	
am	(CMLRE), Cochin	
	Presentation on "MSY estimation from satellite based Chlorophyll estimates".	
	Felicitations	
10.15	Dr. C. Mohanakumaran Nair, Pro-Vice Chancellor, KUFOS	
am		
10.15 -	Prof. N. R. Menon, Co-ordinator, INDO-MARECLIM & Lasse H. Pettersson,	
10.25	Deputy Co-ordinator, INDO-MARECLIM	
am	Overview of the EU project INDO-MARECLIM	
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10.25 -	Prof. Trevor Platt, Executive Director, POGO, PML, UK & Prof. N. R. Menon, Co-	
10.40	ordinator, INDO-MARECLIM	
am	Introduction to the Workshop	
10.40 -		
10.45	Dr. Nandini Menon. N	
am	Di Handin mononi ii	
10.45 -		
11.15	TEA BREAK	
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am		



















# Tuesday 12th March 2013

11.15 –	Prof. B. Madhusoodana Kurup, Vice Chancellor, KUFOS
11.30	Presentation on "Biofloc technology in shrimp aquaculture"
am	Teschiation on Bioloc technology in shiring aquaediture
11.30 -	Lecture: Prof N.P. Monon NEDCI
	Lecture: Prof. N.R. Menon, NERCI
12.15	Indian seas – an ecological approach
pm	
12.15 –	Lecture: Dr. G.V.M. Gupta, CMLRE
1.00 pm	Biogeochemistry of estuarine and coastal regions of southeastern Arabian Sea
1.00 -	
2.00 pm	LUNCH BREAK
2.00 pm	20110112111
2.00 -	Lecture: Dr. Shubha Sathyendranath, PML
3.00 pm	The bio-optical controls on primary production
	The die space controls on primary production
3.00 -	Prof. Harilal. B. Menon, Goa University
3.30 pm	Variability of case II water optical properties and associated remote sensing
	reflectance - implications to optical remote sensing of pri. Productivity
3.30-	Toncolarios implications to optical remote sensing of pri. I foddelivity
	TEA DDEAK
4.00 pm	TEA BREAK

















#### **Tuesday 12th March 2013**

4.00	_
6.00	pm

\*Presentations by participants on status of their primary production programmes (why, where and how often). Each presentation to be no more than fifteen minutes duration.

Shiva Kumar Magada: Development of primary productivity index scale and model for

ocean waters off Karnataka coast

Thangaradjou Thirunavukarasu: Work plan for primary productivity and pCO2

measurements along the Tamilnadu coast

Iva Talaber: Phytoplankton primary production and scales of variability in the

photosynthetic parameters in a shallow coastal sea (Gulf of

Trieste, Adriatic sea).

Methods of estimation of primary production-comparison and Anilkumar Vijayan:

assessment.

Mini Raman: Estimation of euphotic zone primary production from Indian ocean colour

satellites

Mira Morovic: Remote sensing data and products versus in-situ data in the Middle

Adriatic Sea

Annette Samuelsen: Intercomparison between modelled and satellite based primary

production in the Arctic.

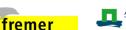
\* Setting the stage for the focussed working groups



















Wednes	Wednesday 13th March 2013 – Morning session		
9.30 -	Lecture: Dr. K. H. Rao, NRSC		
10.30	The sources of ocean colour data for Indian waters, and some applications.		
am			
10.30 -	Lecture: Prof. Trevor Platt, PML		
11.30	Regional estimation of Primary Production		
am			
11.30 -			
12.00	TEA BREAK		
pm			
12.00 -	Lecture: <b>Dr. Heather Bouman</b> , Oxford University		
1.00 pm	Community Structure and Primary Production		
1.00 -			
2.00 pm	LUNCH BREAK		
2.00			
2.00 -	Presentations by participants on status of their primary production programmes		
4.00 pm	(why, where and how often). Each presentation to be no more than fifteen minutes		
	duration.		
	V//CC Charmas Importance of anicodia events on marine primary production		
	V.V.S.S. Sharma: Importance of episodic events on marine primary production		
	Shalin Saleem: Chl. a and associated physical processes in the Arabian sea		
	Manjira Roy: Interannual variability of chlorophyll concentration in the Arabian Sea using GIS		
	Seenivasen Ramasubbu: Investigations on phytoplankton ecology and chl. a concentration in the Gulf of Mannar biosphere reserve, SE coast of India using remote sensing techniques		
	Sanilkumar. M. G: Phytoplankton community composition		
	Daffne C. López-Sandoval: The importance of dissolved primary production in contrasting ecosystems and its relation with cell size and taxonomic affiliation.		
	Elena Garcia-Martin: Applying new O <sub>2</sub> sensors to estimate plankton metabolism:  Advantages and disadvantages compared to the standard light/dark incubation method		
	Kalyani Devasena Chikka: Marine biogeochemical cycles of the Indian Ocean using ocean model simulations and data		
4.00 -	TEA BREAK		
4.30 pm			
1.50 PIII			

















### Wednesday 13th March 2013 – Afternoon session (contd..)

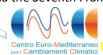
4.30 – 6.15 pm	Presentations by participants on status of their primary production programmes (why, where and how often). Each presentation to be no more than fifteen minutes duration).
	Ranjith. L: Remote sensing assisted biodynamic forecasting paradigm for Indian Marine Fishery Resources
	Vijay Kumar: Predicting the seasonal variability of Plankton and Marine Fish
	Grinson George: Fisheries potential in the EEZ of India - estimation procedures vis-à-vis veracities
	Zarko Kovac: Different mathematical formalisms for vertical structure of primary production models and relation to light forcing
	Mohamed Hatha Abdulla: Occurrence of Diatom-diazotrophic cyanobacterial association (DDA) during Trichodesmium bloom in the southeastern Arabian Sea: An addendum to Nitrogen budget
	S. K. Dash: Ecosystem modelling in the Southwest coast of India – Remote sensing approach

Séverine Fournier: Spatio-temporal Coherence between Spaceborne Measurements of

Salinity and light Absorption in the Amazon Plume Region

















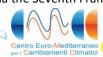
# Thursday 14th March 2013

0.20	Lastura, Dr. Anna Historian Univ. of Couthampton
9.30 –	Lecture: <b>Dr. Anna Hickman</b> , Univ. of Southampton
10.30 am	Modelling primary production and the need for data
10.30 – 11.00 am	Formulation of Discussion group(s) aiming to find common ground among various programmes in primary production  What we are looking for:  • To what extent do we have common methodologies in the various programmes on primary production?  • What is the spatial and temporal variability of the data coverage (primary production) for Indian waters?  • What are the prospects for integration and coordination among them?  • What actions might be taken to increase the value added for these data?  • What might a national plan look like for assessment of primary production in Indian waters?  • What are the potential barriers preventing sharing of data sets among Indian institutions?  • How can the Indian data contribute to global estimates of primary production?  • How can we (INDO-MARECLIM) help to accelerate progress in this work?  Possible outputs:  1. A plan for field survey in support of primary production assessment (Indian waters) using remote sensing.
	2. Some commitments to implement the plan.
11.00 – 11.15 am	TEA BREAK
11.15- 12.15 pm	Lecture: <b>Dr. Grinson George,</b> CMFRI, Cochin Fishery resources and the dynamic chlorophyll field in the coastal waters of India
12.10 pm	Transfer of the art and arrange of the arrange of t
12.15 –	Lecture: Dr. V.V.S.S. Sharma, NIO, Vishakhapatnam
1.15 pm	Monsoonal forcing and Biogeochemistry of Indian waters
1.15 -	
2.00 pm	LUNCH BREAK
2.00 -	
3.30 pm	Discussion group activity
3.30 -	TEA 55-112
4.00 pm	TEA BREAK
4.00 –	Continuation of Discussion group activity
6.00 PM	



















# Friday 15th March 2013

9.30 -	Continuation of Discussion group activity
11.00	
am	
11.00 -	
11.30	TEA BREAK
am	
11.30 -	Final session of working group activity.
1.00pm	
1.00 -	
2.00 pm	LUNCH BREAK
2.00 -	Synthesis, conclusions and decision on way forward.
4.00 pm	Session Chair- <b>Prof. Dr. N. R. Menon,</b> Co-ordinator, INDO-MARECLIM &
	Lasse. H. Pettersson, Deputy co-ordinator, INDO-MARECLIM
4.00 -	Tea and Departure
4.30 pm	









