



International Collaboration – Cornerstone
of the Coastcolour approach

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CoastColour
www.coastcolour.org



International Elements of CoastColour Team

- ESA
 - Simon Pinnock
- Core Team
 - Carsten Brockmann (BC, coordination, software and processing)
 - Roland Doerffer (GKSS, algorithm development)
 - Shubha Sathyendranath, Steve Groom (PML, International coordination, PP algorithms)
 - Kevin Ruddick (MUMM, Belgium , Round Robin)
 - Richard Santer (Adrinord, atmosphere characterisation)
 - Vanda Brotas (University Lisbon, in-situ data and quality management)
- Consultants
 - Mark Dowell, **Zhongping Lee (USA)**, **Yu-Huan Ahn (Korea)**,
Stewart Bernard (South Africa), **Thomas Schroeder/Arnold Dekker (Australia)**,
Jim Gower (Canada), **Bryan Franz (USA)**
- Science Team
 - Mark Dowell, **Gene Feldman (USA)**, **Paul DiGiacomo (USA)**, Jürgen Fischer, Hubert Loisel, Kai Sorensen, **Prakesh Chauhan (India)**, Trevor Platt, Steef Peters

Objectives of CoastColour

- **MERIS FR data of challenging/important coastal zones** at a regional scale, processed with best possible algorithms for Level 1, with best possible regional algorithms for water leaving reflectances and IOPs, and demonstrating processing of regional higher level specific products; all products including **per pixel error/uncertainty estimates**;
- Internationally discussed **protocols for complex waters processing** including **algorithm performance assessment**;
- An **international comparison of algorithms for complex waters**, involving all relevant stakeholders and open to the scientific community;
- **Actively demonstrating and promoting MERIS capabilities for complex water processing** to the international ocean colour radiometry community, and increase of usage of MERIS within and outside Europe;
- **Preparation of the future exploitation of MERIS and Sentinel 3 products** for applications in complex waters and for climate change studies.

Links to other space agencies

- NASA, ISRO and KORDI are represented in the CoastColour Team
- Links to JAXA are being developed (see talk by Takafumi Hirata this afternoon)

Links to IOCCG

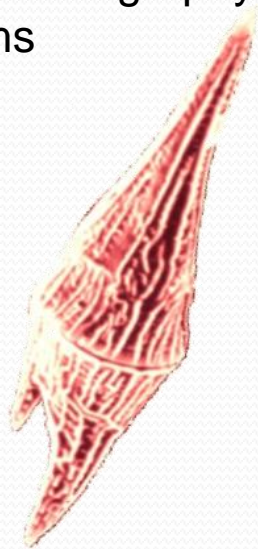
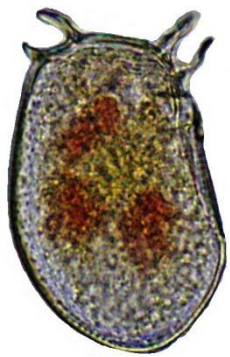
- CoastColour Team well represented in IOCCG
- IOCCG Working Group on uncertainties in ocean-colour algorithms is chaired by Roland Doerffer – will link to related efforts elsewhere
- Ocean Colour Virtual Constellation – CoastColour recognised within this activity. Feeds to CEOS
- IOCCG/GEOHab working group on Harmful Algal Blooms: CoastColour products are being provided to the working group on many sites identified as areas prone to incidents of HABs

Ocean Colour & Harmful Algal Blooms Working Group

International Ocean-Colour
Coordinating Group
IOCCG

&

Global Ecology and Oceanography
of Harmful Algal Blooms
GEOHAB



First Meeting, August 2010
Schulphoek, South Africa

HAB Case Studies: Examining OC Performance & Applicability

Genus/Group	Ecosystem	Date	CRP	OCR suitability	In Situ Data	Champion User
Cochlodinium	Chesapeake Bay	August 2008	Eutrophic	2	4.5	Y
	Korea	tbd	Eutrophic	4	tbd	Y
	Gulf of Oman	August 2008–May 2009	Eutrophic	4	3	
Alexandrium	St Lawrence	August 2008	F & CE	3	3.5	Y
	Chile	tbd	F & CE	3	2.5	
	Gulf of Maine	tbd	F & CE	1	3.5	
	California	tbd	Upwelling	5 & 1	4 – 5	Y
	Benguela	October 2002	Upwelling	5 & 1	3	Y
Pseudo-Nitzschia	California	tbd 2002-2006	Upwelling	5 & 1	5	Y
	Benguela	March 2006	Upwelling	5	3.5	Y
Red Tides	California	tbd 2002-2006	Upwelling	5	4 – 5	Y
	Benguela	February – May 2009	Upwelling	5	4	Y
	Peru	tbd	Upwelling	5	tbd	
Aureococcus	Chesapeake	tbd	Eutrophic	2	4	Y
Synecochoccus	Florida Bay	tbd 2005 -2008	Eutrophic	4	4	
Karenia	Florida	tbd	Eutrophic	5	3	Y
	East China Sea	May – July 2005	Eutrophic	5	3.5	Y
	New Zealand	tbd	Eutrophic	?	tbd	
Cyano/Microcystis	Europe (Scape-M)	tbd	Inland	4	4	
	Lake Taihu	tbd	Inland	4	tbd	
	Zeekoevlei	April 2008	Inland	4	4	
	Baltic	tbd	Eutrophic	5	4 – 5	Y
Noctiluca	Arabian Sea	tbd	Eutrophic	5	3.5	
Phaeocystis	Channel/Belgium	tbd	Eutrophic	5	3.5	Y

1 = OC unsuitable or poor data , 5 = OC highly suitable & extensive data available e.g. full bio-optics, overflight, etc

Eight CoastColour Champion User sites represented in the case studies

Land-Ocean Interactions in the Coastal Zone (LOICZ)

- CoastColour has developed close ties with LOICZ.
- LOICZ interest in research on the marine biological components in the coastal domain: CoastColour is a link to remote-sensing approach to phytoplankton dynamics, primary production and ecological provinces of the coasts.
- LOICZ hosted the first progress meeting of CoastColour in May 2010, and expressed a strong interest in CoastColour activities.
- CoastColour contributed regularly to LOICZ newsletter.
- CoastColour is an affiliated project of LOICZ and has regular reporting responsibilities to LOICZ.

Links to Group on Earth Observations and Partnership for Observation of the Global Oceans

- **Agriculture:** Task AG-06-02: SAFARI
- **Ecosystems:** Task EC-09-01c: ChloroGIN
- **Water:** Task WA-08-01g: Inland and Near Coastal Remote Sensing WG

SAFARI

- Launched November 2007 after receiving Canadian Space Agency (CSA) funding
- Part of GEO task AG-06-02: consultation at international level to identify opportunities for enhanced utilization of Earth Observation (EO) data in fisheries & aquaculture
- Aims:
 - accelerate assimilation of EO data into fisheries research & ecosystem-based fisheries management on global scale
 - facilitate application of rapidly evolving satellite technology to fisheries management questions
 - help build capacity at science & operational levels

“An international network for promoting ocean colour and related satellite and in water observations to assess the state of marine, coastal and inland water ecosystems for the benefit of society.”

<http://chlorogin.org/world/>

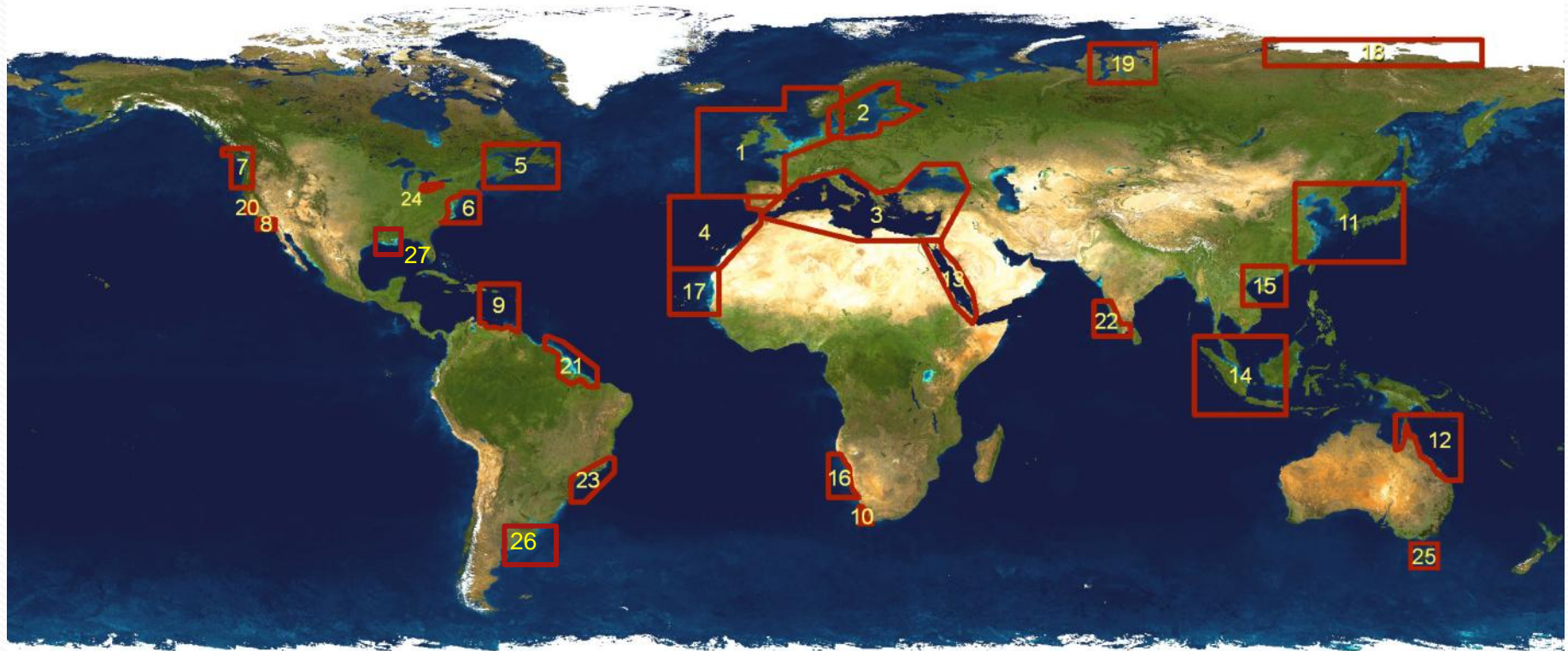
The screenshot displays the ChloroGIN Earth website in a browser window. The browser's address bar shows the URL <http://www.chlorogin.org/world/>. The website header includes the title "ChloroGIN Earth" and navigation links for "Earth", "Africa", "South America", "Contact", and "Partners". A logo for "chloroGIN" is visible in the top right corner. Below the header, a paragraph of text describes the project: "The Chlorophyll Global Integrated Network (ChloroGIN) project aims to promote in situ measurement of chlorophyll in combination with satellite derived estimates. The project was initiated following recommendations of the 'Plymouth Chlorophyll Meeting and Workshops (Extended Antares Network)' sponsored by GOOS, GEO, IOCCG, PML and POGO 18 - 22 Sept 2006 and was inspired by the Antares network that provides satellite coverage over Latin America. The ChloroGIN portal is maintained by Plymouth Marine Laboratory." Below the text is a world map with satellite data overlays, showing various regions highlighted with black boxes. At the bottom of the page, there is a date selection interface with the text "Select date:" followed by "Year: 2009 Month: 05 Day: 20" and buttons for "Apply" and "[Today]".

In-situ Database

- Global User Community
- 42 user organisations
 - 5 representing a large regional user group
 - 21 have already provided site specific in-situ data

Global Network of Users

Global Distribution of Sites



Coastcolour User Consultation Workshops:

19 – 20 March 2010, Cork, Ireland

16 – 17 November 2010, ESRIN, Italy

Next User Consultation Workshop:

19 – 21 October 2011, Lisbon, Portugal

Thank you!

www.coastcolour.org

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