Current Status of SABIA-Mar Mission

&

Ocean Applications of CONAE

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&
SABIA-Mar Team

Busan, South Korea, 9–12 April 2019

International Ocean Colour Science Meeting 2019

Advancing Global Ocean Colour Observations

SABIA-Mar Mission: Driver Objectives

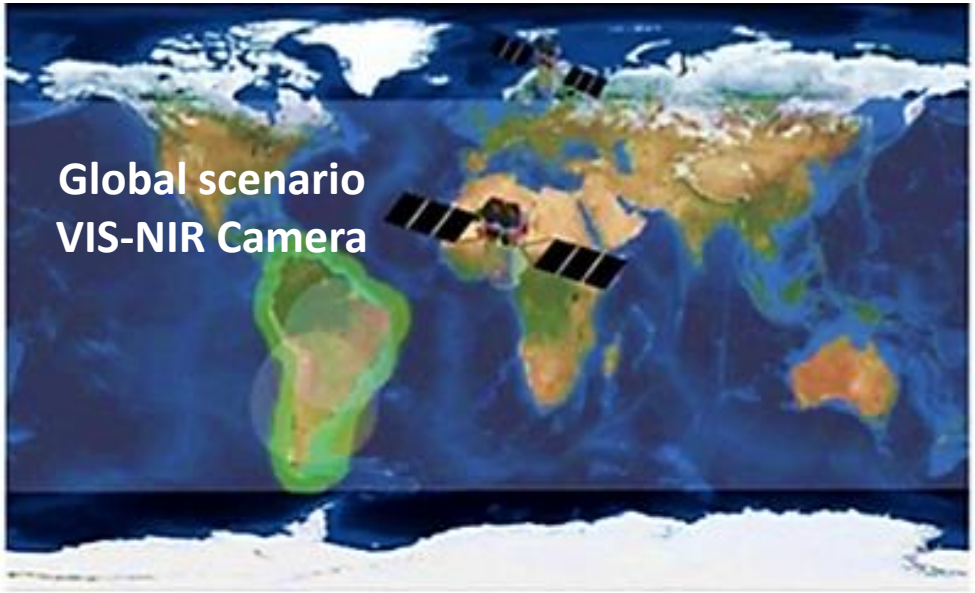
- To measure ocean color in open ocean (Global Scenario-800m), and South America & its coasts (Regional/Coastal Scenario-200m), 2-day revisit, in order to provide data, information and value-added products for studies related to:

  - **Primary Productivity of the Sea.**
  - **Ocean and Coastal Ecosystems.**
  - **Carbon Cycle.**
  - **Marine Habitats and Biodiversity Assessment.**
  - **Management of Fishery Resources and Water**
  - **Water Quality of Coasts & Estuaries.**

- ***And Support to Land Applications: vegetation, land use, inland waters, flooded areas.***



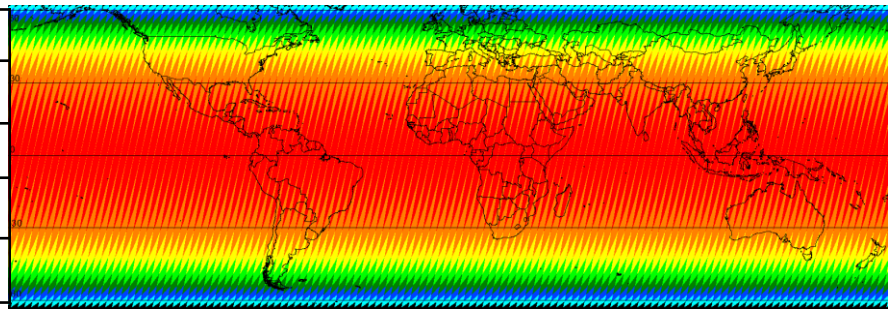
Mission Scenarios



Sun Synchronous: 702 km	22:20 hs mean local time AN
Period: 99.8 minutes	9 days repeat cycle
Area affected by glint	pixels on the swath borders

SABIA-Mar 1 Revisit

	2 days	5 of 9
	< 2 days	6 of 9
	~ 1.5 days	7 of 9
	> 1 day	8 of 9
	1 day	9 of 9



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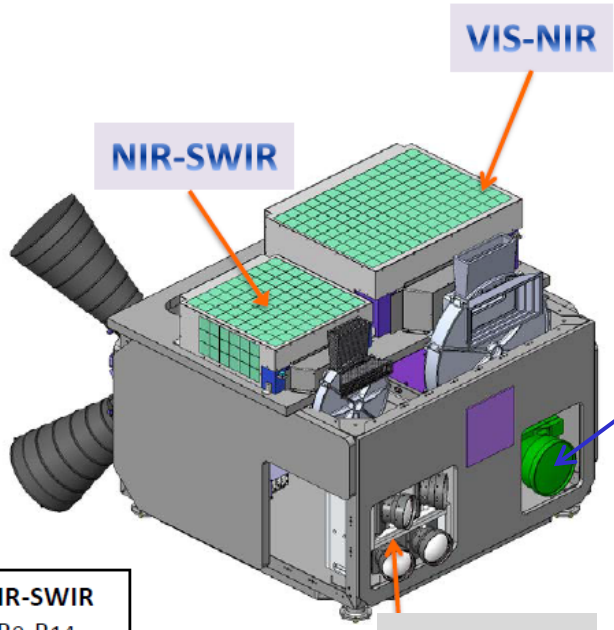
Bands & Cameras

Band	Center [nm]
B0	412
B1	443
B2	490
B3	510
B4	555
B5	620
B6	665
B7	680
B8	710
B9	750
B10	765
B11	865
B12	1044
B13	1240
B14	1610
B15	10800
B16	11800

VIS-NIR
B0-B9 & B11

NIR-SWIR
B9-B14

TIR
B15-B16



Camera	Swath (Km)	GSD (m)	Operation
VIS-NIR	1495	200 C / 800 G	Coastal/Global (Daylight Time)
NIR-SWIR	1495	400	Coastal (Daylight Time)
TIR	900	430	Coastal (Day/Night)

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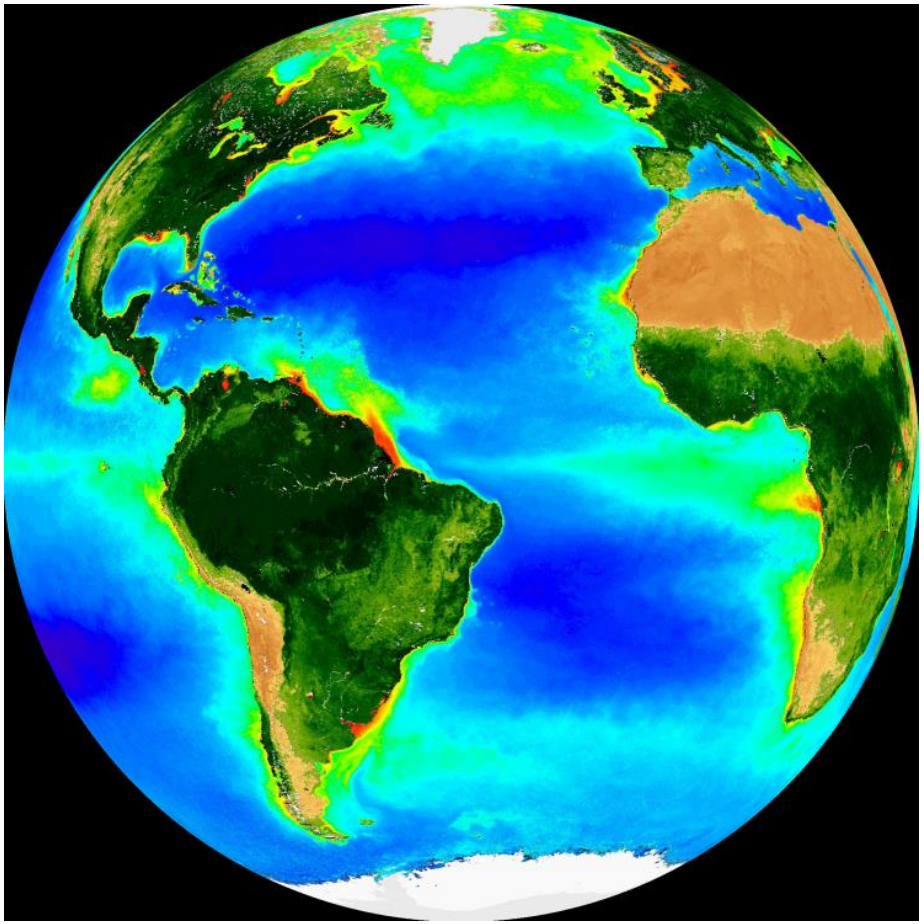
Main Products



- **Normalized Water leaving radiance maps**

  5% uncertainty (0.5% in blue for open ocean)

- **Chlorophyll-*a* concentration Maps**

  30% uncertainty for open ocean with concentration in the range 0.01-10 mg/m3

- **Diffuse Attenuation coefficient Kd (490)**

  25% uncertainty on a daily time scale

- **Photosynthetic Available Radiation**

  20%, 15%, 10% on a daily-weekly-monthly time scales

- **Turbidity**

  35% uncertainty

- **Sea Surface Temperature**

  0.7ºC

L2 Products Summary

L2 product	Algorithm	Bands	
$[L_w]_N$ & R_{sr}	NASA	L2 product	Atm Corr
	Global	412, 443, 490, 510, 555, 620, 665, 680, 710	750, 865
	Regional	+ 865	750, 765, 1044, 1240, 1610
Chl-a	OC4 & Garcia's	L_W@443, 490, 510, 555	
FLH	Abbot&Lettelier	L_W@665, 680, 710	
Turbidity	Dogliotti's	L_W@665 (Global) L_W@665, 865 (Regional)	
Daily mean PAR	Frouin's	L_{TOA}@412, 443, 490, 510, 555, 620, 665	
K_d(490)	KD2S	L_W @ 490, 555	
SST	Split Window	T_b @ 10800, 11800	

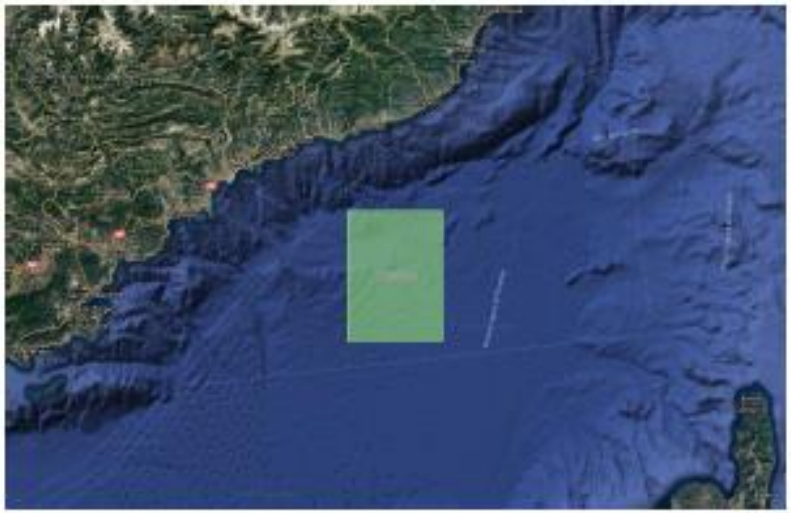
- Spatial resolution: original spatial resolution (idem as L1B).
- Files distribution: NetCDF4 and/or HDF5 divided in granules of size 5-6 minutes of time pass. Available in 24 hours.
- Near Real Time product only for Chl-a and SST. Available in 3 hours.

L3 Products Summary

		Binned & Mapped
Variables		$[L_w]_N$ & R_{sr} , Chl-a, FLH, Turbidity, K_d, PAR, SST
Temporal Resolution	Global	Daily, 8-day, monthly
	Regional	Daily, 8-day, monthly
Spatial Resolution	Global	800m & 4.6 km & 9.2 km
	Regional	200m & 400m

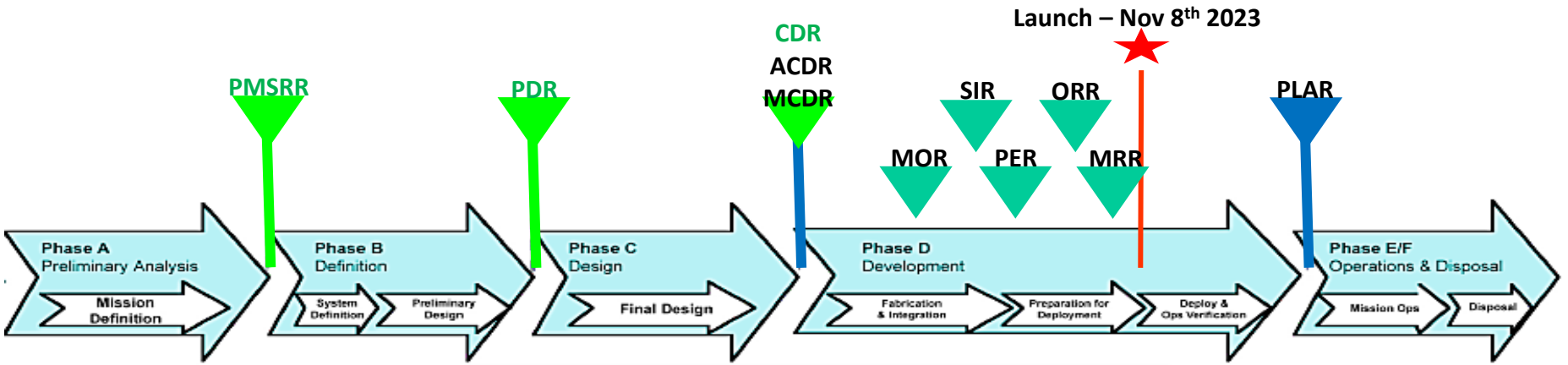
- Binning method: sinusoidal grid.
- Mapping projection: Standard Mapped Image (SMI) in a Plate Carrée
- Data-day (IOCCG definition): the time at which the satellite orbit track crosses the 180° meridian nearest to the Equator.
- Monthly: calendar month.
- Weekly: 8-day starting from 1st January.
- Original resolution will be distributed in granules.

System Vicarious Calibration



Rayleigh & Sun Glint Vicarious Cal.

Project Schedule



REVISION	DATE
Preliminary Mission & System Requirements Review - PMSRR	05/12/13
Mission Preliminary Design Review – PDR	06/04/16
Science Requirements Peer Review	26/07/16
Main Cameras Peer Review #1	09/11/16
Main Cameras Peer Review #2	27/11/17
Flight Segment Critical Design Revierw – CDR	16/04/18
Ground Segment Critical Design Revierw – CDR	18/05/18
Applications Peer Review #1	23/10/18
Applications Peer Review #2	28/05/19
Applications Segment Critical Design Revierw – ACDR	30/10/19
Mission Critical Design Revierw – MCDR	30/10/19
Mission Operations Review – MOR	12/03/20
Satellite I&TRR - ATLO RR/SIR	13/09/22
Pre-environmental Tests Review – PER	19/12/22
Operational Readiness Review – ORR	14/02/23
Pre Shipment Review to Launch Base – PSR	03/07/23
Mission Readiness Review – MRR	19/10/23
Mission Post-Launch Assessment Review - PLAR	29/12/23

Projects Applications for Coasts and Ocean,

Training,

Workshops

&

Agreements

from May 2017 (OC Lisboa) to February 2019

Activities along the Country….

Some Flyers…


TELEOBSERVACION APLICADA AL MONITOREO DE CALIDAD DE AGUAS COSTERAS
Secretaría de Agroindustria
Ministerio de Producción y Trabajo
Presidencia de la Nación
CONAE
Capacitación 2019
Consejo Federal Pesquero
Desde el 26 al 28 de Febrero
Capacitación teórico-práctica destinada a brindar nociones básicas sobre procesamiento digital de imágenes satelitales vinculadas al monitoreo de calidad de aguas en el Mar Argentino.
Condiciones y Destinatarios del Curso
El cupo es de 15 participantes. Serán prioritarios agentes del Estado involucrados en el monitoreo de floraciones algales toxigénicas. Para los cupos externos, profesionales, graduados y estudiantes de carreras afines o interesados que se aproximan por primera vez al procesamiento de imágenes satelitales, deberán enviar CV a facultadn@yahoo.com a los efectos de evaluar su incorporación.
Aranceles:
Gratuito para empleados de las administraciones públicas de diferentes provincias.
Para los posibles participantes externos $1500,00.
Lugar:
Edificio de Aulas de la Universidad. 9 de Julio 25. Trelew. Chubut
Laboratorio de Informática Nº 2
Instituciones participantes:
Facultad de Cs. Naturales y Cs. de la Salud-UNPSJB-Tw.
Secretaría de Gobierno de Agroindustria de la Nación.
Comisión Nacional de Actividades Espaciales (CONAE)
Responsables
Directora:
Dra. Sandra Torrusio
Colaboradoras:
Lic. Anabel Lamaro,
Lic. Mabel Ortega
Coordinadora:
Lic. Pamela Rossio
Coblier


PRIMERAS JORNADAS ARGENTINAS DE TECNOLOGÍA MARINA
PUERTO MADRYN - ARGENTINA
Comodoro Rivadavia 8 de septiembre de 2017
CONICET
UNPA
PAMPA AZUL
IG Instituto de Altos Estudios Espaciales "MARIO GULICH"
INICIO IG EL CAMPUS I+D+I IG VIRTUAL ACADÉMICAS EXTENSIÓN CONTACTO
Curso | TELEOBSERVACIÓN DE AGUAS MARINAS, COSTERAS E INTERIORES (I)


CADIC-CONICET, Ushuaia, October 9-13, 2017
CONICET
CADIC
UNTDF
TDF
SCAR
Ministerio de Ciencia, Tecnología e Innovación Productiva
Presidencia de la Nación
PAMPA AZUL
IDEAL


MARISCOPE
04 y 05 Julio de 2017 - CIMA
Avda. Juan XXIII norte Nro. 1970 – 9120 – Puerto Madryn
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Thank you!!

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