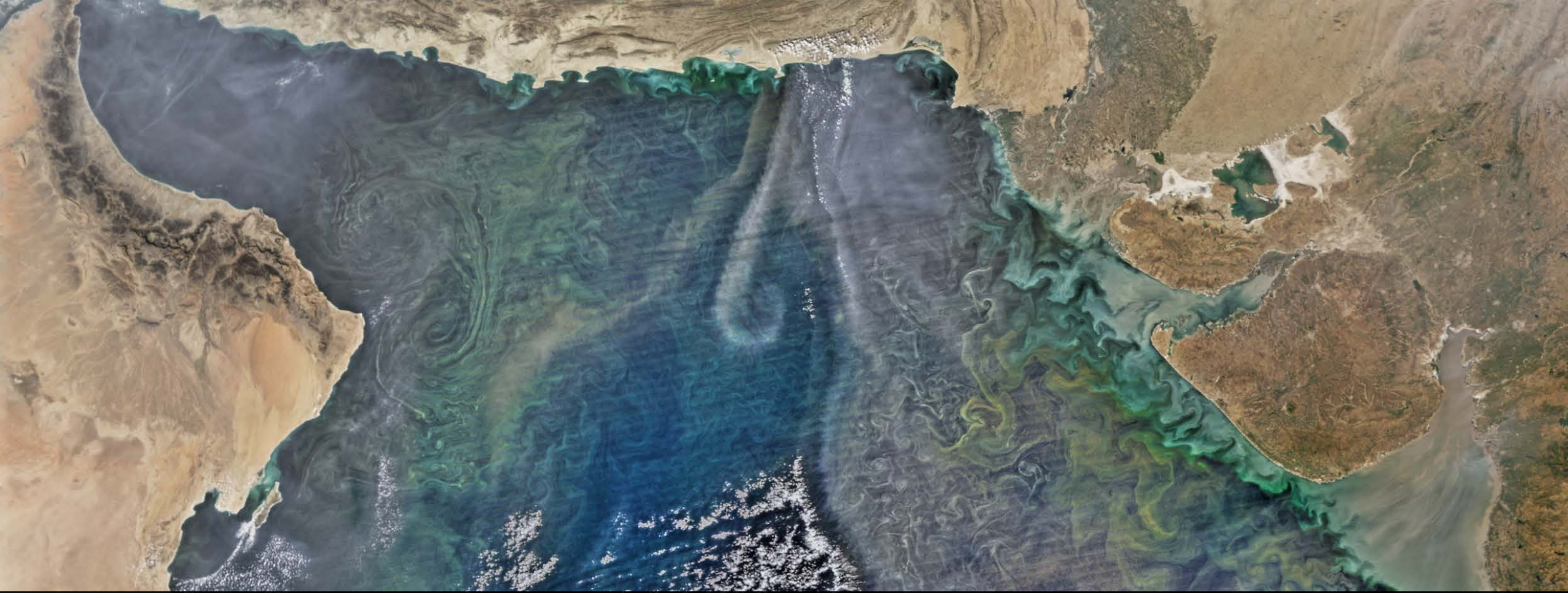


Demostración: Comparación de datos de MODIS L2 con datos *In Situ* y calibración de algoritmos para derivar Chl-a

Objectivos

- Subir datos in situ en SeaDAS
- Utilizar datos de SeaBASS en SeaDAS
- Comparar mediciones in situ con mediciones satelitales
- Calibrar los coeficientes de un algoritmo de Chl-a, basandose en mediciones in situ

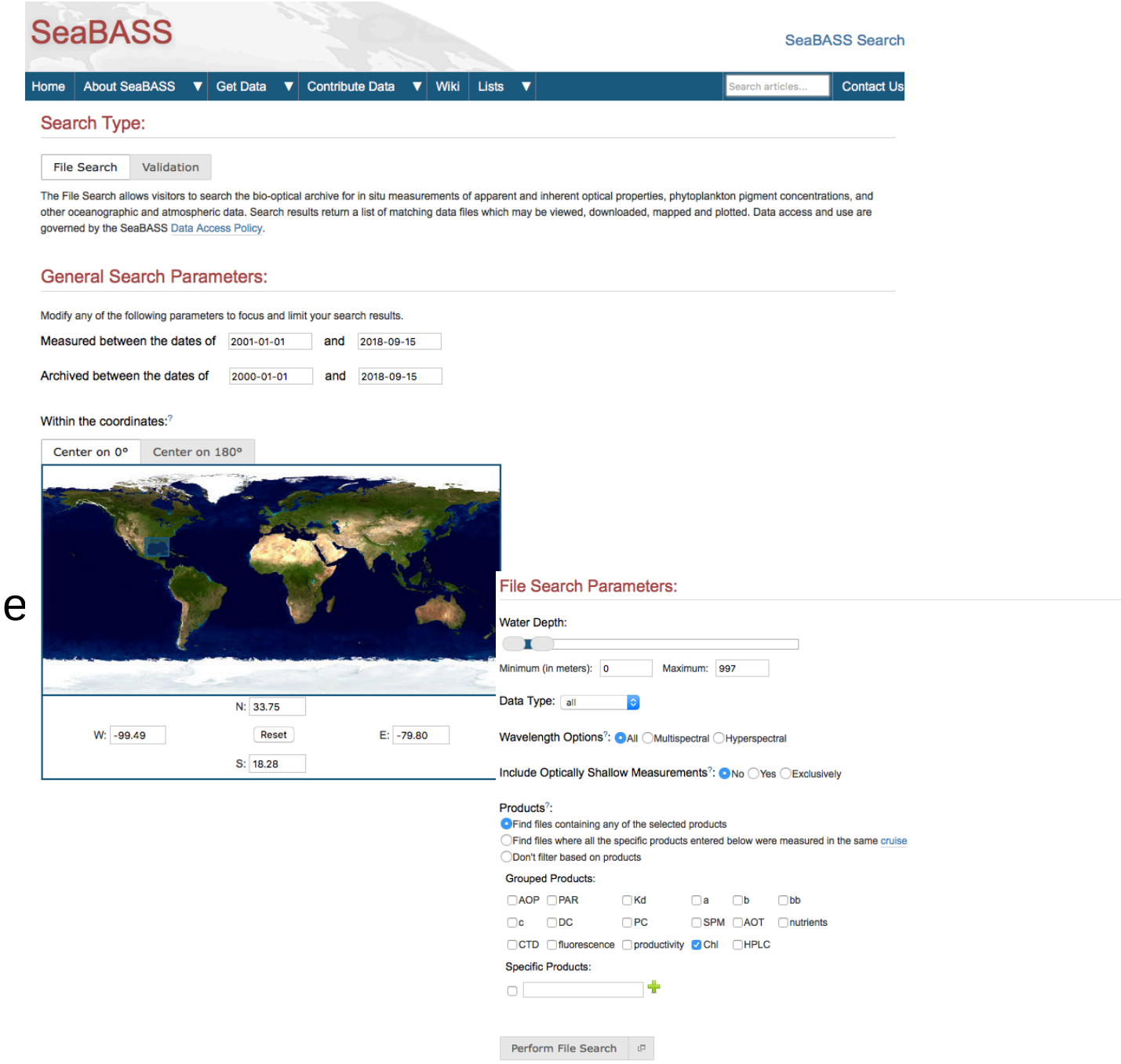
Pagina Web de SeaBASS

https://seabass.gsfc.nasa.gov

Buscar archivo:

- -Indicar fechas de medicion
- -Ubicación
- -Parametros medidos (Productps)

Clic en realizar busqueda: Perform File Search



Resultados de la buqueda en SeaBASS

Visualizacion de resultados en diferentes formas:

SeaBASS

Home | About SeaBASS | Get Data | Contribute Data | Wiki | Lists | Search articles... | Contact U

Search Parameters:

Date Measured	2001-01-01 to 2018-09-15
Date Archived	2000-01-01 to 2018-09-15
North	30.94
South	16.17
West	-98.79
East	-79.10
Water Depth	0.0 to 10000
Products	Chl

Share Search Parameters

Total number of files: 144

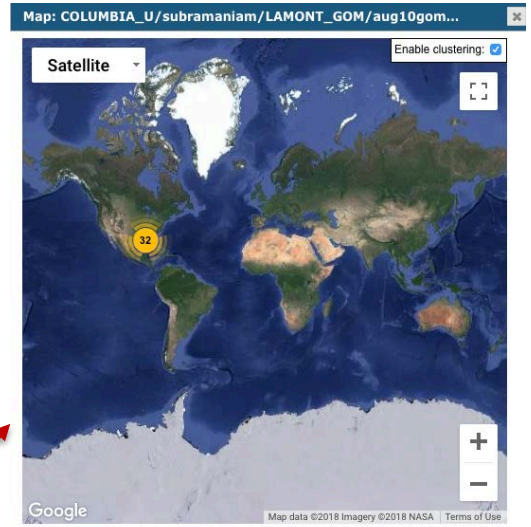
Map All | Download All | Include all associated files.

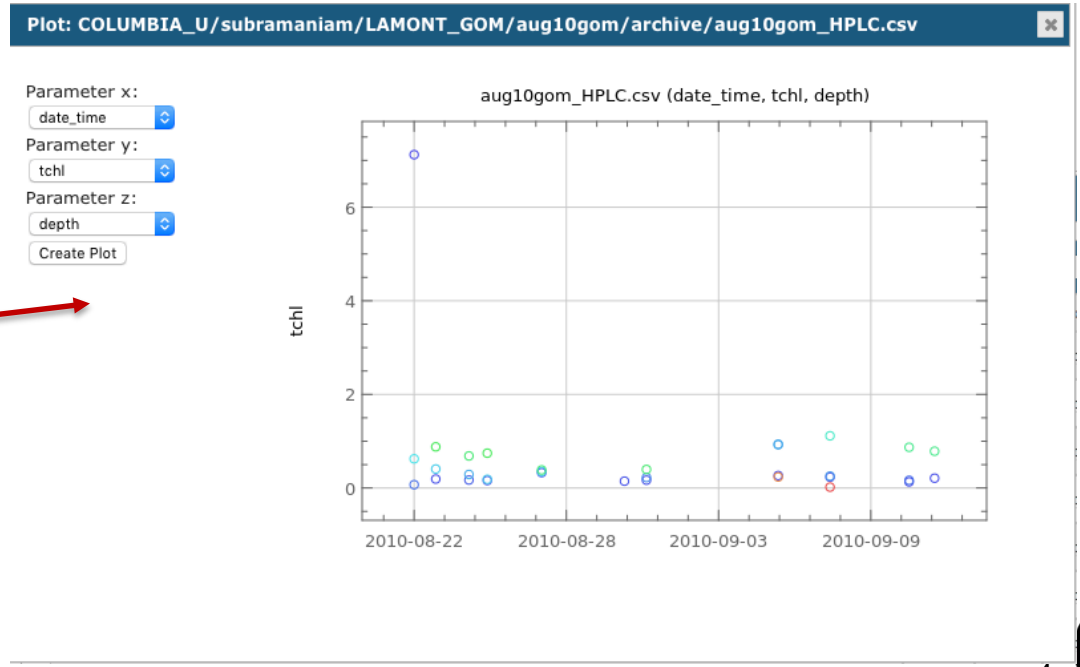
Results | Download Selection

Show 10 entries Search:

File	Map	Plot	Archive	Documents
BIGELOW/PHINNEY/el0801/archive/el0801mt.txt	map	plot	archive	documents
COLUMBIA_U/subramaniam/LAMONT_GOM/aug10gom/archive/aug10gom_HPLC.csv	map	plot	archive	documents
COLUMBIA_U/subramaniam/LAMONT_GOM/jul11gom/archive/jul11gom_HPLC.csv	map	plot	archive	documents
COLUMBIA_U/subramaniam/LAMONT_GOM/jun15gom/archive/Jun15gom_HPLC.csv	map	plot	archive	documents
NASA_GSFC/GEOCAPE/gomex_2013/archive/GEO_CAPE_GOMEX_Pigments.txt	map	plot	archive	documents
NOAA_NESDIS/ondrusek/VIIRS_Validation/VIIRS_2015_foster/archive/JPSS_15_LWN_CHL.sb	map	plot	archive	documents
NRL/cojet_4/archive/HPLC_Cojet4_2001_0.948.txt	map	plot	archive	documents
NRL/cojet_5/archive/01dec03_Cojet5_hplc_0.948.txt	map	plot	archive	documents
NRL/cojet_III/2K/HPLC_CoJet3_Lgssur_CHL-c3_corrected_0.948.txt	map	plot	archive	documents
NRL/cojet_III/2K/HPLC_CoJet3_Ocolor_CHL-c3_corrected_0.948.txt	map	plot	archive	documents

Showing 1 to 10 of 144 entries First Previous 1 2 3 4 5 .. 15 Next Last





Datos de SeaBASS

- El formato es clave al cargar observaciones in situ en SeaDAS
- Recomendaciones:
  - Tratar de no manipular los datos en las hojas de cálculo
  - Use texto sin formato en editores de texto (plain text)
  - Guardar como delimitado por tabuladores (tab delimited)
  - Descargar datos de SeaBASS no garantiza que los datos se carguen en SeaDASS. El formato debe ser revisado

Datos de SeaBASS

- Archivo original descargado de SeaBASS

Mar2016_Optical_Layers_hplc.txt

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/begin_header
/received=20170221
/identifier_product_doi=10.5067/SeaBASS/OPTICAL_LAYERS/DATA001
/investigators=Rick_Gould
/affiliations=Naval_Research_Laboratory_Stennis_Space_Center
/contact=gould@nrlssc.navy.mil
/experiment=Optical_Layers
!/experiment=2016mar_Optical_Layers
/cruise=RV_Pelican_201603
/station=NA
/data_file_name=Mar2016_Optical_Layers_hplc.txt
/documents=Gould_05_15_Report.xlsx
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/data_type=pigment
/data_status=preliminary
/start_date=20160317
/end_date=20160327
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/north_latitude=30.21228[DEG]
/south_latitude=28.64473[DEG]
/east_longitude=-88.20968[DEG]
/west_longitude=-90.6612[DEG]
/cloud_percent=NA
/secchi_depth=NA
/water_depth=NA
/wave_height=NA
/wind_speed=NA
!
!  Tot[Chl a]  =  Monovinyl chlorophyll a + Divinyl chlorophyll a + Chlorophilide a +
!
! HPLC run by Chrystal Thomas at NASA GSFC
!
! SEABASS STAFF NOTE: sample notation dup indicates same bottle/sample but a second f
twice
!
/missing=-999
/below_detection_limit=-8888
/delimiter=tab
/fields=sample,month,day,year,hour,minute,second,lat,lon,depth,Tot_Chl_a,Tot_Chl_b,Tc
fuco,Allo,Diadino,Diato,Fuco,Perid,Zea,MV_Chl_a,DV_Chl_a,Chlide_a,MV_Chl_b,DV_Chl_b,
PSP,Tcar,Tacc,Tpg,DP,Tacc_Tchla,PSC_Tcar,PPC_Tcar,TChl_Tcar,PPC_Tpg,PSP_Tpg,Tchla_Tpg
/units=none,mo,dd,yyyy,hh,mn,ss,degrees,degrees,m,mg/m^3,mg/m^3,mg/m^3,mg/m^3,mg/m^3,
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m^3,none,none,none,none,none,none,none
/end_header
S01-1   3       17      2016    8       15      0       29.253633       -90.6612
0.104   0.012   0.464   0.145   0.019   1.150   -8888.000       0.272   0.048   -8888
0.019   -8888.000       1.759   0.228   0.681   2.440   0.909   1.246   2.668   0.781
S01-1dup        3       17      2016    8       15      0       29.253633       -90.6
0.033   0.104   0.012   0.462   0.146   0.018   1.138   -8888.000       0.265   0.046
0.175   0.019   -8888.000       1.727   0.227   0.682   2.409   0.909   1.233   2.636
S01-2   3       17      2016    8       15      0       29.253633       -90.6612
0.041   0.006   0.431   0.031   0.014   0.847   -8888.000       0.098   0.028   -8888
0.130   0.017   -8888.000       1.159   0.118   0.500   1.659   0.618   0.832   1.777
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- Datos reformateados

Mar2016_Optical_Layers_hplc_edit5_21_

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/contact=gould@nrlssc.navy.mil
/experiment=Optical_Layers
!/experiment=2016mar_Optical_Layers
/cruise=RV_Pelican_201603
/
station=S01-1,S01-2,S01-3,S01-4,S01-5,S01-6,S01-7,S01-8,S01-9,S01-10,S01-11,S01-12,S01-13,S
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-68,S01-69,S01-70,S01-70,S01-71,S01-72,S01-73,S01-74,S01-75,S01-76,S01-77,S01-78,S01-79,S01

/data_file_name=Mar2016_Optical_Layers_hplc.txt
/documents=Gould_05_15_Report.xlsx
/calibration_files=wesley.goode@nrlssc.navy.mil
/data_type=pigment
/data_status=preliminary
/start_date=20160317
/end_date=20160327
/start_time=08:15:00[GMT]
/end_time=02:44:00[GMT]
/north_latitude=30.21228[DEG]
/south_latitude=28.64473[DEG]
/east_longitude=-88.20968[DEG]
/west_longitude=-90.6612[DEG]
/cloud_percent=NA
/secchi_depth=NA
/water_depth=NA
/wave_height=NA
/wind_speed=NA
!
!  Tot[Chl a]  =  Monovinyl chlorophyll a + Divinyl chlorophyll a + Chlorophilide a + Chlor

!
! HPLC run by Chrystal Thomas at NASA GSFC
!
! SEABASS STAFF NOTE: sample notation dup indicates same bottle/sample but a second filter

!
/missing=-999
/below_detection_limit=-8888
/delimiter=tab
/fields=date,time,station,lat,lon,depth,Tot_Chl_a"
/units=none,yyyymmdd,hh:mm:ss,degrees,degrees,m,mg/m^3"
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20160321        0:14:00 S01-18  30.198617        -88.911217      6       3.951
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20160321        4:26:00 S01-20  30.212283        -88.668667      0       3.551
20160321        4:26:00 S01-21  30.212283        -88.668667      0       3.806
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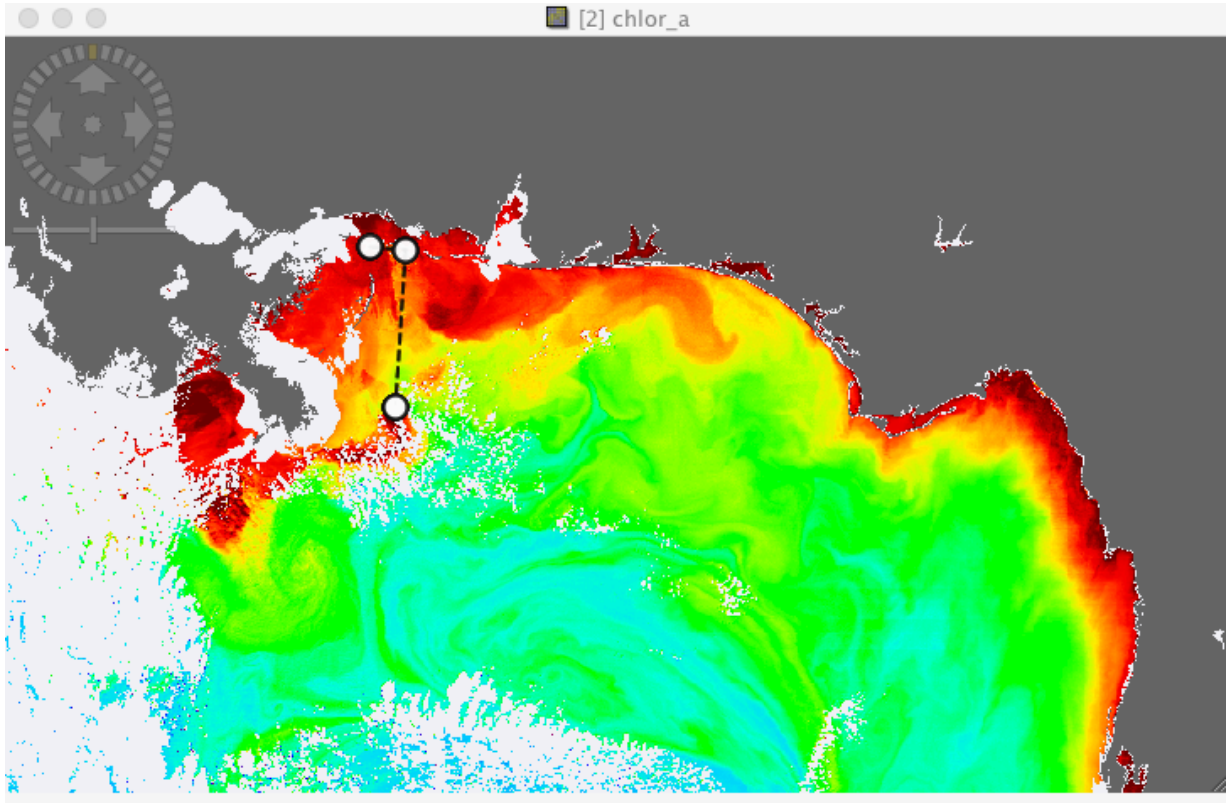
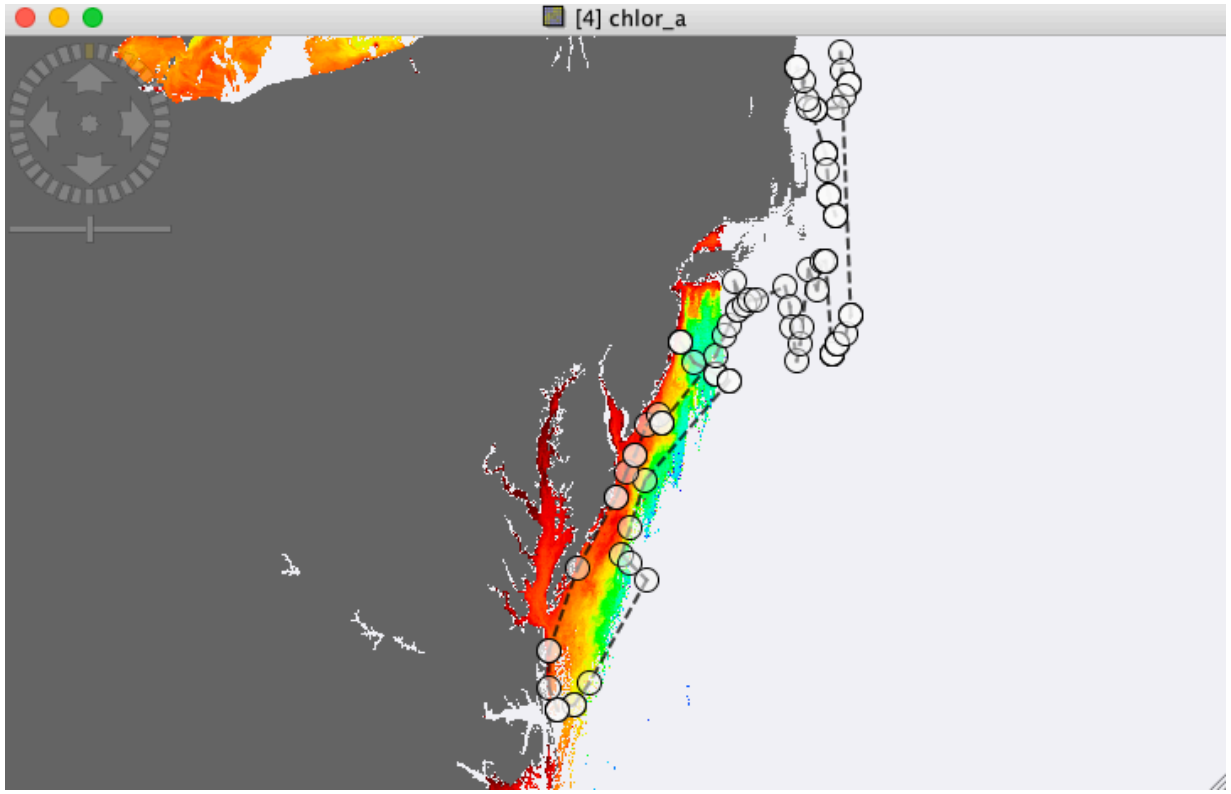
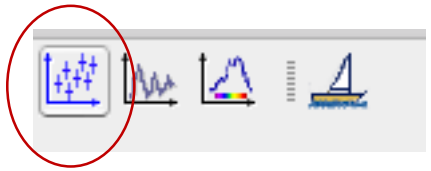
Ejemplo para el Golfo de Mexico y Costa Noreste de Estados Unidos

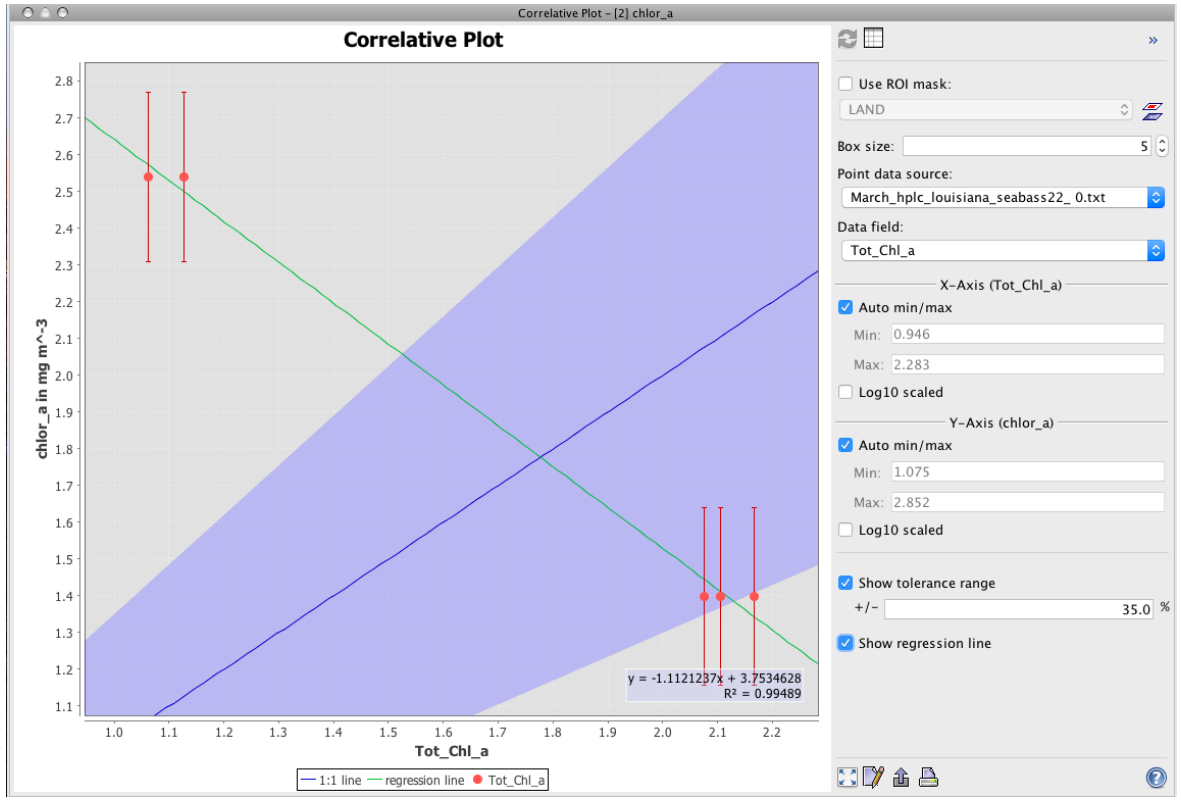




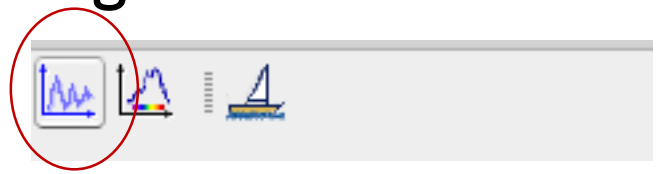
Comparacion de datos *in situ* con mediciones derivadas en imagenes satelitales

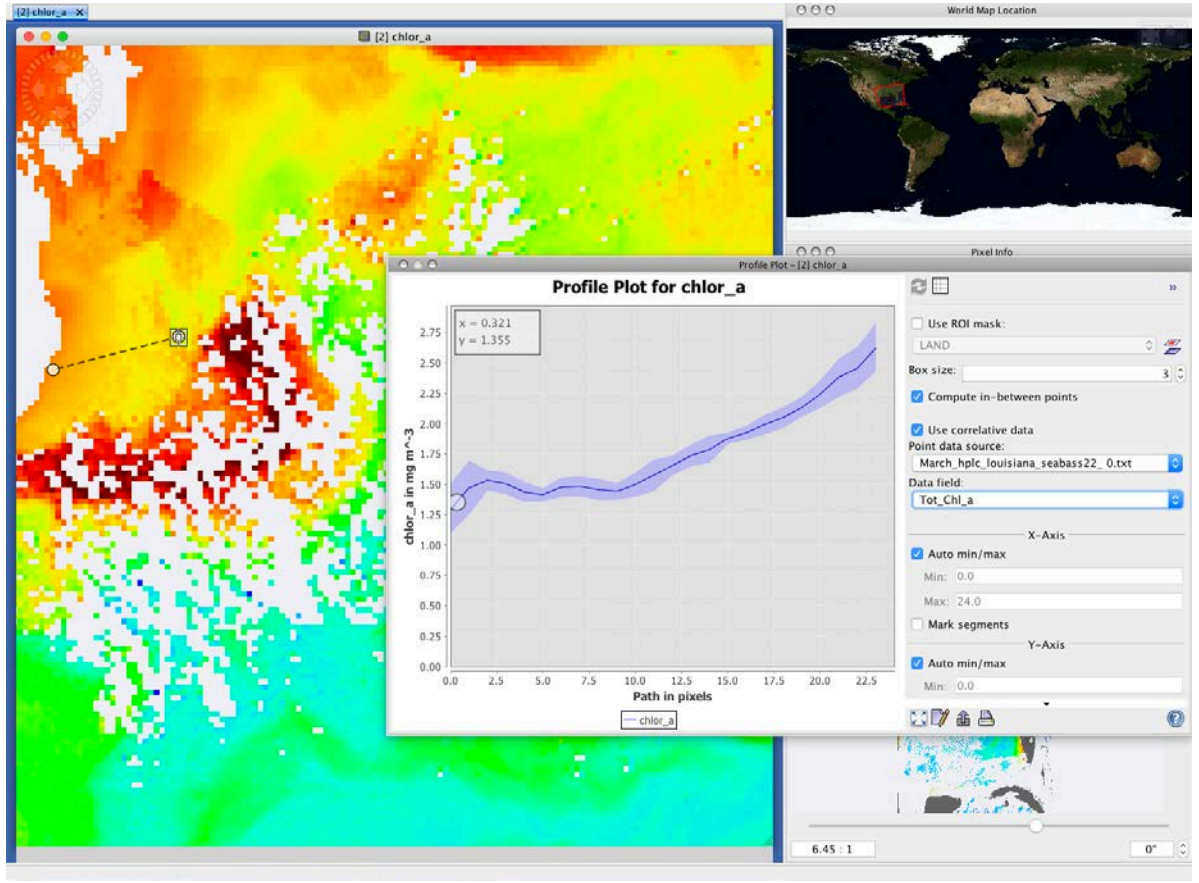
- Correlative Plot





- Profile Plot





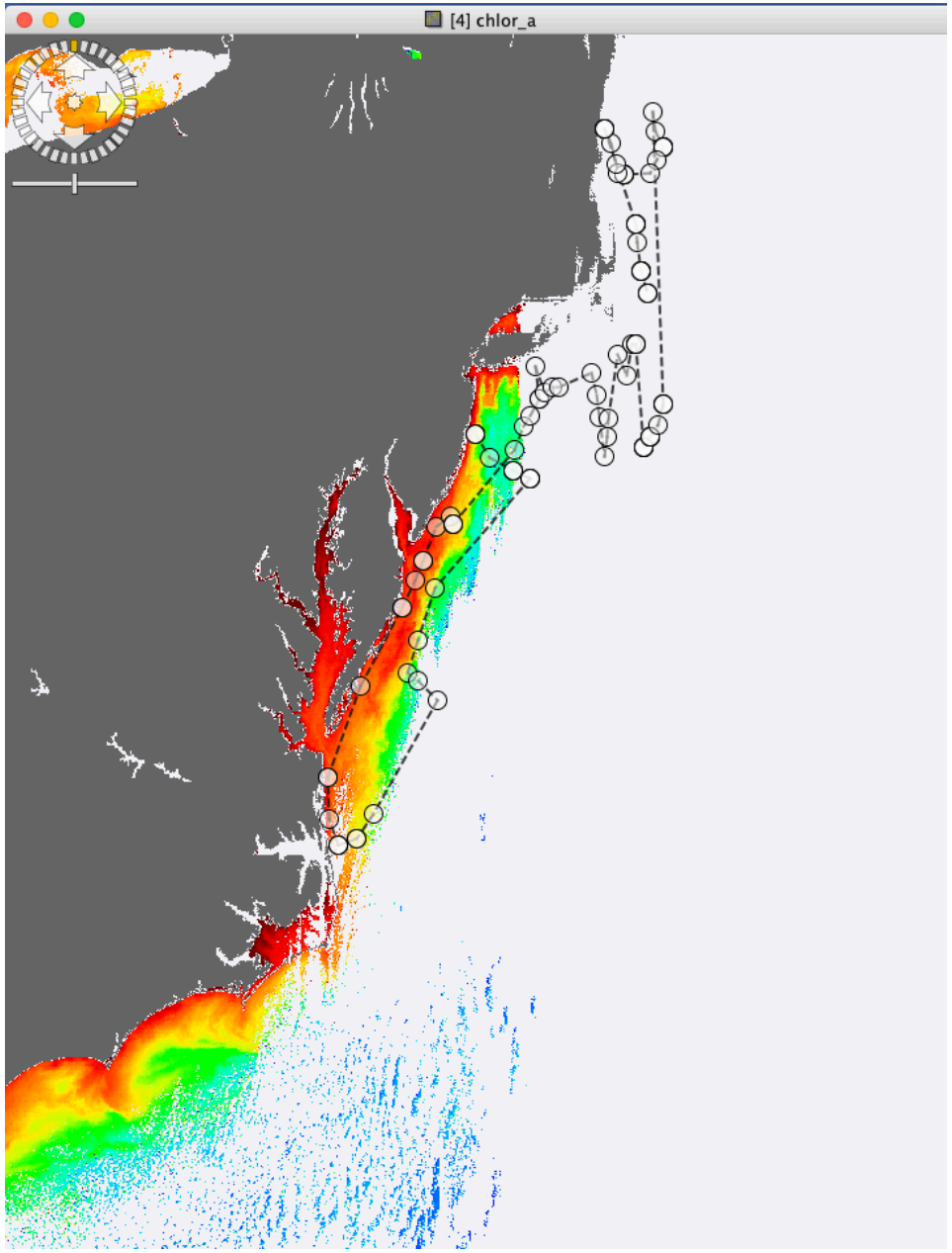
Ejercicio con datos SeaBASS

- Podemos trabajar con el siguiente archivo:

https://seabass.gsfc.nasa.gov/archive_preview/NASA_GSFC/CLIVEC/CV5/archive/CV5_OM_pigments_seabass.txt

- Datos de MODIS L2 de Ocean Color:

A2010311183000.L2_LAC_OC.nc



Extraccion de pixel: Pixel Extraction

- Formato de los datos

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YYYY-MM-DDTHH:MM:SS	text	Degrees	Degrees

DateTime	Name	Lat	Lon
2016-03-17T08:15:00	S01-1	29.253633	-90.6612
2016-03-17T09:15:00	S01-2	29.253633	-90.6612
2016-03-17T10:15:00	S01-3	29.253633	-90.6612
2016-03-17T11:15:00	S01-4	28.9576	-89.760483
2016-03-17T12:15:00	S01-5	28.9576	-89.760483
2016-03-17T13:15:00	S01-6	28.9576	-89.760483
2016-03-17T14:15:00	S01-7	28.9576	-89.760483
2016-03-17T15:15:00	S01-8	28.9576	-89.760483
2016-03-17T16:15:00	S01-9	28.9576	-89.7605
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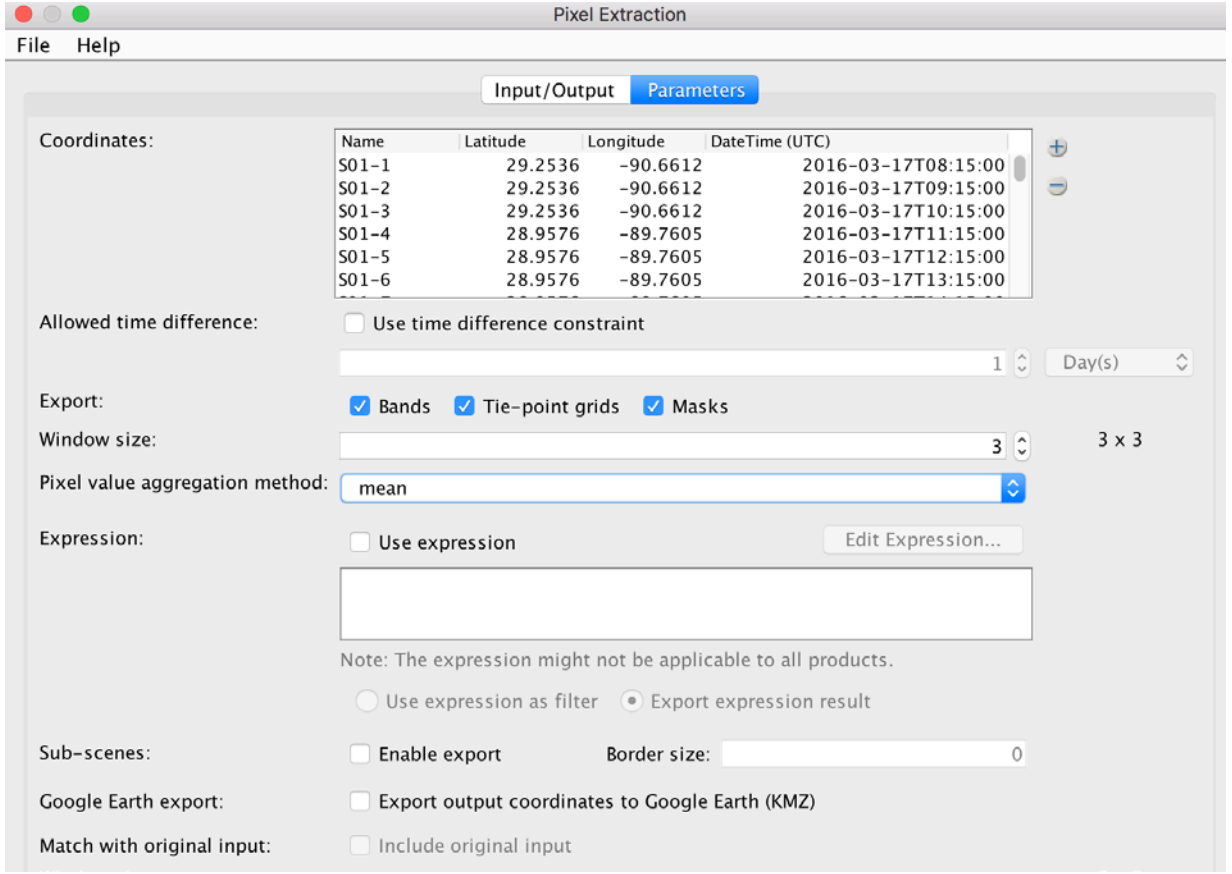
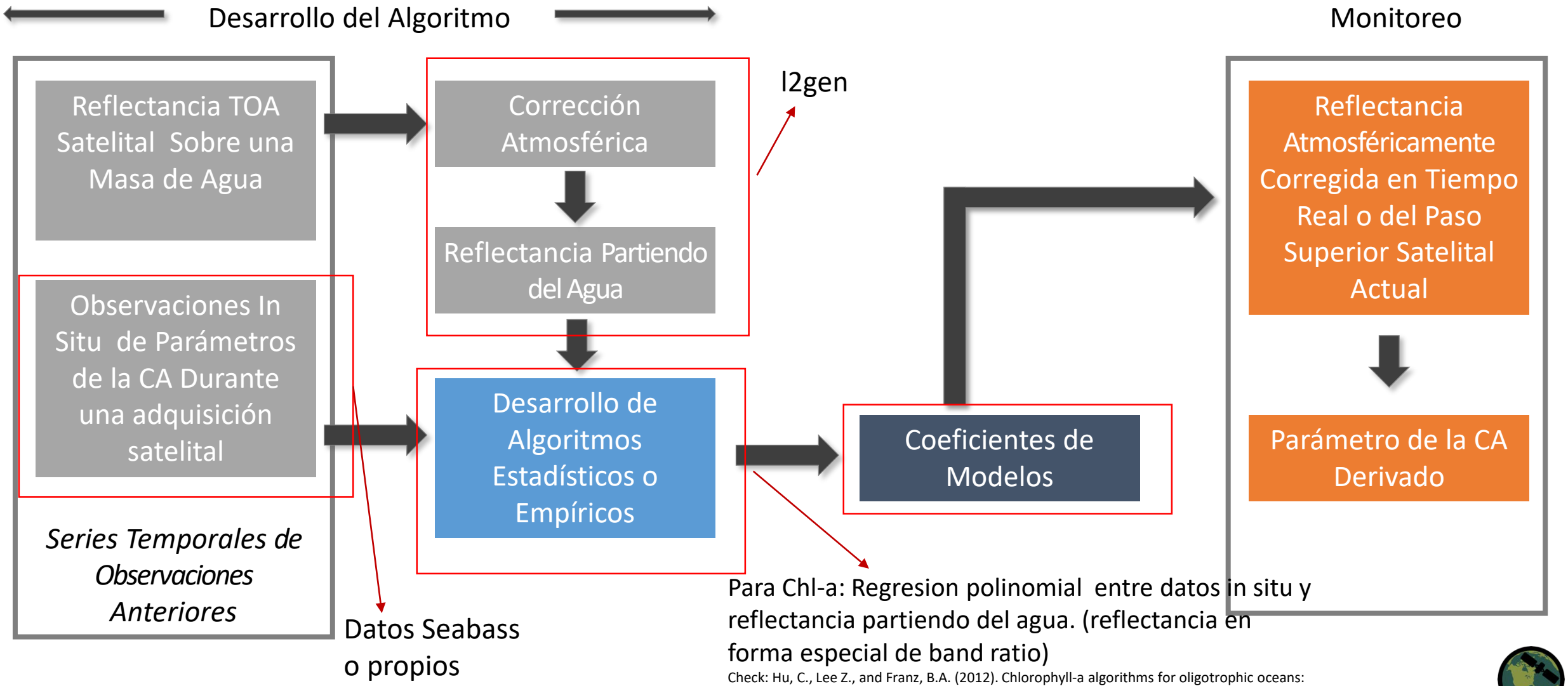


Parámetros de la Calidad del Agua a partir de Observaciones por Teledetección

Técnica Cuantitativa



Check: Hu, C., Lee Z., and Franz, B.A. (2012). Chlorophyll-a algorithms for oligotrophic oceans: A novel approach based on three-band reflectance difference, J. Geophys. Res., 117, C01011, doi:10.1029/2011JC007395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TRAIN - EMPOWER - ADVANCE

Gracias