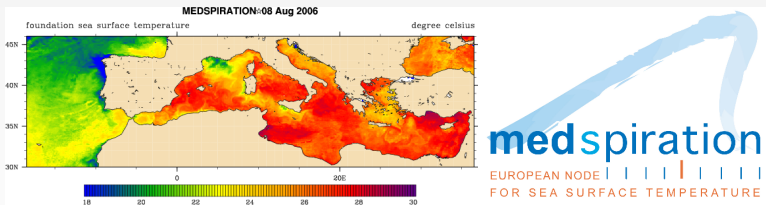


STATUS OF MEDSPIRATION SYSTEM

Jeff Piollé

CERSAT/Laboratoire d'Océanographie Spatiale
Ifremer-Centre de Brest

Joint GlobCOLOUR 1st/Medspiration 4th user consultation meeting,
Villefranche-Sur-Mer, 5th December 2006



OUTLINE

1 OPERATION

- Data production
- Performances
- Timeliness

2 DATA DISSEMINATION

- Products
- Web audience

3 SYSTEM UPDATES

- AATSR Processing
- Match-up database
- Data display

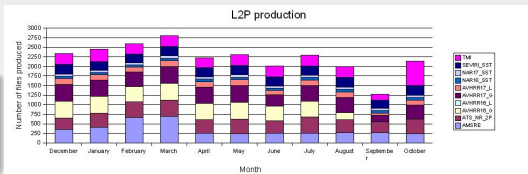
4 OUTSTANDING ISSUES

- Datasets
- Others

L2P PRODUCTION

MONTHLY PRODUCTION

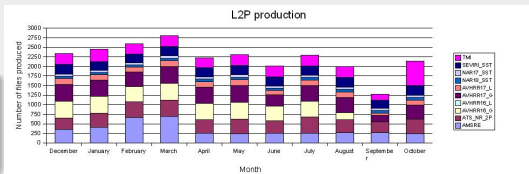
- fairly stable
- drop in September production



L2P PRODUCTION

MONTHLY PRODUCTION

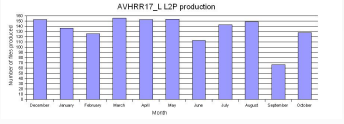
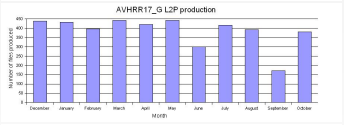
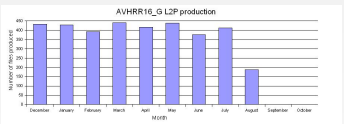
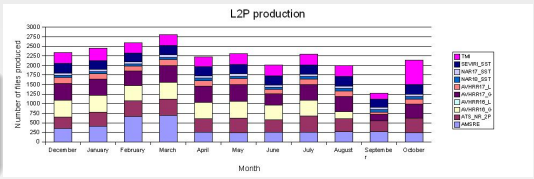
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L2P PRODUCTION

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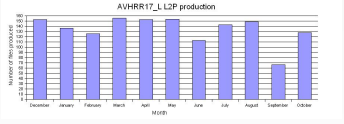
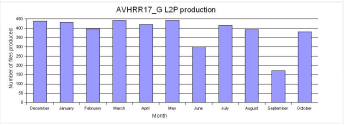
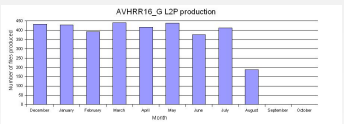
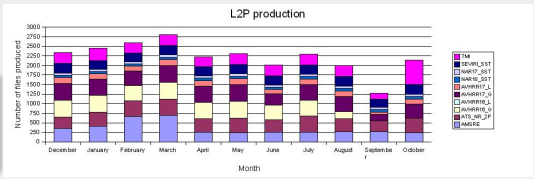
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- AVHRR16_G no more delivered by Navoceano after 14th August 2006
- problem on AVHRR17 GAC/LAC production between 13th Sept/4th Oct : change in delivery (name, compression)
- problem on TMI production between 19th Sept./3rd Oct. : change in delivery (version, name)
- 10th to 27th June : multiple access problems on PO.DAAC ftp server

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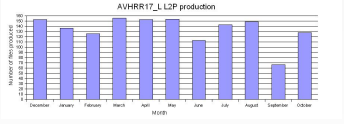
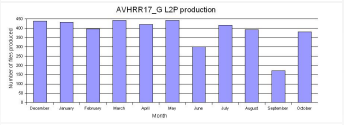
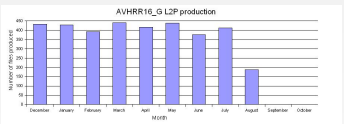
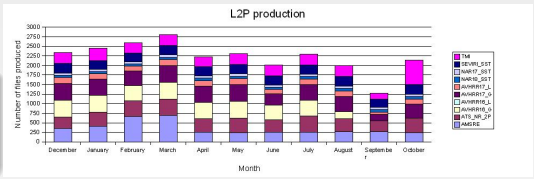
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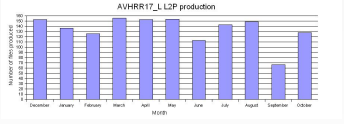
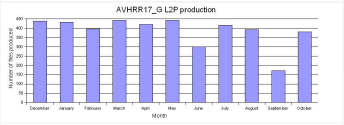
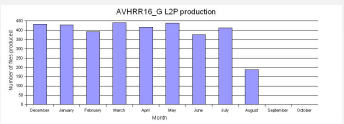
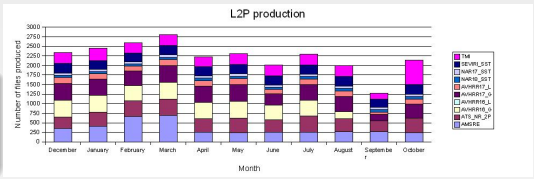
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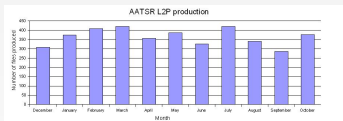
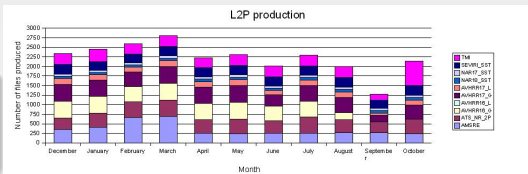
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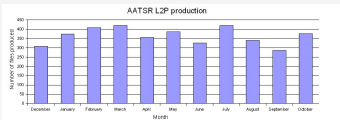
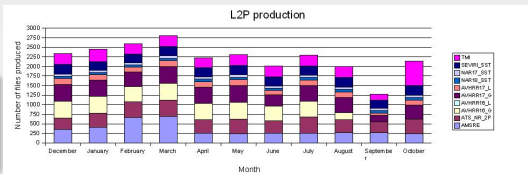
AATSR DATA COLLECTION FAILURES

- 31st October : problem with migration of PDHS-E rolling archive (ESRIN) - uncomplete notification
- 4th-8th Aug, 6th-11th Sept, 13th Sept, 26th-30th Sept : anomalies onboard Envisat

L2P PRODUCTION

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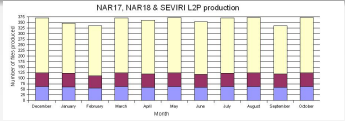
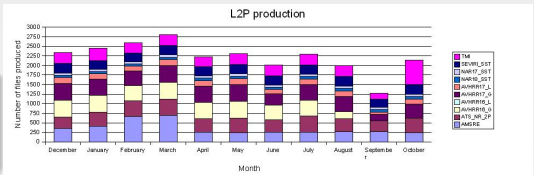
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SAF O&SI DATA COLLECTION FAILURES

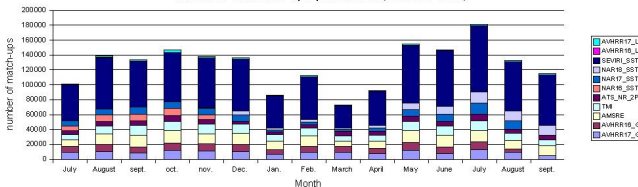
- 23th-26th Sept : Meteosat-08 in safe mode

MATCH-UPS PRODUCTION

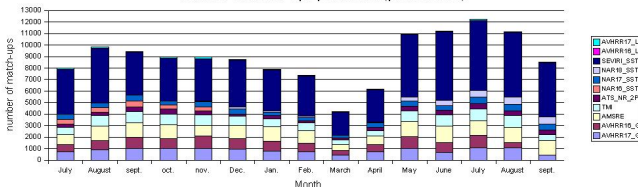
PRODUCTION SUMMARY

- more than 2 million Match-ups produced between 1st-Jul-2005 and 31st Sept.2006
- 93% surface data (vs profile)

Number of match-ups per month (surface data)



Number of match-ups per month (profiler data)



MATCH-UPS PRODUCTION

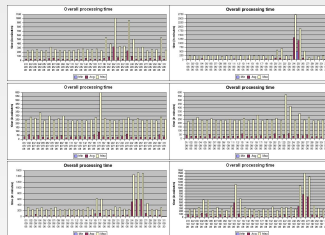
DATABASE TO BE COMPLETED

- March-April gaps not reprocessed (following Coriolis format change)
- First 6 months of 2005
- Requires processing/archiving/manpower resources (priority was on user interface and US-GDAC data retrieval)
- Completion scheduled for early next year

PROCESSING TIME

PRODUCTION FAILURES

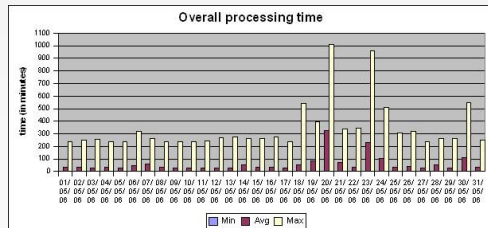
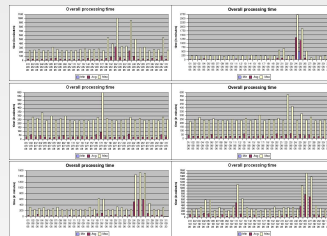
- 2.7% of days where mean L2P processing beyond 6-hours limit
- 24th to 29th May : problems on Ifremer ftp server. No L2P data could be pushed.
- June : unstable power system at Ifremer : 5 maintenance and hazardous power cuts (incl. full week-ends)
- 26th Sept : problems with access to Megalis network (France-Telecom)
- 6th-10th Oct, 22nd-28th Oct : problems with NAAPS collection availability



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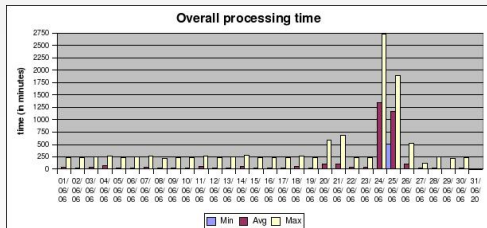
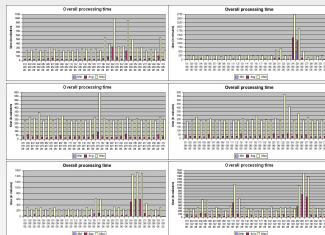


MAY 2006

PROCESSING TIME

PRODUCTION FAILURES

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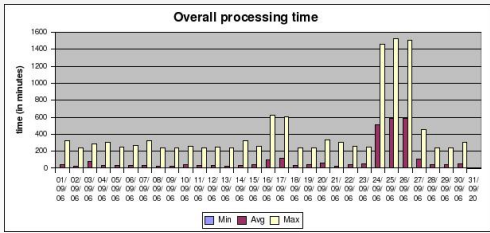
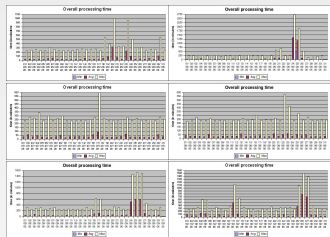


JUNE 2006

PROCESSING TIME

PRODUCTION FAILURES

- 2.7% of days where mean L2P processing beyond 6-hours limit
- 24th to 29th May : problems on Ifremer ftp server. No L2P data could be pushed.
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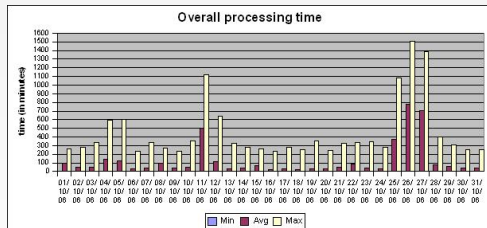
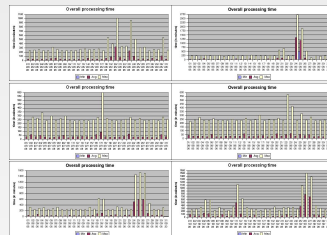


SEPTEMBER 2006

PROCESSING TIME

PRODUCTION FAILURES

- 2.7% of days where mean L2P processing beyond 6-hours limit
- 24th to 29th May : problems on Ifremer ftp server. No L2P data could be pushed.
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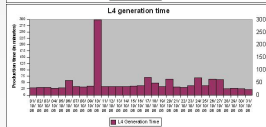
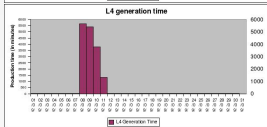
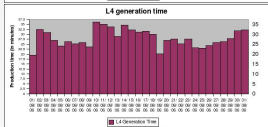
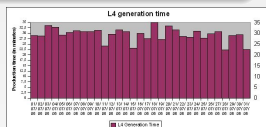
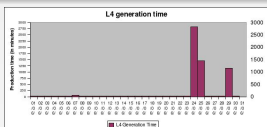
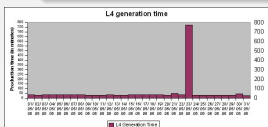


OCTOBER 2006

L4 GENERATION TIME

PRODUCTION TIME

- run each day at 20 :00 UTC
- mean processing time below 30 minutes (following configuration optimization of L4 software)

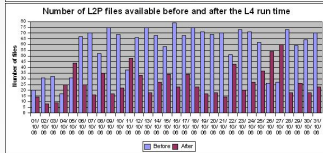
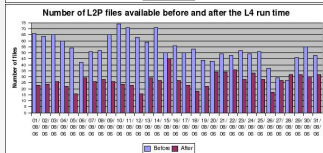
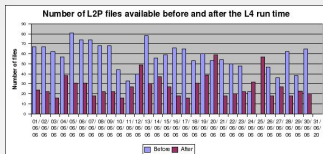
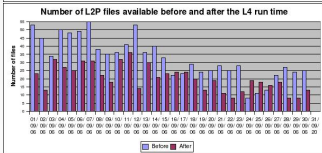
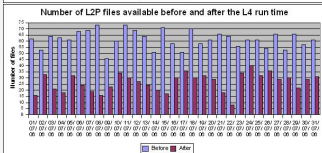
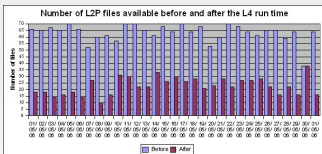


PROBLEMS

- 4.3% of data produced beyond 6-hours limit
- most of failures occurred because of power cut

L4 GENERATION TIME

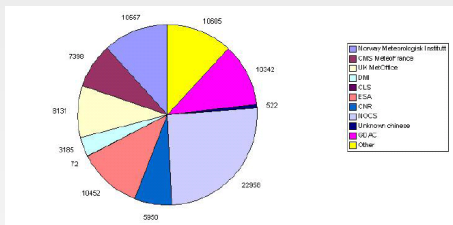
- Starts at 20 :00 UTC
- Usually uses 2/3 of possible data



USER DISTRIBUTION

USER ORIGIN

- same pool of operational users : UKMetOffice, MetNo, DMI, CNR, NOCS, Meteo-France,...
- increase in the last two month of "others"



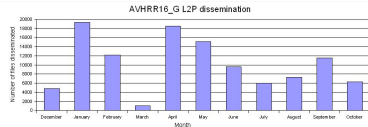
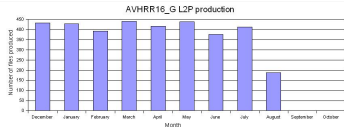
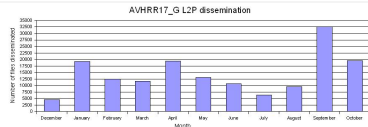
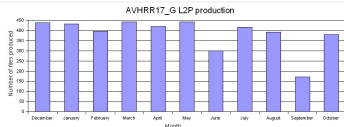
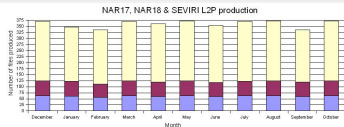
NOT INCLUDED

- Ifremer users, some Mersea users (CMS/Atlantic, Ifremer/Global)
- Nausicaa users : 240 users registered. Power of image and fast data browsing !
- Users of OpenDAP, Live Access Server, Web image browser

USER INTEREST

WHAT DO USERS DOWNLOAD ?

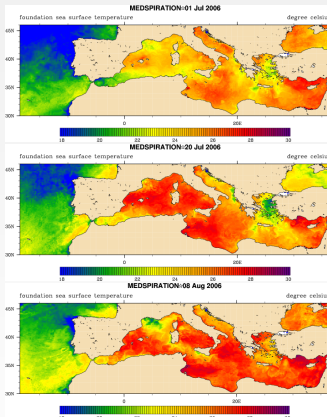
- real-time product users well identified
- others are mostly "historical" data users, as exhibited by the production/dissemination graphs



MEDIATIC EFFECT OF HOT SUMMER ANOMALY

CONTEXT

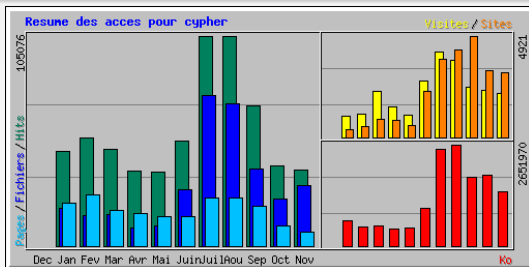
- news by ESA, Mercator, AFP
- maps provided by Medspiration (from web site or on demand)



MEDSPIRATION WEB SITE FREQUENTATION

LOG ANALYSIS

- burst during summer (July/august)
- mainly L4 product images
- robots filtered but still difficult to analyse without entering into the gory details of http logs



ADJUSTMENT OF AATSR QUALITY INFORMATION

SUCCESSIVE STEPS

- 5th June 2006 : estimation of proximity confidence with respect to the distance to cloud was updated following recommendation at last user meeting (following outputs from GHRSSST meeting in Boulder)
- 9th August 2006 : estimation of proximity confidence with respect to the distance to cloud was updated following recommendation by AATSR Validation Team (G.Corlett)
- 21st September 2006 : sensor bias and standard deviation associated with proximity confidence classes were updated following recommendation by UK MetOffice, endorsed by AATSR Validation Team

Distance to minimum climatology (in K)				
> 1.5	3 (suspect)	3 (suspect)	5 (excellent)	
1.5 to 0.	2 (bad)	2 (bad)	4 (acceptable)	
0. to -1	1 (cloudy)	2 (bad)	4 (acceptable)	
< -1.	1 (cloudy)	1 (cloudy)	6 (suspect, cold skin, upwelling, riverine input, etc...)	
	<2. (close)	2. to 5. (near)	>5. (far)	distance from nearest cloudy pixel (in km)

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Proximity confidence	bias	standard deviation
2 (bad)	0.19 (formerly 0.33)	0.6
3 (suspect)	0.19 (formerly 0.33)	0.3
4 (acceptable)	0.19	0.3
5 (excellent)	0.19	0.3
6 (suspect, cold skin, upwelling, riverine input, etc...)	0.19	0.3

THE MATCH-UP DATABASE INTERFACE

OPEN ACCESS

- [http ://www.medspiration.org/tools/mdb/](http://www.medspiration.org/tools/mdb/)
 - ① pre-extracted files (3-monthly, monthly) ; include additional parameters (cur. climatology value, solar zenith angle)
 - ② user-interface for customized extraction
- user manual available

OPEN ACCESS

- just wait for "green light" by ESA

CUSTOM MATCH-UPS EXTRACTION

SELECTION CRITERIA

- constraints on colocation criteria
- selection of satellite and in situ sources
- constraints on respective quality flag
- constraints on ancillary data
- constraints on statistics within the validation box around the in situ station
- export to ascii or netcdf format

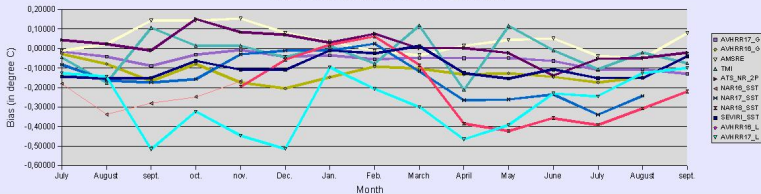
The screenshot shows the Medspiration.org website interface for data extraction. The page title is "Extraction interface for the satellite to in situ sst match-ups". A warning states: "Warning: For performance issues, the data extraction requests are limited to 3 months maximum." Below this, there is a form for user identification with fields for Name (filled with "orange") and E-mail (filled with "orange@orange.fr"). The geographical area is defined by latitude (North: 90, South: -90) and longitude (West: -180, East: 180). The time period is set from "29 Oct 05" to "29 Nov 05". Under "Colocation criteria", there are fields for "Time difference (h)" (set to 6, max 6 h) and "Distance (km)" (set to 25, max 25 km). The "Satellite data" section includes "Proximity confidence" with checkboxes for "Infra-red", "Micro-wave", "Unprocessed [0]", "Processed [10]", "Cloudy [1]", "Questionable [11]", "Bad TSI", and "Accountable [12]".

USE OF MDB

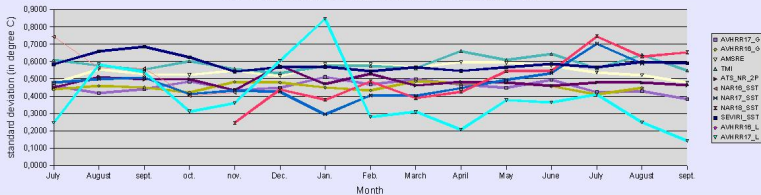
HOW TO MEET INITIAL GHRSS-PP GOALS ?

- periodic data extraction to netcdf files in place
- possible to plug automatic SSES generation routines

SSES bias (satellite vs drifting buoys)



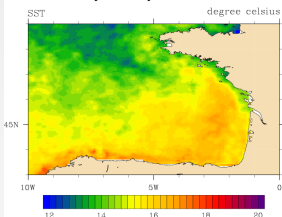
SSES standard deviation (satellite vs drifting buoys)



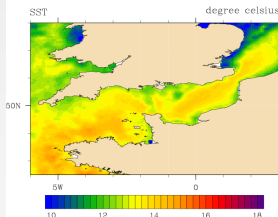
DAILY DISPLAY OF SST MAPS

- for general public audience arriving on Medspiration home page
- local zoom, updated each day

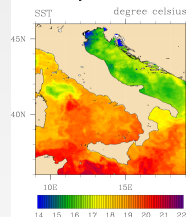
Bay of Biscay - 27 Nov 2006



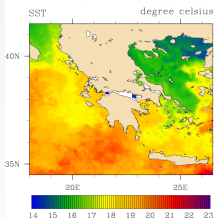
Channel - 27 Nov 2006



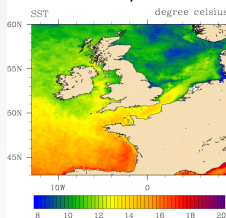
Italy - 27 Nov 2006



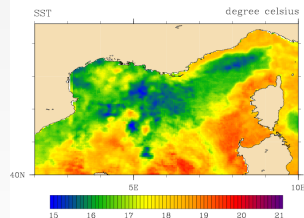
Greece - 27 Nov 2006



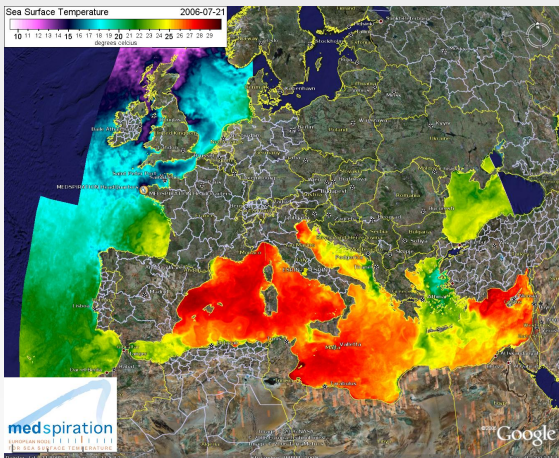
North-West Europe - 27 Nov 2006



Gulf of Lion - 27 Nov 2006



GOOGLE EARTH VISION



http://www.medspiration.org/data_access/kml (cf. presentation by F.Collard)

ISSUES ON NON-EUROPEAN DATASETS

DO WE STOP THE PRODUCTION OF THE FOLLOWING DATASETS ?

- AMSRE (global swath data now available from MISST) - *Agreed*
- TMI (global swath data now available from MISST) - *Agreed*
- AVHRR GAC (global swath data now available from MISST, no more NOAA-16)
- AVHRR LAC (global swath data now available from MISST, no more NOAA-16)

POSSIBLE ISSUES

- analysis systems (in particular for people using Medspiration software)
- seems to work fine with MISST datasets
- no ancillary data : possible loss in L4 product quality depending on selection criteria

STOPPING DATASET PRODUCTION

PROCEDURE

- Letter by GHRSSST-PO to Medspiration (received for AMSRE/TMI)
- Warning to be sent to known main users one month in advance, and redirecting users to appropriate location for the new L2P, with description of then main differences and issues
- News on Medspiration/GHRSSST-PP/GDAC web site one month in advance + warning on welcome page, and redirecting users to appropriate location for the new L2P with description of the main differences and issues
- User help desk to be ready to answer user requests

OTHER ISSUES

OPEN ISSUES

- use of match-up database (SSES computation)
- status of long-term archiving
 - real-time datasets are not complete in terms of coverage and content : frustration as a data provider
 - better ancillary data could be added afterwards (2 days after) or just complete the uncompleted file
 - yet, users download archived data from Medspiration (refer also to coastal applications)
 - there is a need for a delayed-mode product : who's role is that ?