



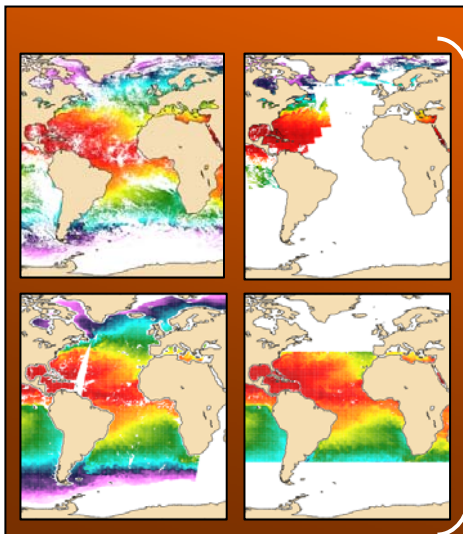
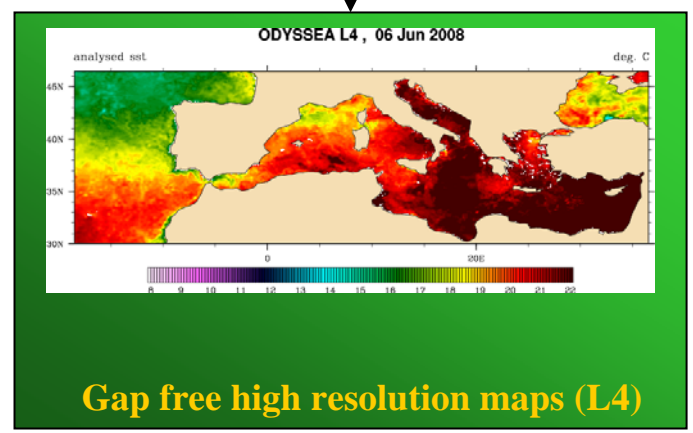
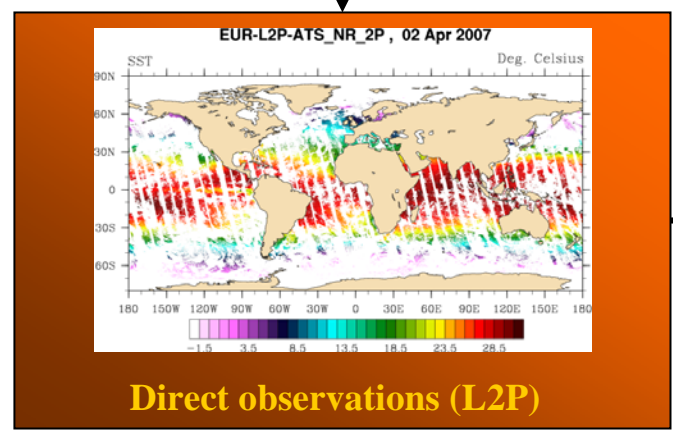
Medspiration system & operations summary, legacy and future

JF Piollé, Ian Robinson, Pierre
Leborgne, Dave Poulter et al.



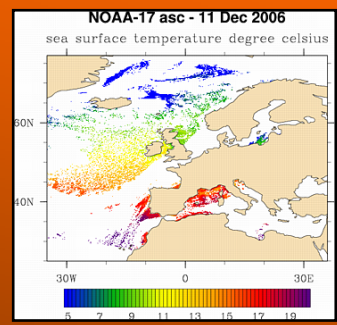
Medspiration legacy : data

products

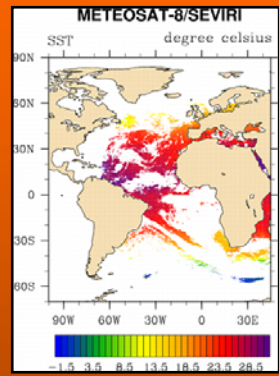


LAC NOAA17
LAC NOAA16
GAC NOAA17
GAC NOAA17
AMSRE
TMI

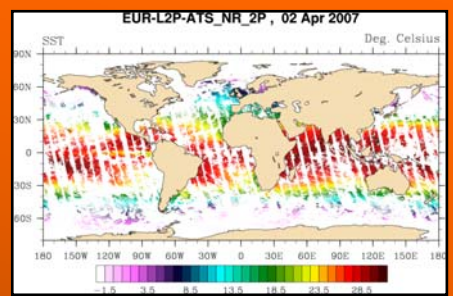
Disc. In
2006



SAF O&SI NAR for
NOAA17 & NOAA18
(2km, 2
passes/day)



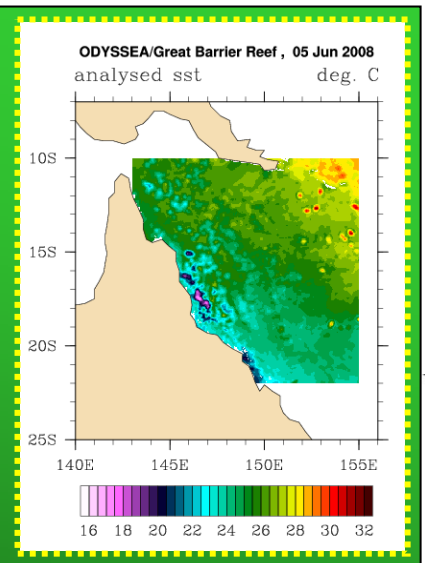
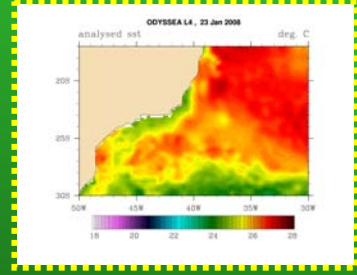
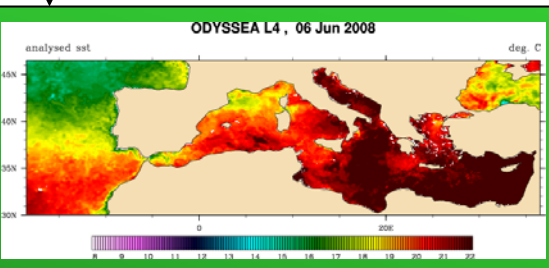
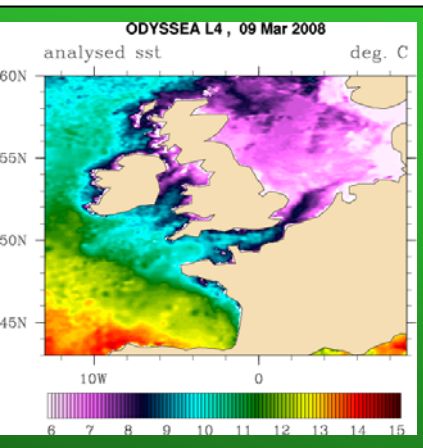
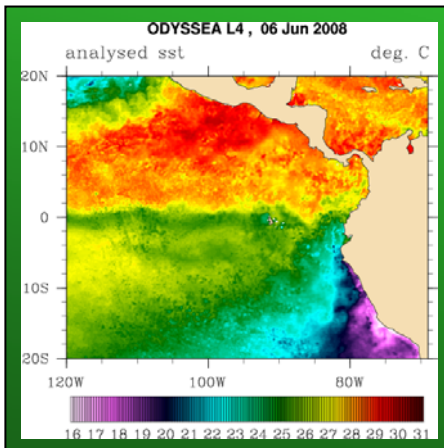
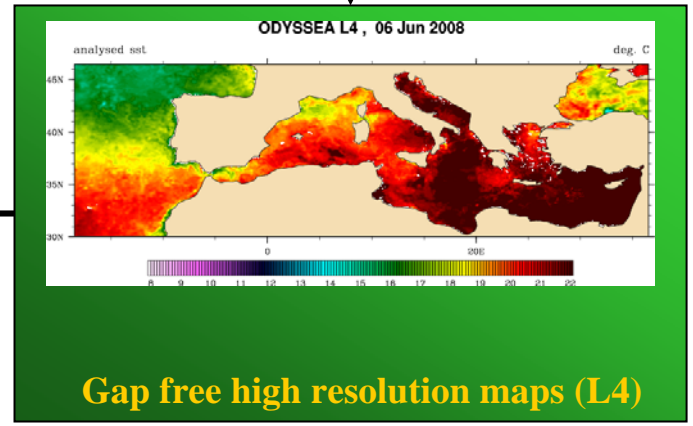
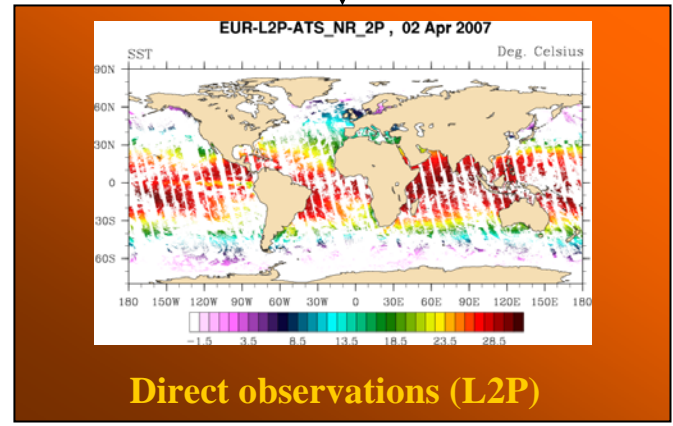
MSG/SEVIRI
(10km, 3-hourly
snapshots)



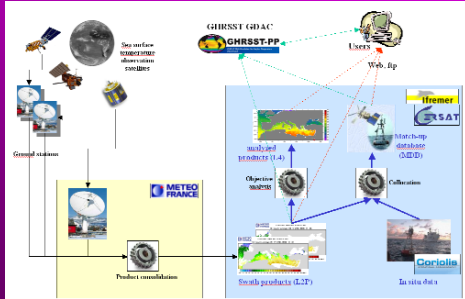
ENVISAT/AATSR
(1km, 14-15 orbits/day)
ATLANTIC => GLOBAL
(Dec 2005)

Medspiration legacy : data

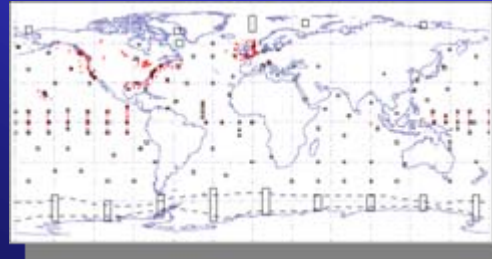
products



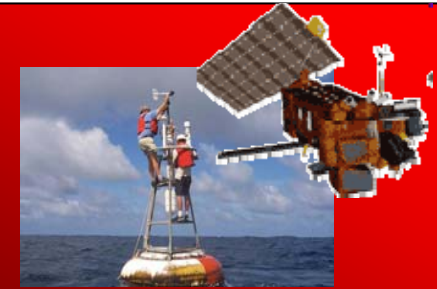
Medspiration legacy : services



Real-time processing platform



High-resolution diagnostic datasets

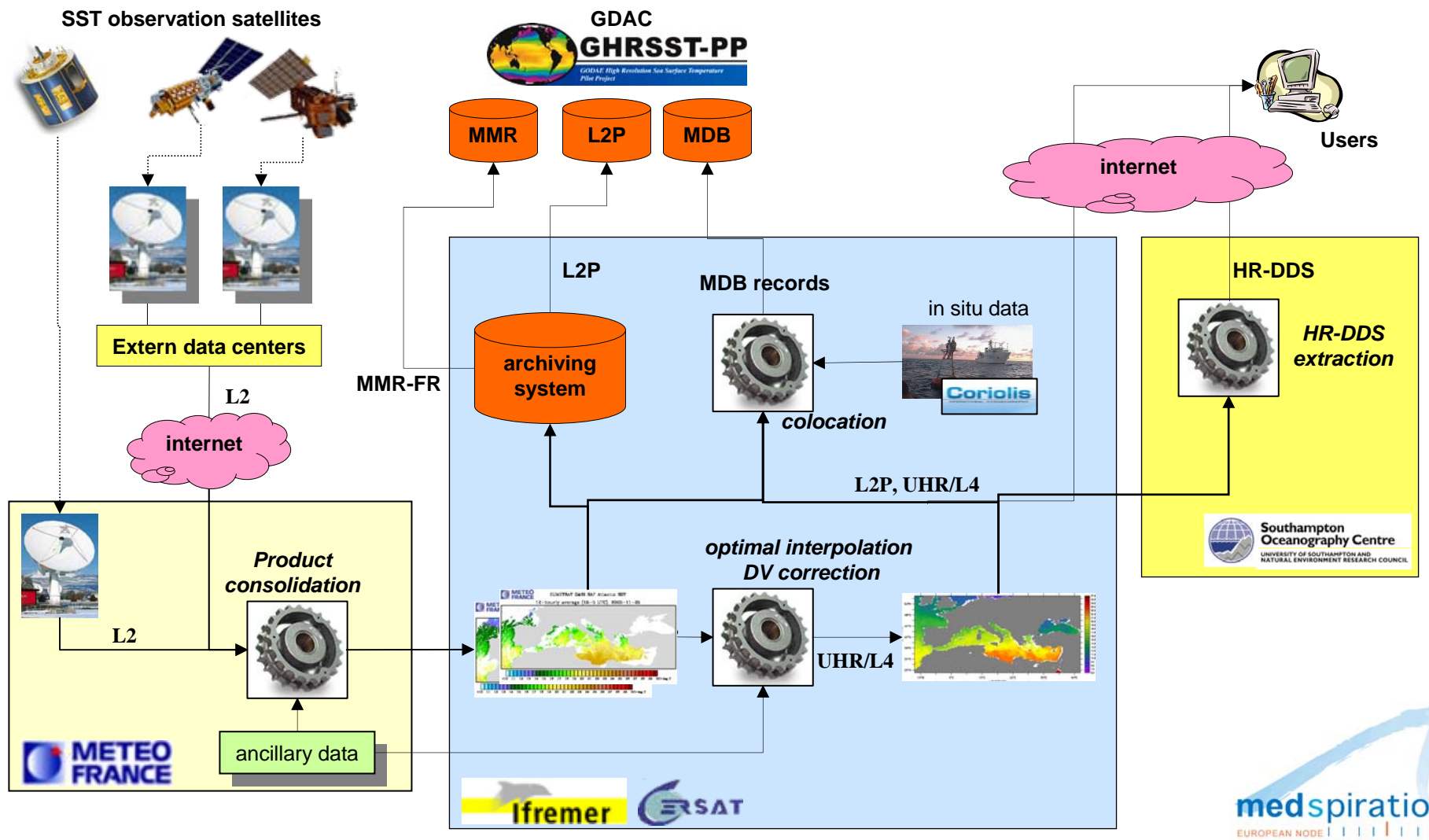


Match-up database (MDB)

❖ Operation platform

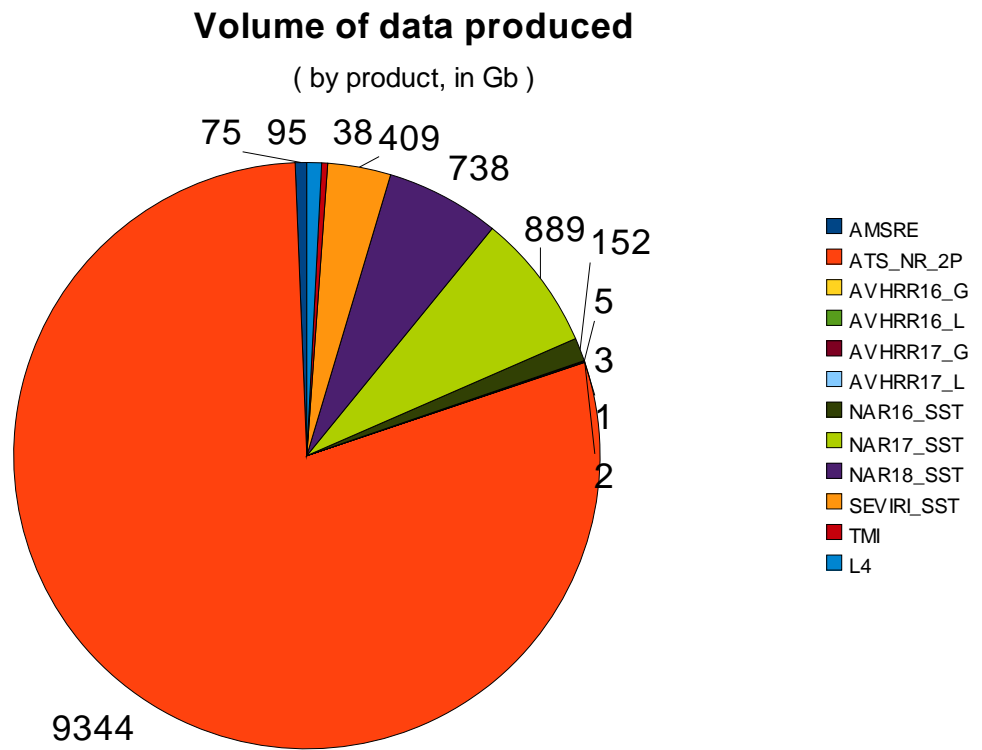
- ✓ Automated real-time processing
- ✓ Job scheduler & sequencer
 - Chaining of processes
 - Data driven processing
 - Load balancing
- ✓ Job monitoring
 - Alerts/warnings
- ✓ Logging of all operations
- ✓ Distributed message and data exchange across remote centers

Medspiration processing flow



Medspiration legacy : data

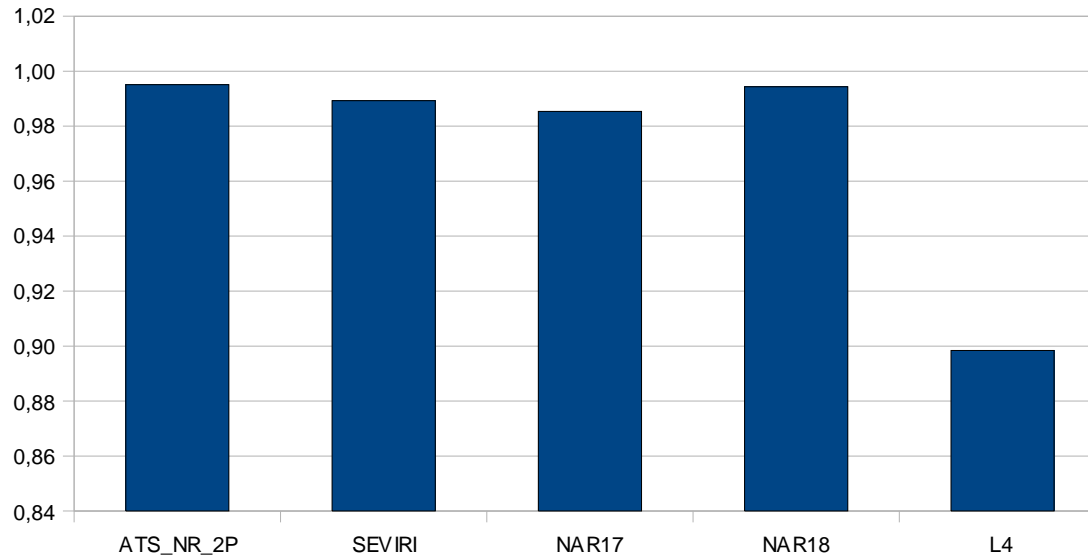
- ❖ Feb.2005 – Oct 2008 : 45 month long time series
- ❖ 11.5 Tb
- ❖ 76108 files produced



Operation performances

❖ Initial goal : 97% of data produced

Production performance ratio
(Nb of files produced / expected)



❖ L4 processing failed to reach requested performance

- ✓ Chain interruption (Mars-June 2008)
- ✓ Underestimated processing and storage resources when extending to global scale

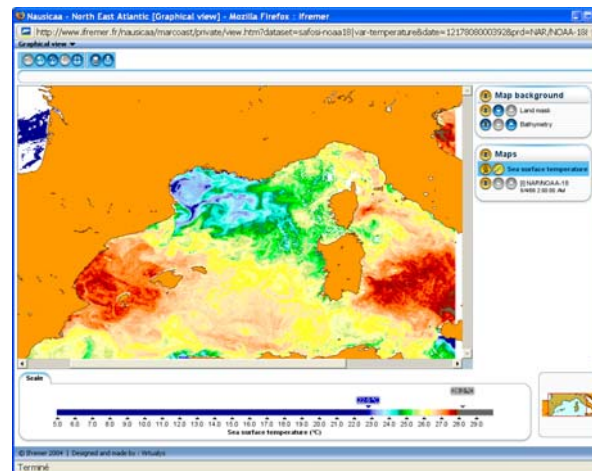
Data dissemination

❖ Data

- ✓ FTP : <ftp://ftp.ifremer.fr/ifremer/medspiration/data>
- ✓ OpenDAP :
<http://www.ifremer.fr/cgi-bin/nph-dods/data/satellite/medspiration>

❖ Images and interactive visualization

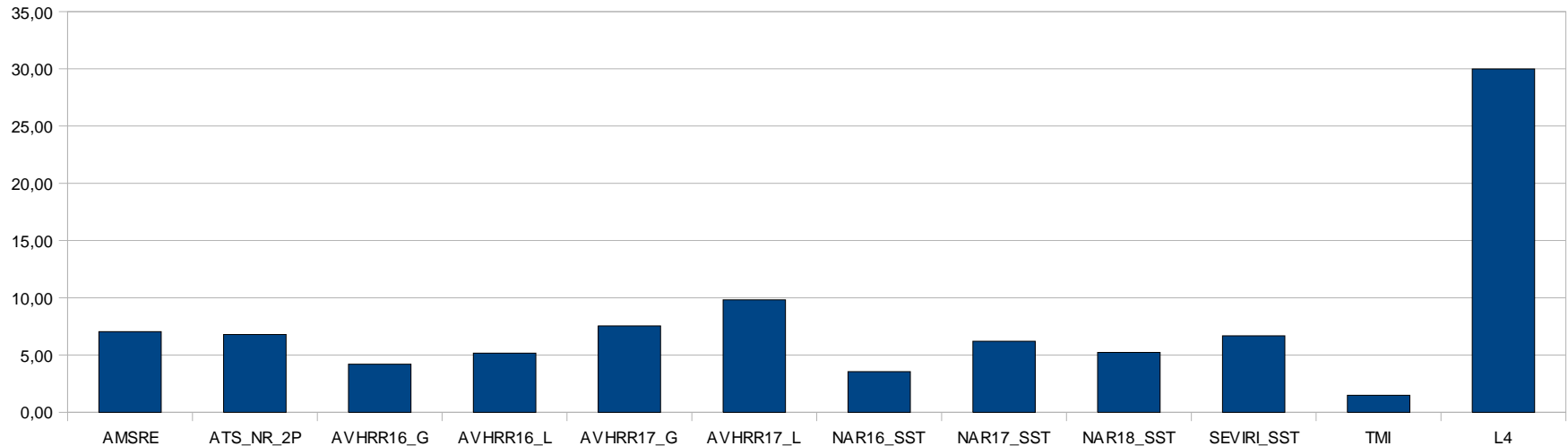
- ✓ Live Access Server : <http://www.ifremer.fr/las>
- ✓ Google Earth : http://www.medspiration.org/data_access/kml/
- ✓ Nausicaa browser : <http://cersat.ifremer.fr/data/view/nausicaa>
(about 600 users registered)



Data dissemination

- ❖ 520.706 files, about 100 Tb
- ❖ dissemination ratio : 6.84
- ❖ L2P users : operational centers & projects (UKMet, DMI, Meteo-France, Ifremer, MetNo, CNR)

Dissemination ratio per product
(number of files disseminated / produced)



- ❖ L4 most requested product : easy usage, cloud-free, ..

Lessons learned

❖ Implementation & operation

- ✓ Avoid un-necessary distribution of processing
- ✓ Avoid moving system from one location to another
- ✓ Better anticipate & prepare change of scale (even if code is generic)

❖ Data dissemination & usage

- ✓ ftp still the most efficient media
- ✓ OpenDAP not yet used even if promoted by EU projects
- ✓ Poor usage of web site
- ✓ Difficult to track users (anonymous access)
- ✓ Level 2 data still difficult to use
- ✓ Need better « visual » assessment, interactive tools, demonstration or simplified products

Future of L2P products

❖ L2P products

- ✓ AMSRE, TMI, NOAA GAC/LAC relayed by US producers for 2 years
- ✓ AATSR
 - New L2P product available at ESA
- ✓ NAR17/NAR18
 - Natively produced in L2P by O&SI SAF
- ✓ SEVIRI
 - Natively produced in L2P by O&SI SAF
 - Replaced by 5km hourly product

Future of L4 products

❖ L4 products

- ✓ North-East Atlantic
 - Sustained within MyOcean
- ✓ Galapagos
 - Production stopped
- ✓ Brazil
 - Sustained, reprocessing over Medspiration ERA
 - Usage in the frame of SMOS mission
- ✓ Great Barrier Reef
 - Validate, tune, reprocess and release product over GHRSSST ERA
- ✓ Mediterranean sea
 - Reprocess over Medspiration ERA
 - Services rely on product...
 - Sustain and seek framework....
 - CNR product set as MyOcean product

❖ Improvements ongoing for high resolution L4

- ✓ Improved chain by the end of 2008 (1st reprocessing)
- ✓ Complete change of method in future years (in test)
- ✓ Medspiration era used as test bed and intercomparison

Suggested transition plan

- ❖ No service interruption
- ❖ Data and services moved to other locations by the end of 2008
 - ✓ O&SI SAF new FTP archive still to be set up (SEVIRI, NAR, *METOP*)
 - ✓ MyOcean/GHRSST FTP archive
 - Linked to O&SI SAF archive
 - Mirror other US L2P and ESA/RAL AATSR
 - Same « GDAC » repository feel like current archive
- ❖ Advert on Medspiration web site to drive users to new services and data locations
- ❖ Medspiration web site will be kept online for 6 months
- ❖ FTP site will be updated for 2 months (mirroring) then turned off

Future of services

- ❖ Match-up database
- ❖ HR-DDS system
- ❖ Real-time operation platform
 - ✓ Proved to be widely generic and re-usable
 - ✓ Re-scaling and redundancy necessary for highly operational contexts
 - ✓ Basis for all Ifremer RT processings (incl. SST, Ice/Wind, Color TACs)
 - ✓ GlobWave processings

Conclusion

❖ From operational perspective

- ✓ First operating node of GHRSSST network
- ✓ Medspiration was a seed and model for European operational oceanographic RT services
 - Performance and timeliness high requirements
 - Data homogeneization
 - Processing platform
 - Data quality assessment and monitoring services
- ✓ Will survive beyond project frame
 - Implemented software & hardware is sustained
 - Data production is sustained (a few question marks)

❖ Bridged the gap to operational and sustained services