



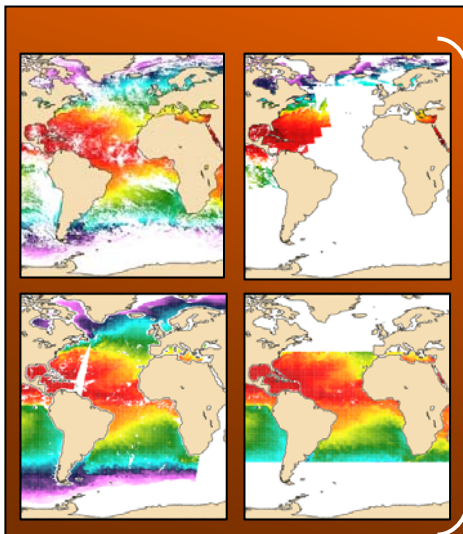
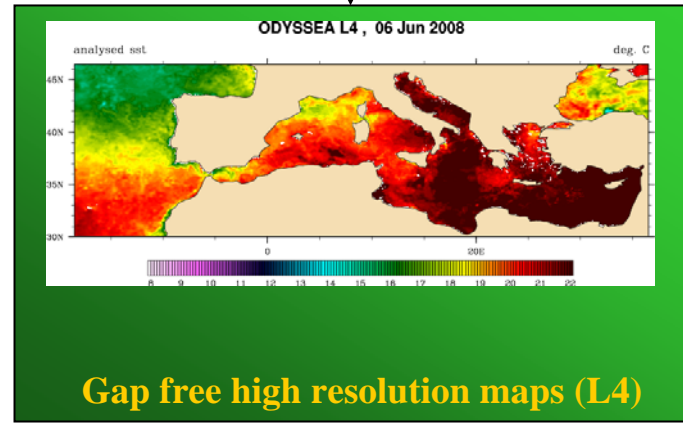
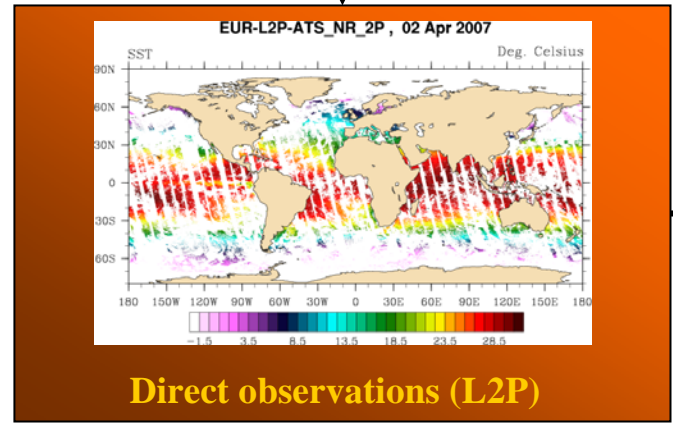
# Medspiration system & operations summary, legacy and future

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



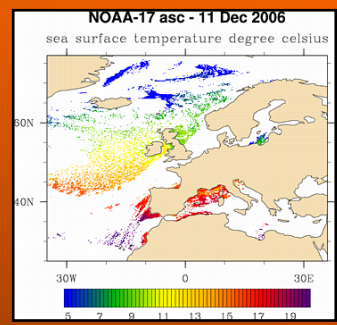
# Medspiration legacy : data

## products

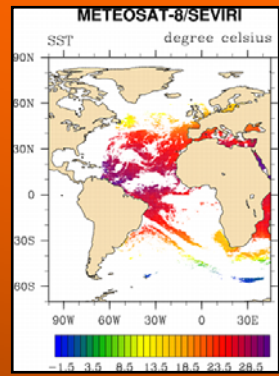


LAC NOAA17  
LAC NOAA16  
GAC NOAA17  
GAC NOAA17  
AMSRE  
TMI

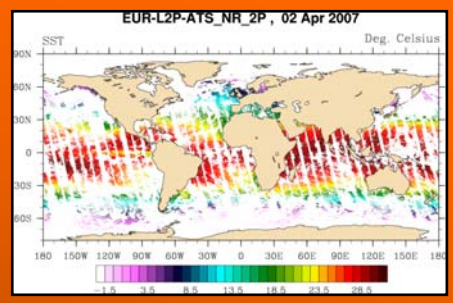
Disc. In  
2006



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



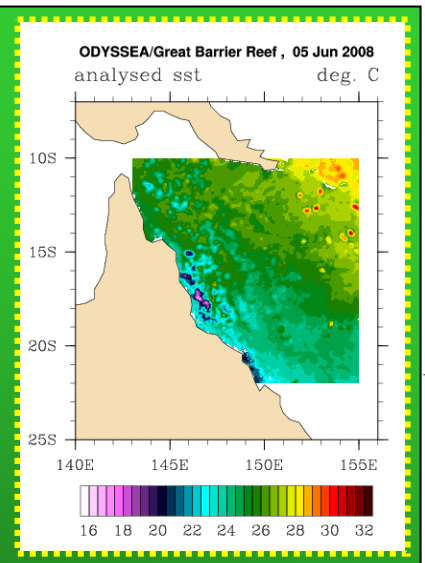
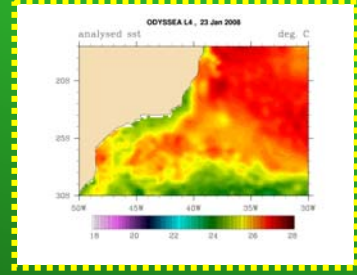
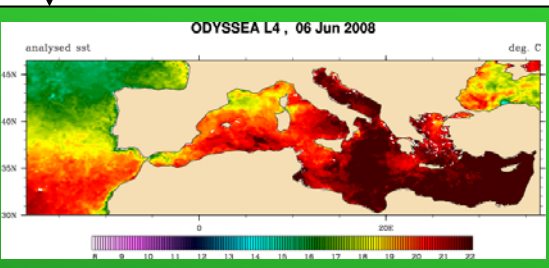
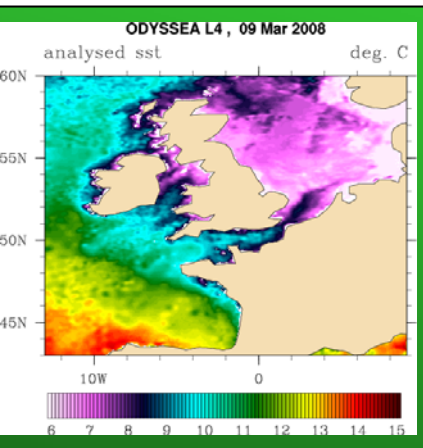
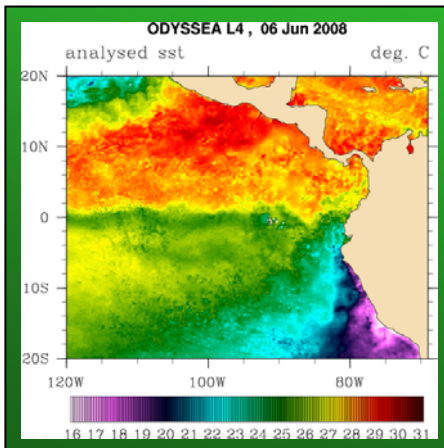
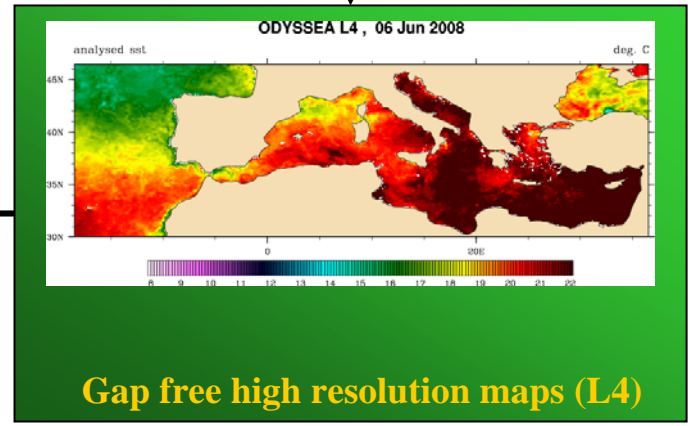
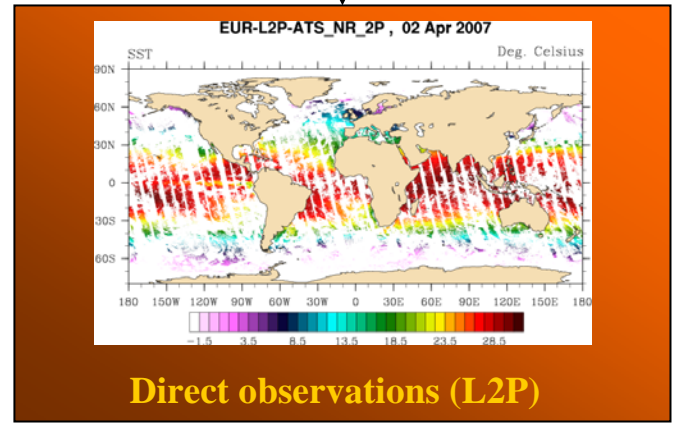
MSG/SEVIRI  
(10km, 3-hourly  
snapshots)



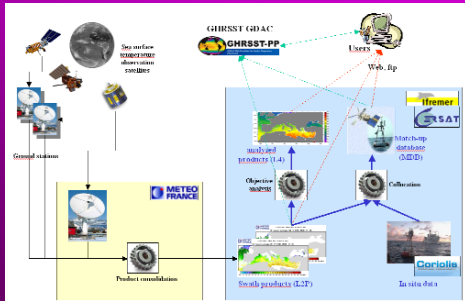
ENVISAT/AATSR  
(1km, 14-15 orbits/day)  
ATLANTIC => GLOBAL  
(Dec 2005)

# Medspiration legacy : data

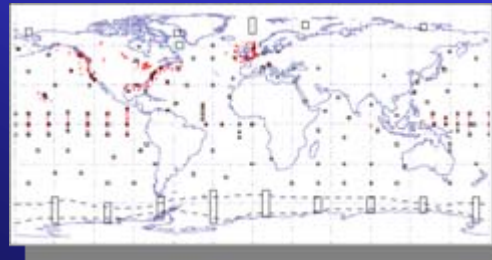
products



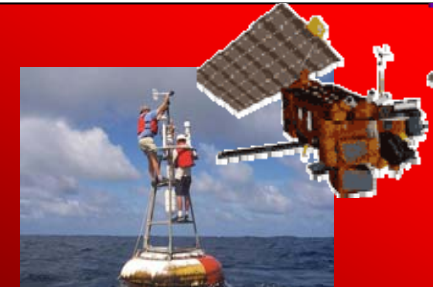
# Medspiration legacy : services



**Real-time processing platform**



**High-resolution diagnostic datasets**

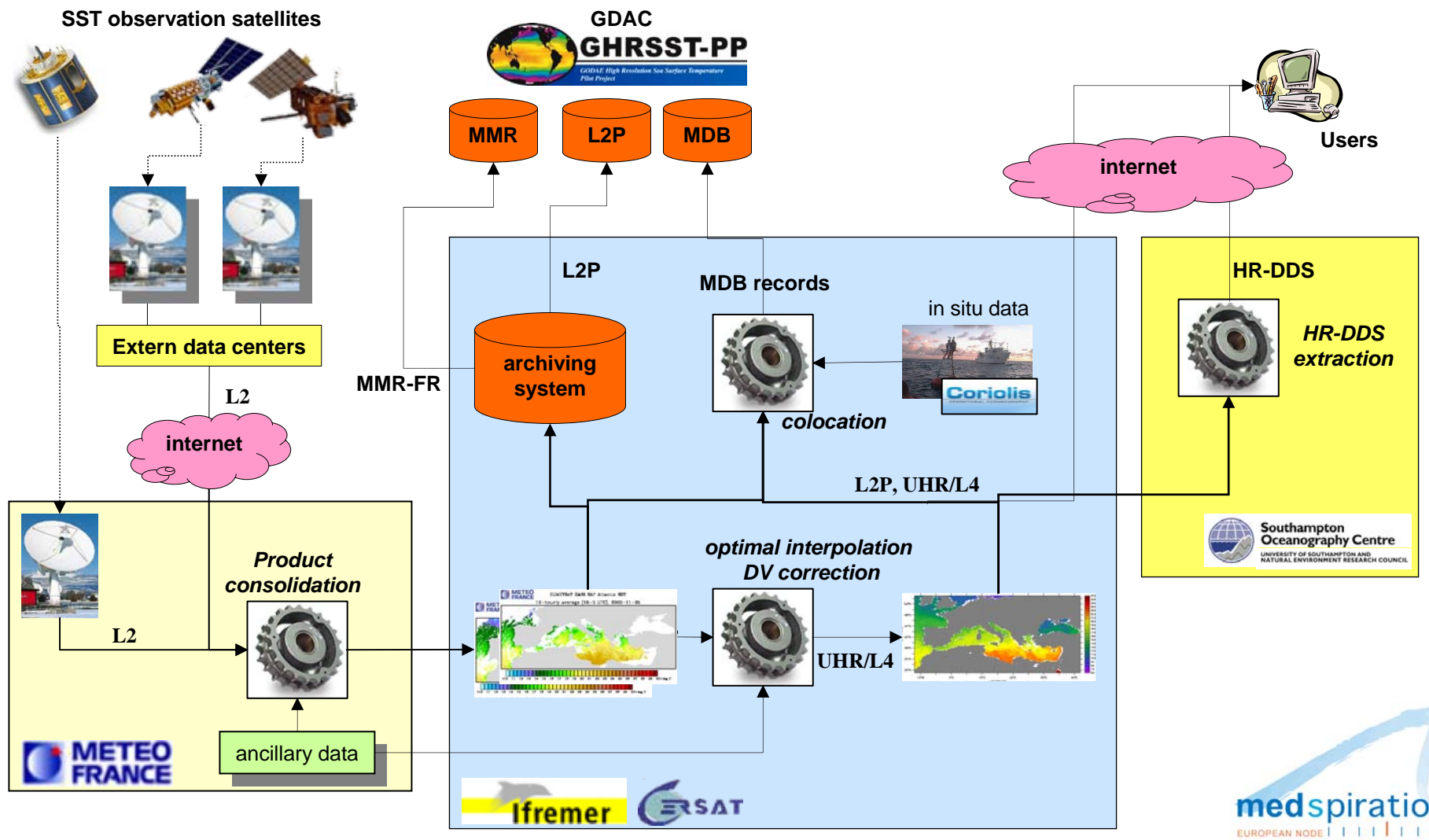


**Match-up database (MDB)**

## ❖ Operation platform

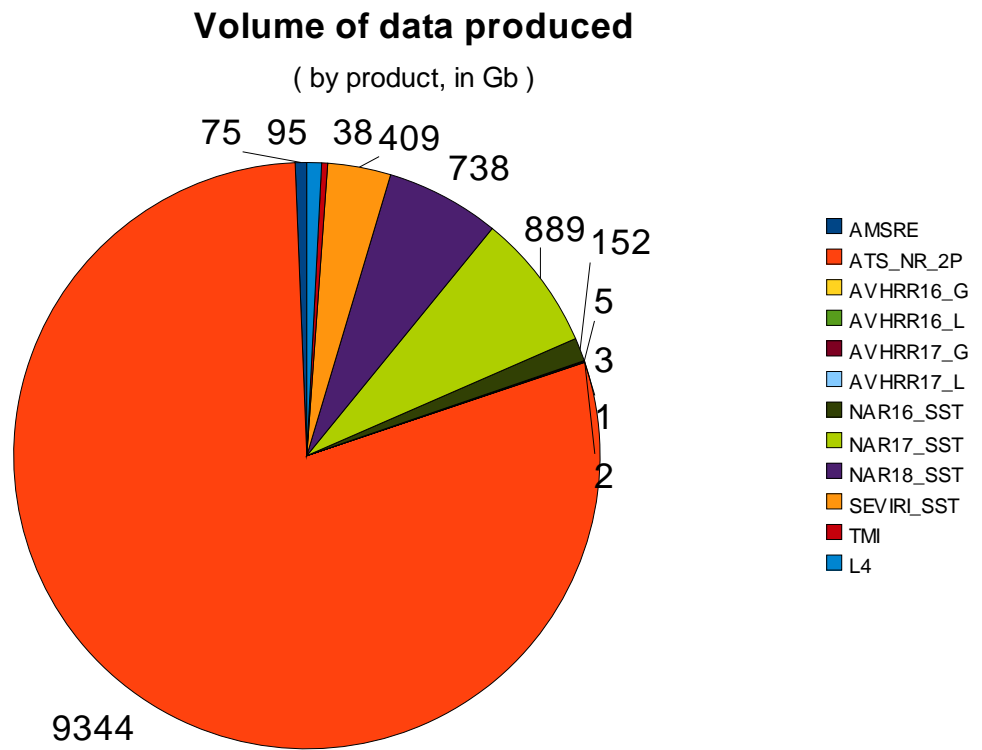
- ✓ Automated real-time processing
- ✓ Job scheduler & sequencer
  - Chaining of processes
  - Data driven processing
  - Load balancing
- ✓ Job monitoring
  - Alerts/warnings
- ✓ Logging of all operations
- ✓ Distributed message and data exchange across remote centers

# Medspiration processing flow



# Medspiration legacy : data

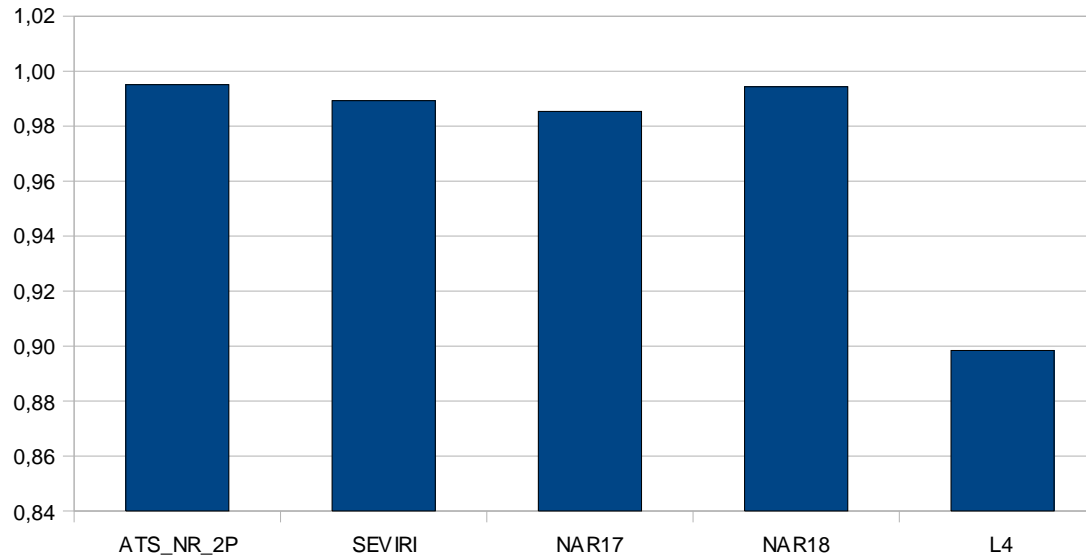
- ❖ Feb.2005 – Oct 2008 : 45 month long time series
- ❖ 11.5 Tb
- ❖ 76108 files produced



# 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

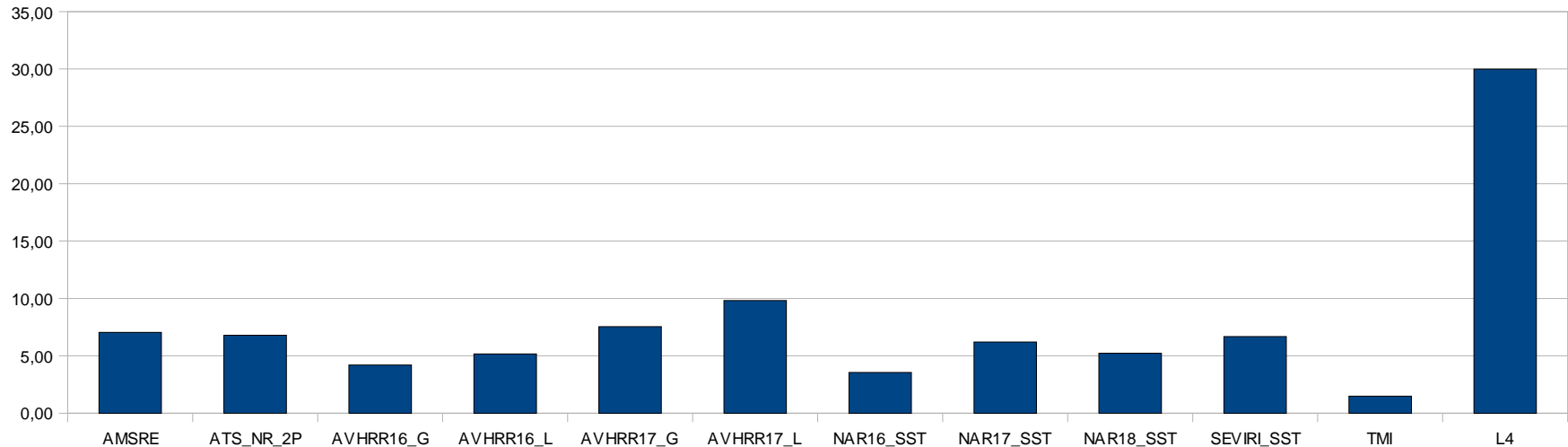


# Data dissemination



- ❖ 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