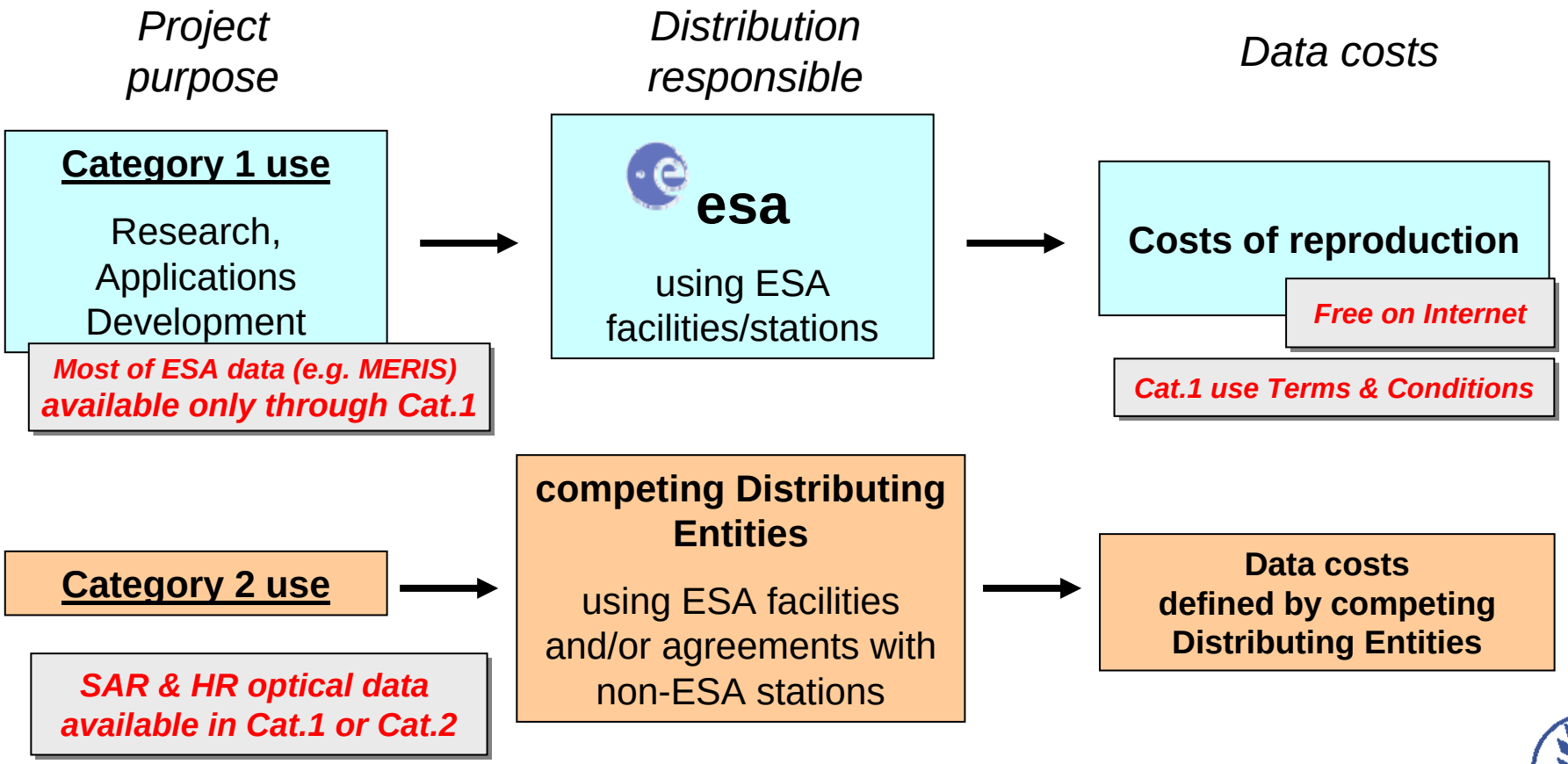
Access to ESA Earth Observation data

(past and current missions)

ESA Earth Observation Policy

Data policy defined by ESA Member States:

- **to stimulate a balanced development of Science, Public Utility and Commercial Applications, consistent with the mission objectives,**
- **to maximize the beneficial use of data from ESA EO satellites.**



Category 1 use Terms & Conditions

Main points:

- to use the data provided for Category 1 use only **within the project team** (i.e. PI and co-PIs) and only for the purpose described in the project proposal
  → i.e. no data redistribution outside the Cat.1 use project team

- to widely **publish** the project results in **scientific publications** or presentations,
  → with data citation:
  "[mission or instrument] Data provided by European Space Agency"
  (to facilitate ESA web searching of publications, and subsequent reporting on mission/instrument achievements)

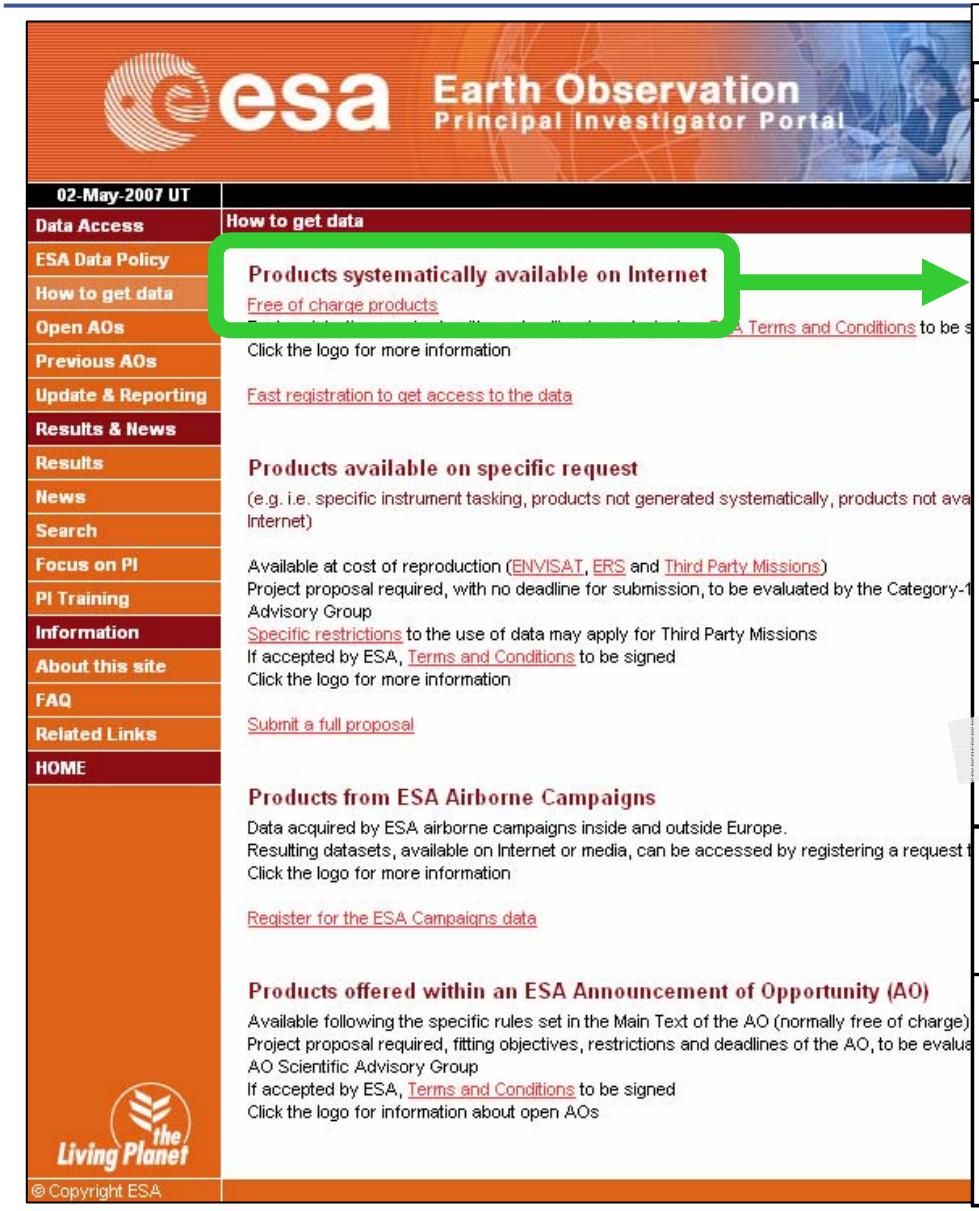
Each PI shall sign the Category 1 use Terms & Conditions.

How to apply for data access within a Category 1 use framework

Application for Category 1 use data access can be submitted to ESA at any time using the ESA Earth Observation Principal Investigator portal (http://eopi.esa.int)

Category 1 use : fast registration or full proposal ?

Products systematically available on Internet



Products systematically generated and available via fast registration - release April 3 2007

			Internet		DDS Europe
Mission	Sensor	Product	Archived or Reprocessed	NRT and Recent	NRT
ENVISAT	ASAR	ASA_WSM_1P		last 14 days	
		ASA_IMM_1P		last 14 days	
		ASA_APM_1P		last 14 days	
		ASA_GM1_1P		last 7 days	
		ASA_WVS_1P	Full mission	last 7 days	
		ASA_WVW_2P	Full mission	last 7 days	
	MERIS	MER_RR__1P	Full mission	last 7 days	NRT
		MER_RR__2P	Full mission	last 7 days	NRT
		MER_RRC_2P	included in MER_RR_2P	last 7 days	NRT
		MER_RRV_2P	included in MER_RR_2P	last 7 days	NRT
		MER_LRC_2P	included in MER_RR_2P	last 7 days	
		MER_FRS_1P (European coverage)		last 14 days	
	AATSR	ATS_TOA_1P		last 7 days	NRT
		ATS_NR__2P		last 7 days	NRT
		ATS_AR__2P		last 7 days	NRT
		ATS_MET_2P		last 7 days	
	Altimeter	RA2_FGD_2P		last 7 days	
		RA2_IGD_2P	Full mission		
		RA2_GDR_2P	Full mission		
		RA2_MWS_2P	10 days of archive		
		RA2_WWV_2P	Full mission	last 7 days	
	Atm. Chemistry	SCI_NL__1P	Full mission	last 7 days	NRT
		SCI_NL__2P	Full mission until Nov. 2004		
		SCI_OL__2P	Full mission from Nov. 2004		
		MIP_NL__1P	Full		
		MIP_NL__2P			
				last 7 days	
				last 7 days	
			Full mission	last 7 days	
		GOM_RR__2P		last 7 days	
	DORIS	DOR_DOP_1P	Full mission		
		DOR_POR_AX	Full mission	last 3 months	
		DOR_VOR_AX	Full mission	last 3 months	
ERS	SAR	WSC.UWI	From 21/08/2003 onwards	NRT	
		SWM.UWA	From 16/11/2006 onwards	NRT	
	GOME	GOME. LVL13	From March 2005		
		GOME. LVL21	Full mission		
	ALTIMETER	ALT.URA	From 16/11/2006 onwards	NRT	
	Orbit	ORB.PRC	Full mission		
		ORB.PRL	Full mission		
TPM	Chris, HRC (Proba)	PROBA.CHRIS.1A	All available data, including recent		
		PROBA.HRC.1A	All available data, including recent		
	TM (Landsat)	LANDSAT.TM.SCPR	European coverage		
	EOC (Kompsat-1)	KOMP.EOC.ECD	City dataset		
	PreS, MAESTRO (ACE-Scisat)	ACE_FTS_L2V1.0	Full mission		
		ACE_FTS_L2V2.2	Full mission		
		ACE_MAESTRO_L2V	Full mission		
	MODIS (Terra/Aqua)	MODIS.NRT.Level1B (European coverage)		Last 30 days	
	SeaWinds (QuikSCAT)	QSCATT.Level 2A	Full mission		
		QSCATT.Level 2B	Full mission		

Updated list available at : http://eopi.esa.int

Products systematically available on Internet: example with Envisat

Envisat NRT & recent data	availability	period	coverage
DDS ← MERIS Red. Resolution (1200 m) ASAR Medium Resolution (75 m) ASAR Global Monitoring (1000 m) DDS ← AATSR Altimetry DDS ← SCIAMACHY, GOMOS	Systematic (i.e. processing of all data) Product available within 3 hours from acquisition (95%)	Rolling archive of last 7days	Worldwide coverage Fast registration
MERIS Full Resolution (300 m) ***Level 1 – Europe coverage***	Systematic	Rolling archive of last 20 days	Europe coverage
MERIS Full Resolution (300 m) ASAR High Resolution (12.5 m)	On request	Few hours after acquisition	According to ins… planning Full proposal

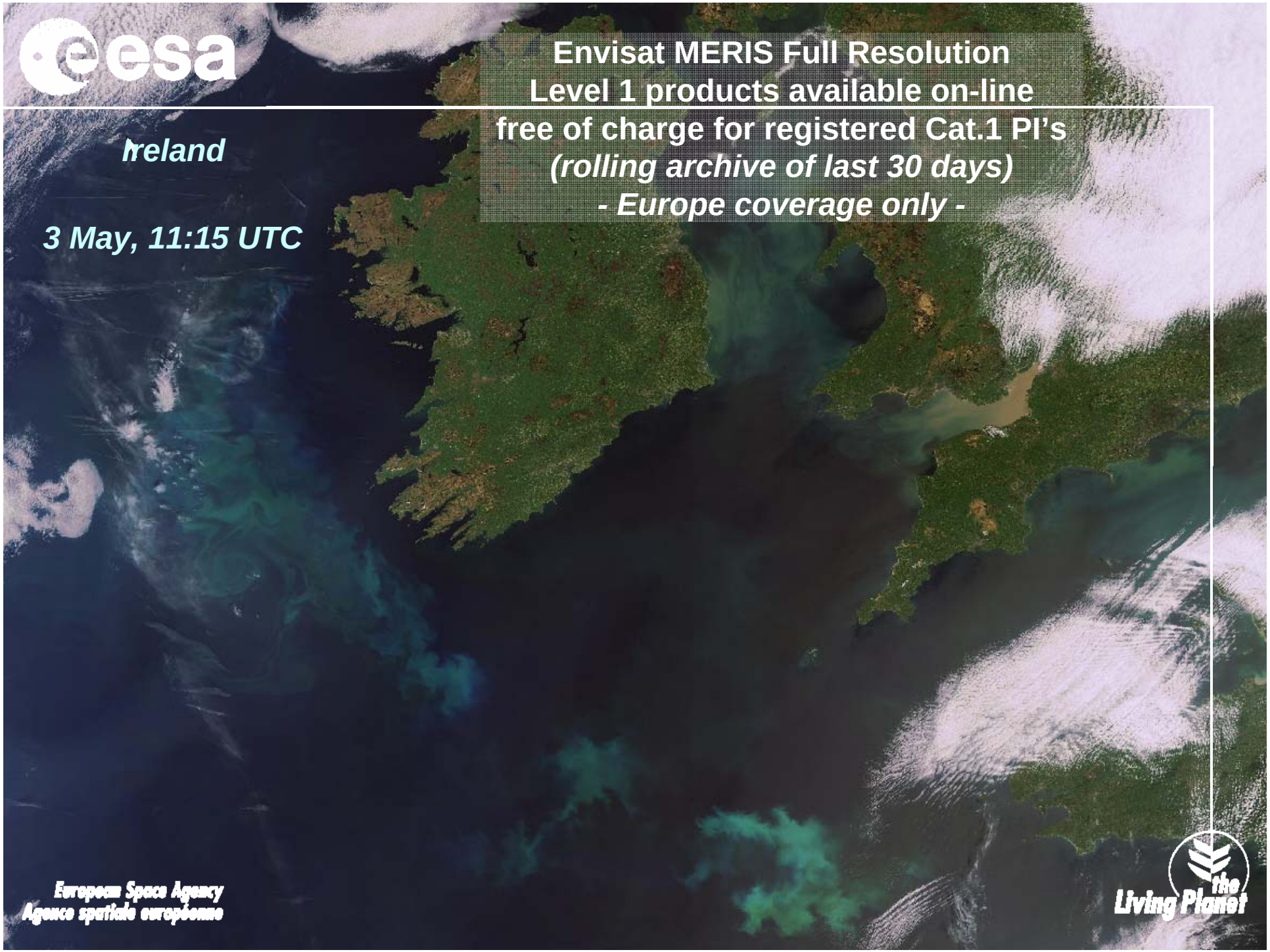
Internet

Envisat archived data	availability	period	coverage
MERIS Red. Resolution (1200 m) Altimetry SCIAMACHY, MIPAS, GOMOS AATSR (*end 2007*)	Systematic (i.e. for each re-processing of the data)	Whole mission since mid-2002	Fast registration Worldwide coverage
MERIS Full Resolution (300 m) ASAR High Rate	On request	Whole mission since mid-2002	Worldwide co… Full proposal

Data from ESA ERS and Third Party Missions are also available on Internet

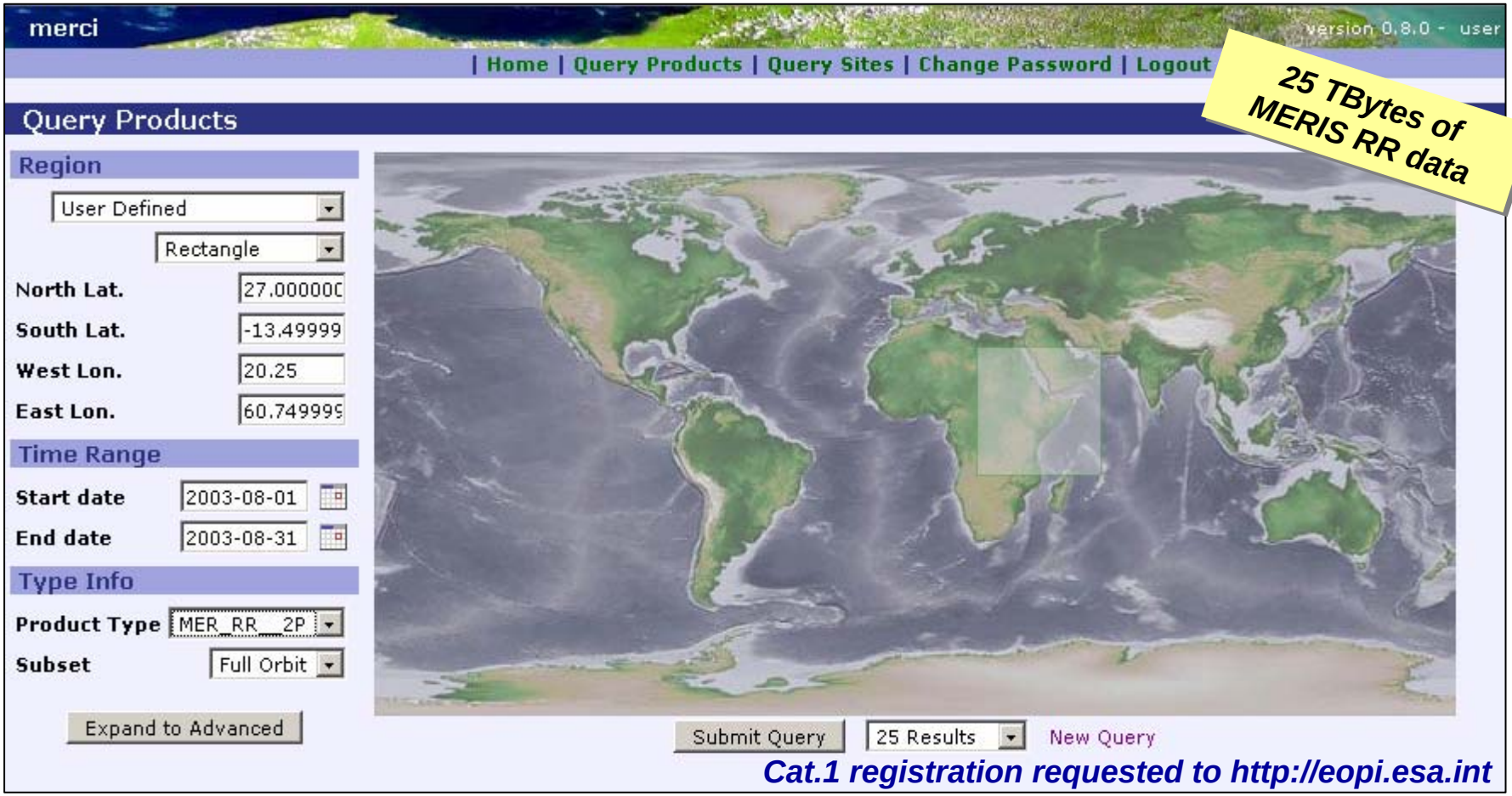
Which systems for access to NRT and recent data ?

Internet		Telecom satellite broadcast
7-days Rolling Archives (ftp or http)	**7-days Web File Server (http)**	**Data Dissemination System (DDS) broadcast**
Same dataset for both		
• Complete product (e.g. MERIS orbit) • Each acquisition station has its own rolling archive	• Geographical selection (with product subset to decrease data volume for download) • One unique web site for all acquisition stations	• Europe reception coverage • Cost: 350 € + 1.2m antenna • Africa reception coverage (larger antenna size)
Suitable for users requesting small or infrequent dataset		**Suitable for users requesting systematic and large dataset**


esa
Envisat MERIS Full Resolution
Level 1 products available on-line
free of charge for registered Cat.1 PI's
(rolling archive of last 30 days)
- Europe coverage only -
Ireland
3 May, 11:15 UTC
European Space Agency
Agence spatiale européenne
the Living Planet

Which systems for access to archived data ?

MERCI web interface, giving access
to global MERIS Reduced Resolution data archived since mid-2002



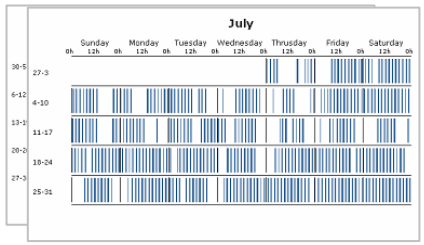
MERCI web interface will be used also for Envisat/ERS (A)ATSR archived data (end 2007)

EO Processing-on-Demand (G-POD)

Alternative way to access to EO data:

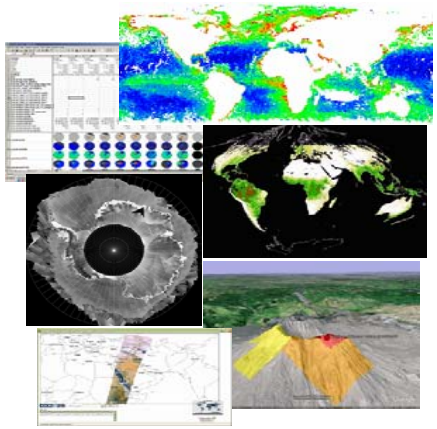
→ Grid Processing-on-Demand (G-POD)

- Promote the development of new algorithms requiring large data and computing resources: "*bring the user's algorithms to the data*"
- Build network of competences, promote e-collaboration and sharing of tools, easier transition from science algorithms to new user products …
- 10 projects selected in mid-2006 through a Call for Proposal. Same approach will be continued in 2007/2008.



on-line data archives

user triggers and controls from the G-POD website its own processor running on eogrid computers



innovative science products

ESA Earth Observation Toolboxes

Alternative way to access to EO data:

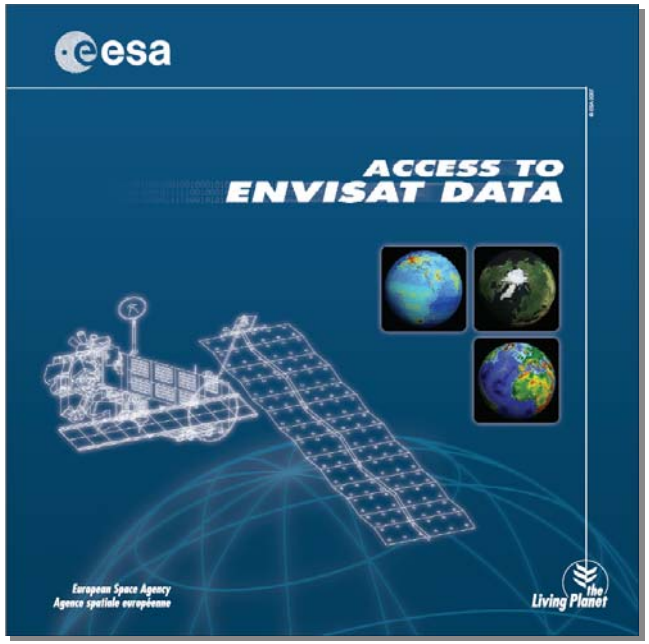
→ ESA EO Toolboxes

The toolboxes (Open Source tools) facilitate the handling and exploitation of EO data (e.g. experimental Level 2 algorithms).

http://earth.esa.int/resources/softwaretools/

More information about EO data access

http://earth.esa.int



eohelp@esa.int

Summary

A constant objective:

→ ***ease access to Earth Observation data***

- **Common objective for all missions data handled by ESA:**
  Envisat, ERS, Earth Explorers,
  and Third Party Missions (e.g. ALOS, SPOT-4, PROBA, …)

- **Simplified data application procedures for Category 1 use**

- **Internet access to all Near Real Time (NRT) data**

- **Internet access to archived data gradually implemented (new dataset, new access systems)**

- **Development of alternative ways to provide data (e.g. processing on demand, toolboxes)**