

ACCESS TO ESA'S IMAGE2006 ONLINE ARCHIVE

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1 INTRODUCTION

1.1 *Background*

In March 2006, the EEA (European Environment Agency) proposed to EC DG-ENV and DG-ENTR a collaboration on the Land Fast Track Service as a GMES precursor. ESAs Directorate of Earth observation agreed with JRC on a sharing of tasks and became responsible for EO data provision, including ortho-correction.

The geographical scope of the project covers the EU25 and neighbouring countries (38 countries):

- all EEA Member countries¹: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France², Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom
- as well as the western Balkan countries (namely Albania, Bosnia-Herzegovina, Croatia, Former Yugoslavian Republic of Macedonia, Serbia and Montenegro) who are participating in the regular Corine land cover dataflow.

The objectives of the overall project are to deliver the following products and information:

- **Ortho-corrected satellite images for the reference year 2006 (+/- 1 year) – this has been ESA's responsibility**
- European mosaic based on ortho-corrected satellite imagery (referred to as IMAGE2006) (JRC)
- Corine land cover changes 2000-2006 (38 countries)
- Corine land cover map 2006 (referred to as CLC2006) (38 countries)
- High resolution built-up areas including degree of soil sealing 2006 (EEA)
- High resolution forest layer 2006 (JRC)

1.2 *Objectives for ESA*

The planned contribution from ESA, as agreed with EEA and JRC was to:

- fund / manage / coordinate the concerned satellites data availability (Spot satellites and IRS P6 satellite data) and the related level 1 archiving , distribution ensuring user access

¹ All major islands of the respective countries are included (e.g. Crete, Corsica, Canary Islands, Madeira, Azores etc.)

² The French Overseas Departments and Territories are not included

- fund / manage the generation, archiving and distribution of all the required ortho-corrected satellite images
- provide access of ortho-corrected data to:
 - JRC, for Quality Control and the generation of the Mosaic and use of E.C. services
 - National Reference Centers (NRCs) and other National Public Institutions
 - European Environmental Agency and its subcontractors as well as other European Public institutions
 - **ESA approved Cat-1 users**
- Maintain the historical archive and user access of the concerned data for further use

With respect to the various organizations/entities participating to this project, the rationale for ESA as being responsible for the data acquisition and pre-processing activities was based on the existence and implementation of the two following programmes:

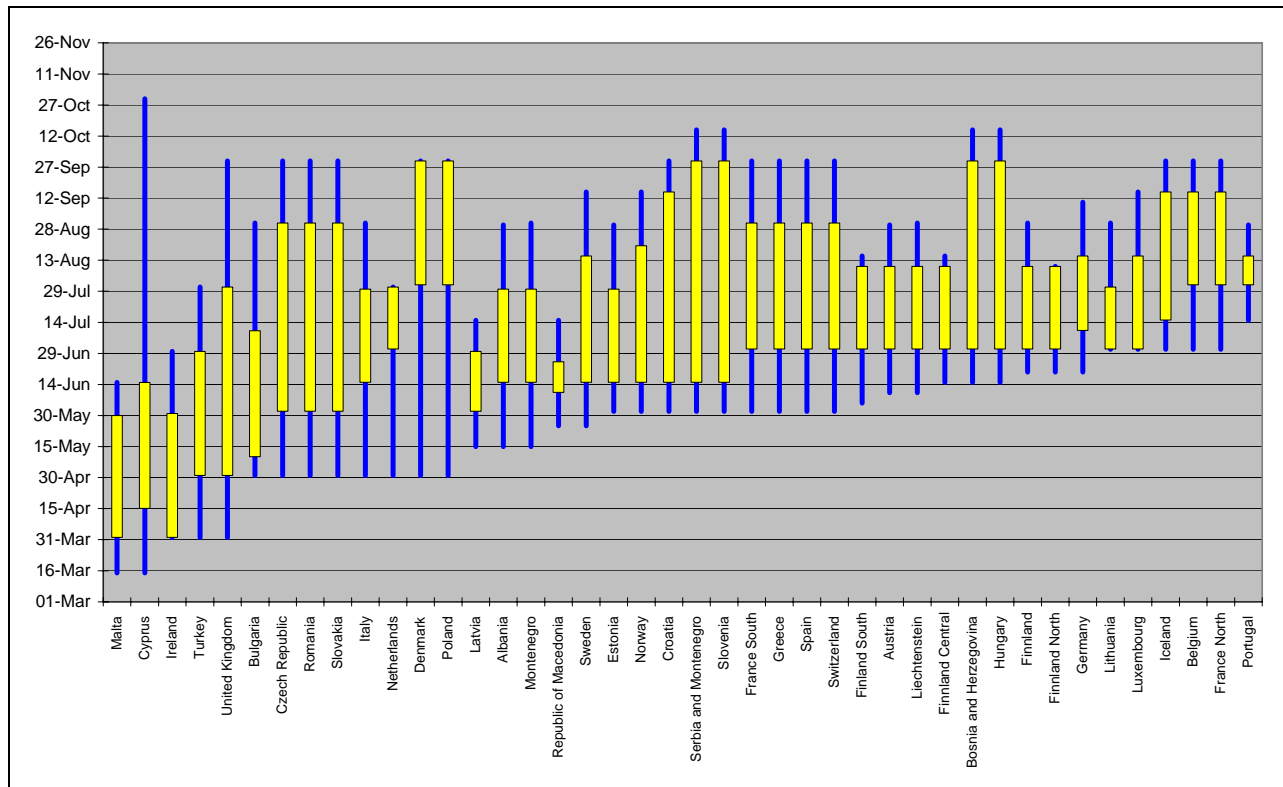
- the GMES Space Component programme and more specifically the EO data access line
- the Earthnet programme and more specifically the Third Party Mission agreements

Within the Third Party Mission scheme, the Agency provides to Earth Observation users data from non-ESA missions, so-called Third Party Missions, to complement the data from ESA EO missions and to support and build up the scientific user community for those data in Europe. Both the SPOT satellites and the IRS-P6 satellites are approved Third Party Missions.

2 DATASET DESCRIPTION AND ACCESSIBILITY

GENERAL CONDITIONS

- ESA with the help of SPOT IMAGE, Euromap, DLR, Metria, and JRC has built up pre-defined IMAGE2006 online data collections for Research and Application development.
- The dataset contains 2 European coverages, acquired as follows:
Coverage 1 acquisition windows:



Coverage 2 acquisition windows were chosen to be optimally of at least 6 weeks temporal difference to the coverage1 temporal windows.

- The datasets available for Cat-1 users are:
 - Level1A data from SPOT 4/5 HRVIR/HRG instruments (both in 20m spatial resolution – SPOT5 are resampled to this resolution= non-standard product) and Level1B data from IRS-P6 LISS III instrument
 - In addition the collection provides the same products geometrically corrected towards a European Map Projection with 25m resolution. For SPOT 4/5 the physical model of Direct Georeferencing (DG) and for IRSP6 the rational polynomial camera model (RPC) was applied to produce orthoimages with 25m resolution in European projection LAEA ETRS89 (Lambert Azimuthal Equal Area with European Terrestrial Reference System 1989 as geodetic datum). For the resampling process bi-cubic spline interpolation was applied to achieve best image quality for thematic interpretation.
- Geographic coverage: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, Albania, Bosnia-Herzegovina, Croatia, Former Yugoslavian Republic of Macedonia, Serbia and Montenegro.
 All major islands of the respective countries are included (e.g. Crete, Corsica, Canary Islands, Madeira, Azores etc.).
 The French Overseas Departments and Territories are not included.
- The online archive contains today around 3800 products for each processing level

- Delivery is via ftp pickup and data are delivered free of charge to registered Cat-1 users (see chapter 3).

3 DATA USERS

Users = ALL existing and new ESA Cat-1 projects (incl. DUE, GSE, EOMD) within the following residential restrictions: PIs are eligible if they reside in the following countries:

- ESA Member States and European Union
- Africa
- Canada

As per the 'Terms and Conditions for Category-1 use' signed by the Project PI, PIs are responsible to respect the geographic restrictions in case they apply to a Co-PI of his project.

4 DATA ACCESS

In the evaluation procedure the scientific content of a submitted project proposal is assessed against the data requirements of the PI and a access to the online archive is granted.

The content of the ESA collections can be explored using the EOLI-SA (Standalone) catalogue.

For projects requesting large data quantities, specific data delivery conditions might be applied by ESA.
