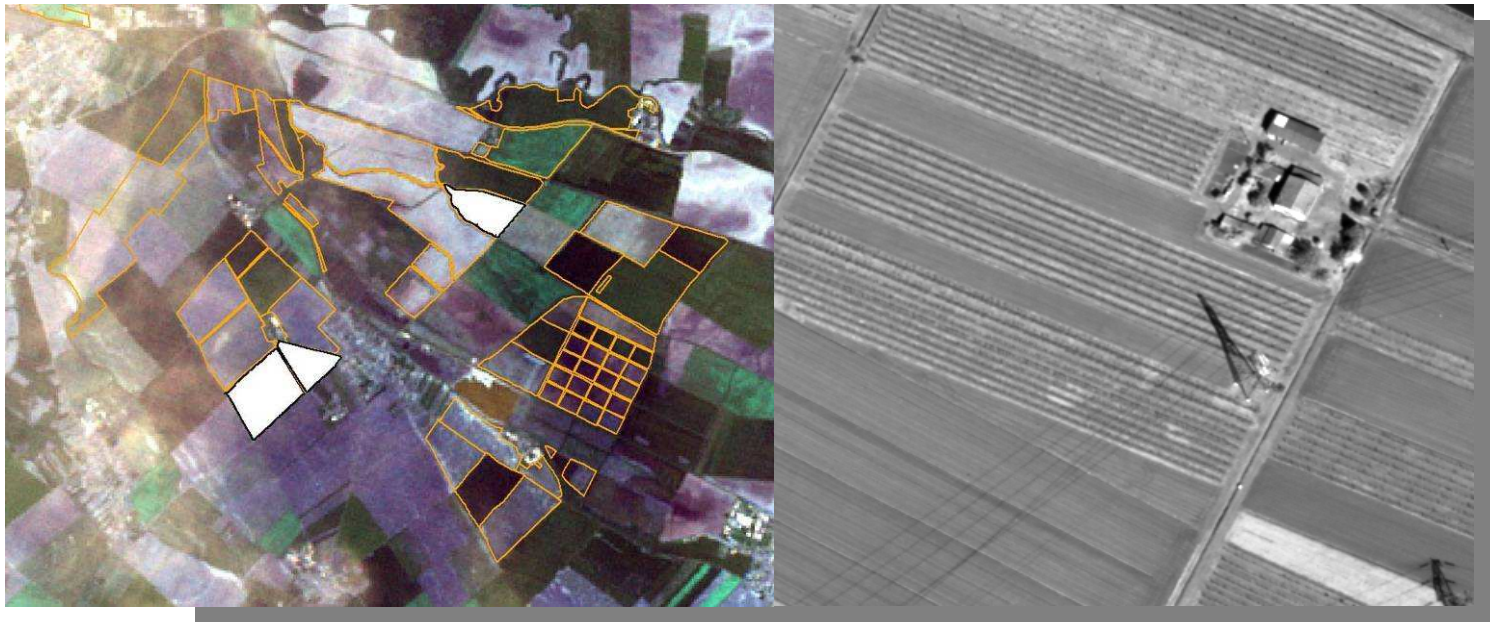
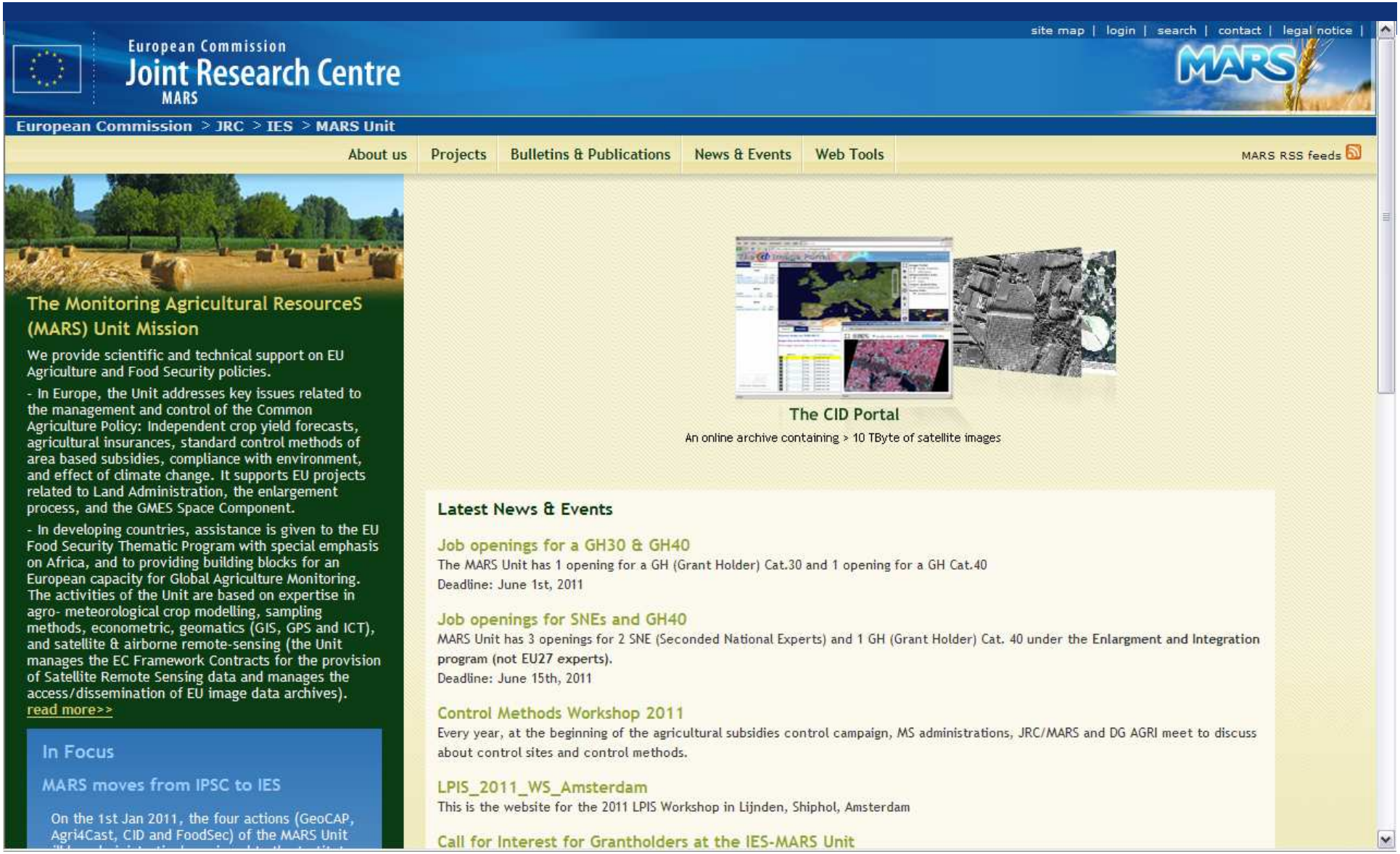
Monitoring of Agricultural Resources
Institute for Environment and Sustainability (IES)

Beata Hejmanowska, Simon Kay Head of Unit, Philippe Loudjani GeoCAP team leader, Csaba Wirnhardt, Pavel Milenov,



http://mars.jrc.ec.europa.eu/



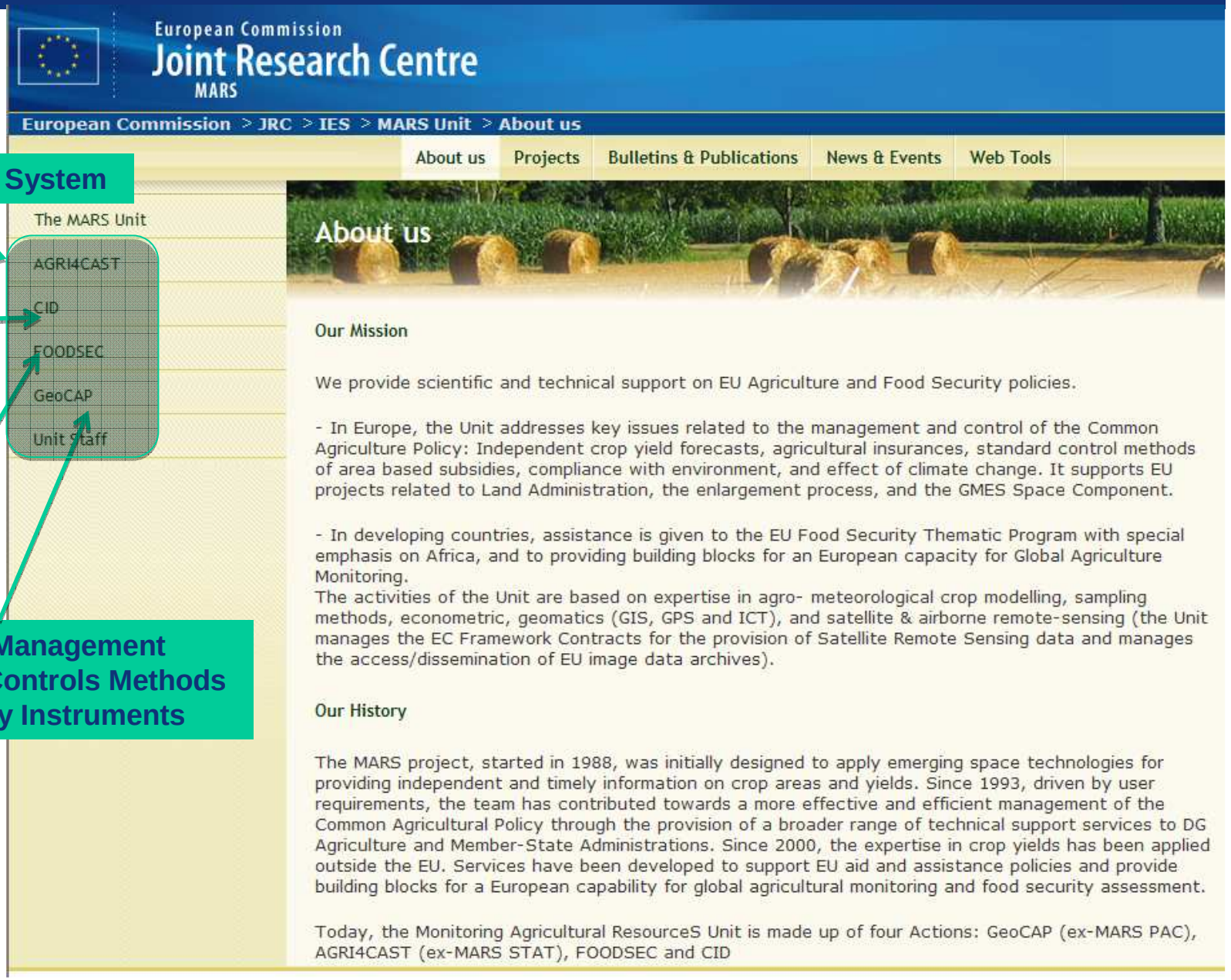
http://mars.jrc.ec.europa.eu/mars/About-us

Crop Forecasting System

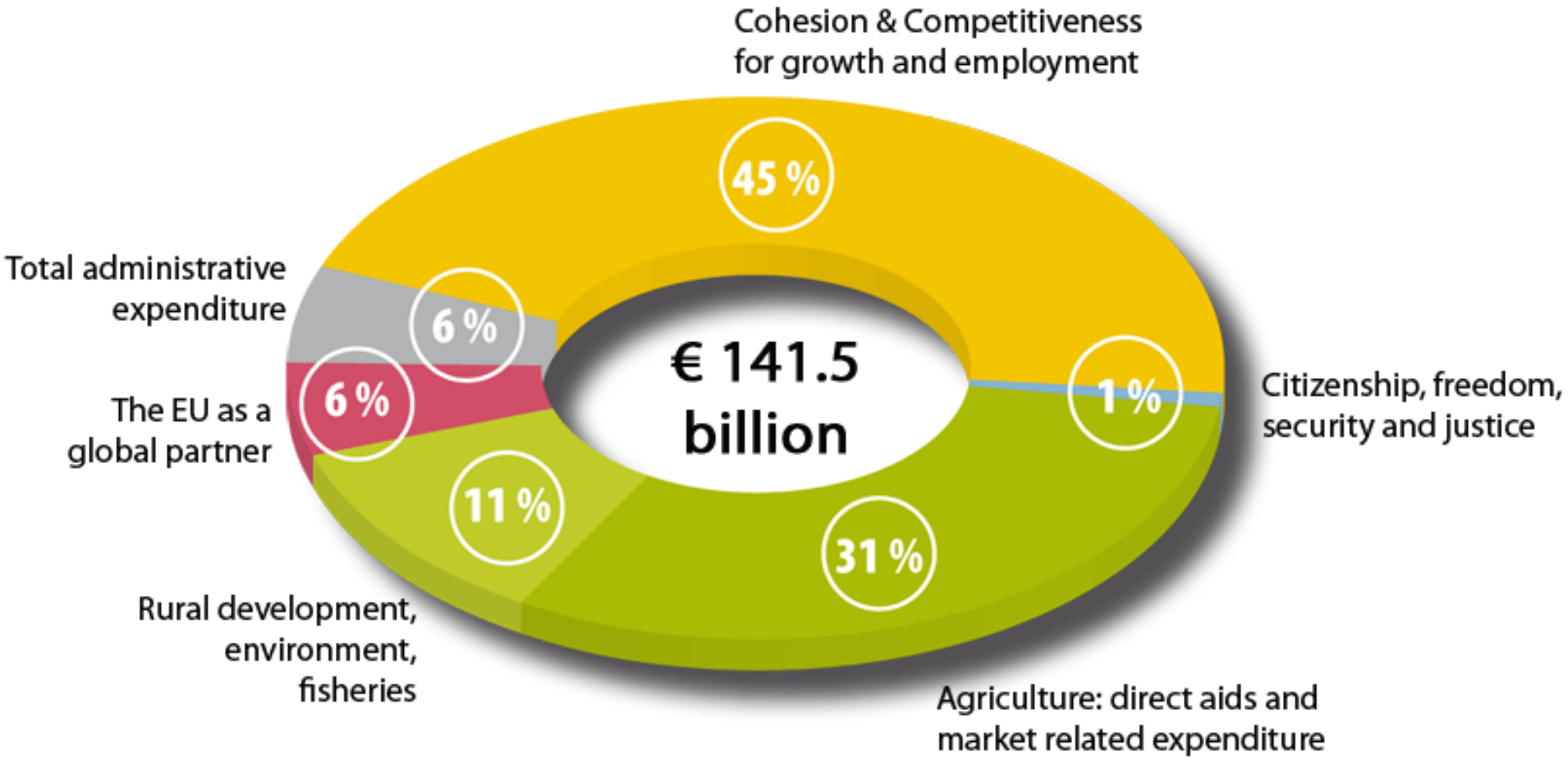
Community Image Data portal

Crop monitoring and early warning

Geo-Information Management Development of Controls Methods Agricultural Policy Instruments



European Union budget 2010

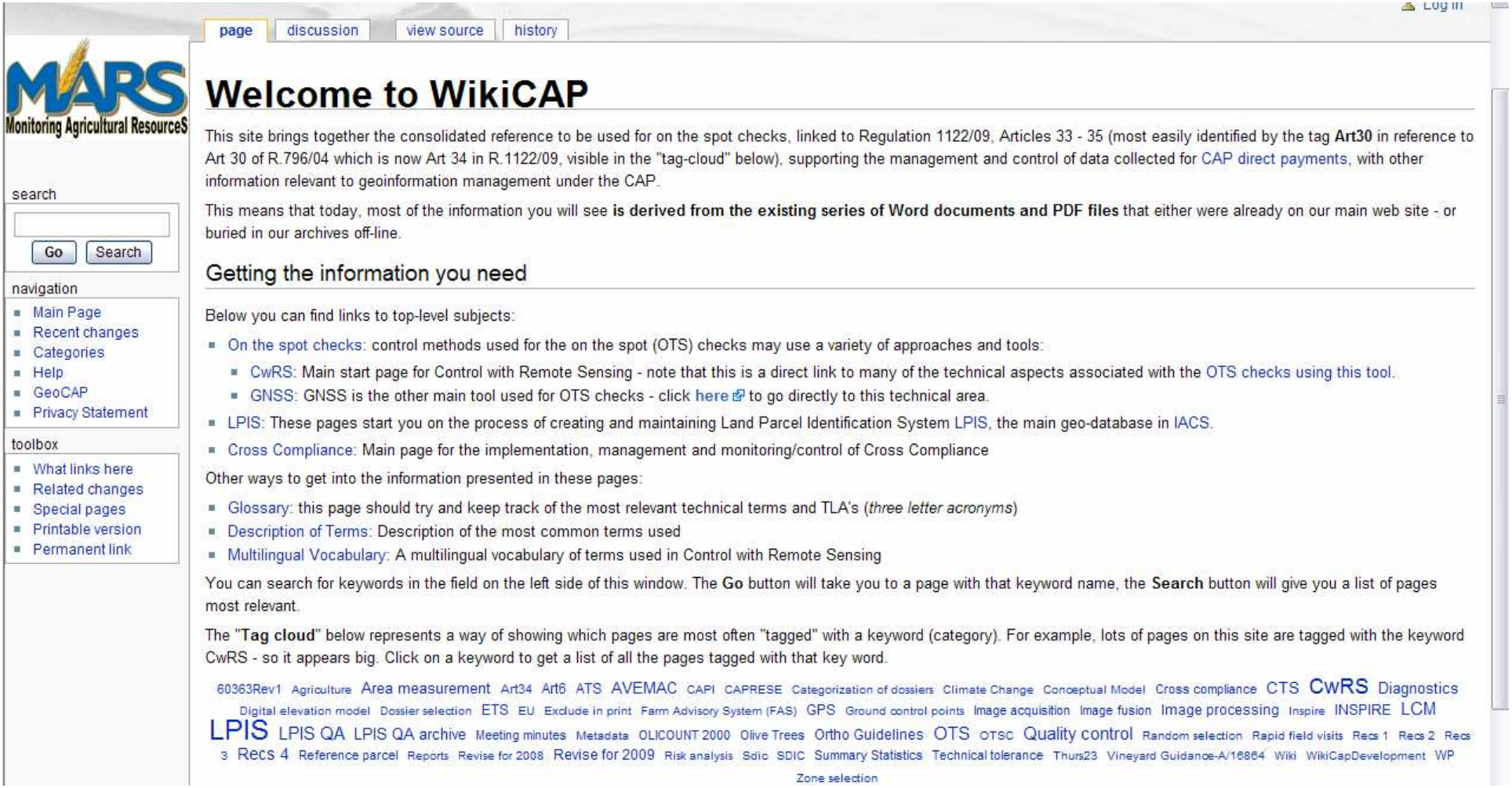


The CAP today – the basics

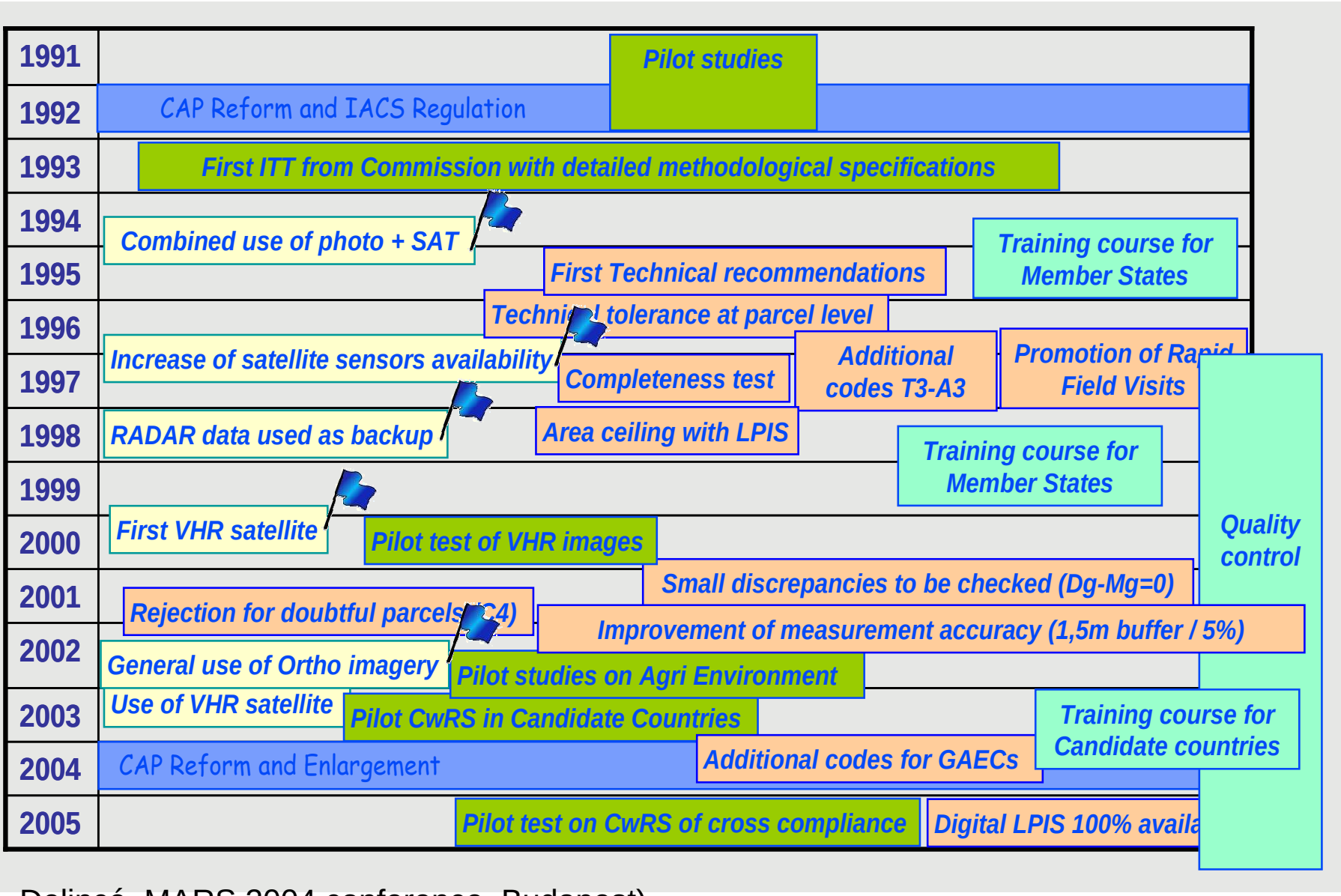
- Since 2005, the majority of aid to farmers is paid *independently* of production – **Direct Payments (€43B in 2010)**
  - Other payments are made under the **Rural Development** program
- In addition, farmers have to respect environmental, food safety, phytosanitary and animal welfare standards.
  - **Cross Compliance** - Farmers who fail to do this will face reductions in their direct payments

The CAP today – the basics

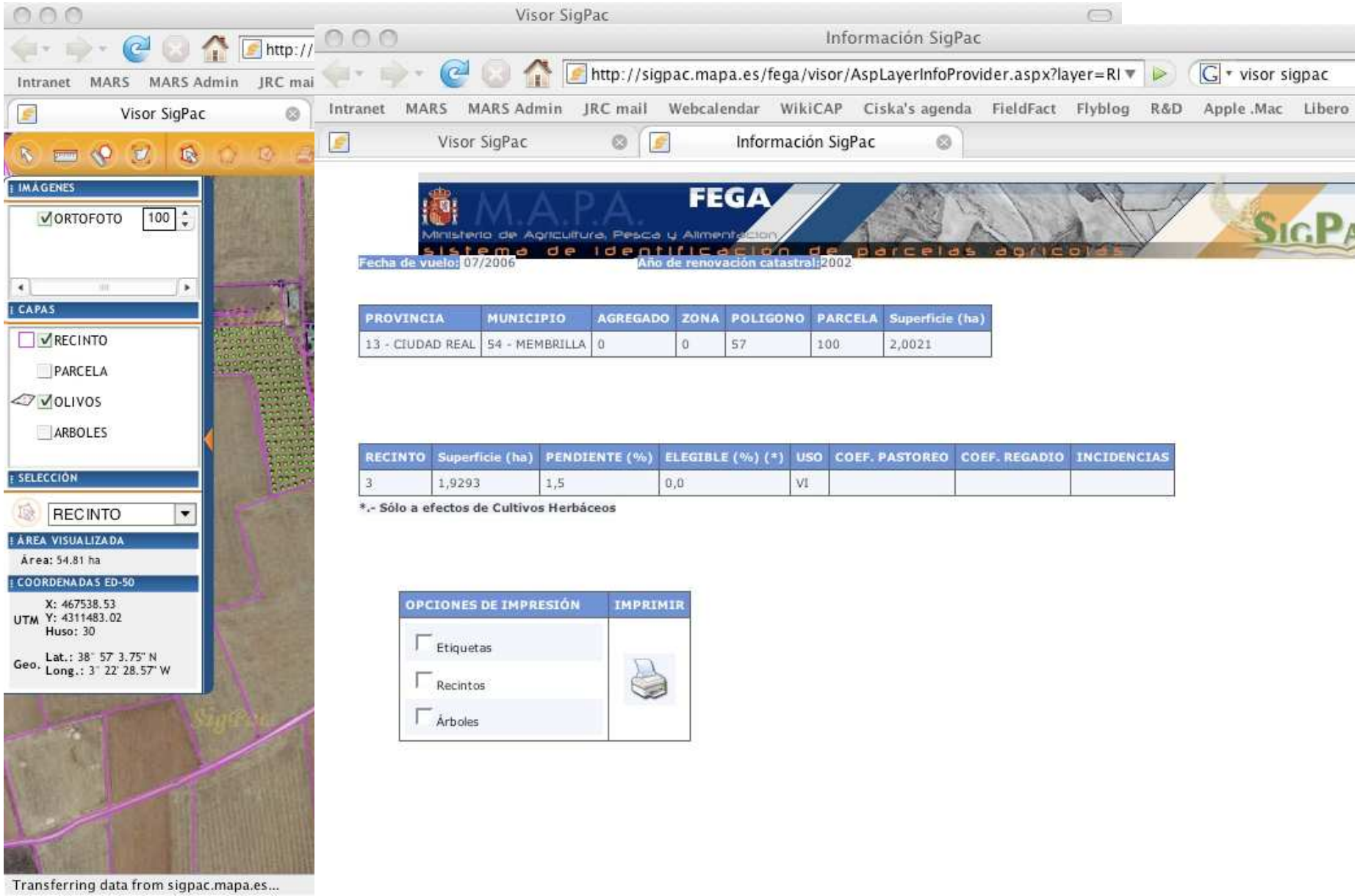
- Land Parcel Identification System (LPIS)
- Control measurements (area, crop)
  - In-situ
  - Remote sensing
- Good Agricultural and Environmental Condition (GAEC) control
- Quality Control
  - LPIS Quality Assessement
  - GPS, orthoimagery area meaurements validation


page
discussion
view source
history
Log in
MARS Monitoring Agricultural ResourceS
search
Go
Search
navigation
Main Page
Recent changes
Categories
Help
GeoCAP
Privacy Statement
toolbox
What links here
Related changes
Special pages
Printable version
Permanent link
Welcome to WikiCAP
This site brings together the consolidated reference to be used for on the spot checks, linked to Regulation 1122/09, Articles 33 - 35 (most easily identified by the tag Art30 in reference to Art 30 of R.796/04 which is now Art 34 in R.1122/09, visible in the "tag-cloud" below), supporting the management and control of data collected for CAP direct payments, with other information relevant to geoinformation management under the CAP.
This means that today, most of the information you will see is derived from the existing series of Word documents and PDF files that either were already on our main web site - or buried in our archives off-line.
Getting the information you need
Below you can find links to top-level subjects:
On the spot checks: control methods used for the on the spot (OTS) checks may use a variety of approaches and tools:
CwRS: Main start page for Control with Remote Sensing - note that this is a direct link to many of the technical aspects associated with the OTS checks using this tool.
GNSS: GNSS is the other main tool used for OTS checks - click here to go directly to this technical area.
LPIS: These pages start you on the process of creating and maintaining Land Parcel Identification System LPIS, the main geo-database in IACS.
Cross Compliance: Main page for the implementation, management and monitoring/control of Cross Compliance
Other ways to get into the information presented in these pages:
Glossary: this page should try and keep track of the most relevant technical terms and TLA's (three letter acronyms)
Description of Terms: Description of the most common terms used
Multilingual Vocabulary: A multilingual vocabulary of terms used in Control with Remote Sensing
You can search for keywords in the field on the left side of this window. The Go button will take you to a page with that keyword name, the Search button will give you a list of pages most relevant.
The "Tag cloud" below represents a way of showing which pages are most often "tagged" with a keyword (category). For example, lots of pages on this site are tagged with the keyword CwRS - so it appears big. Click on a keyword to get a list of all the pages tagged with that key word.
60363Rev1 Agriculture Area measurement Art34 Art6 ATS AVEMAC CAPI CAPRESE Categorization of dossiers Climate Change Conceptual Model Cross compliance CTS CwRS Diagnostics Digital elevation model Dossier selection ETS EU Exclude in print Farm Advisory System (FAS) GPS Ground control points Image acquisition Image fusion Image processing Inspire INSPIRE LCM LPIS LPIS QA LPIS QA archive Meeting minutes Metadata OLICOUNT 2000 Olive Trees Ortho Guidelines OTS OTSC Quality control Random selection Rapid field visits Recs 1 Recs 2 Recs 3 Recs 4 Reference parcel Reports Revise for 2008 Revise for 2009 Risk analysis Sdic SDIC Summary Statistics Technical tolerance Thurs23 Vineyard Guidance-A/16864 Wiki WikiCapDevelopment WP Zone selection

History



(J. Delincé, MARS 2004 conference, Budapest)


Visor SigPac
Información SigPac
http://sigpac.mapa.es/fega/visor/AspLayerInfoProvider.aspx?layer=RI
visor sigpac
Intranet MARS MARS Admin JRC mail Webcalendar WikiCAP Ciska's agenda FieldFact Flyblog R&D Apple .Mac Libero
Visor SigPac
Información SigPac
IMÁGENES
ORTOFOTO 100
CAPAS
RECINTO
PARCELA
OLIVOS
ARBOLES
SELECCIÓN
RECINTO
ÁREA VISUALIZADA
Área: 54.81 ha
COORDENADAS ED-50
UTM X: 467538.53 Y: 4311483.02 Huso: 30
Geo. Lat.: 38° 57' 3.75" N Long.: 3° 22' 28.57" W
Transferring data from sigpac.mapa.es...
M.A.P.A. Ministerio de Agricultura, Pesca y Alimentación
FEGA
sistema de identificación de parcelas agrícolas
SIGPAC
Fecha de vuelo: 07/2006
Año de renovación catastral: 2002
PROVINCIA | MUNICIPIO | AGREGADO | ZONA | POLIGONO | PARCELA | Superficie (ha)
13 - CIUDAD REAL | 54 - MEMBRILLA | 0 | 0 | 57 | 100 | 2,0021
RECINTO | Superficie (ha) | PENDIENTE (%) | ELEGIBLE (%) (*) | USO | COEF. PASTOREO | COEF. REGADIO | INCIDENCIAS
3 | 1,9293 | 1,5 | 0,0 | VI
*.- Sólo a efectos de Cultivos Herbáceos
OPCIONES DE IMPRESIÓN
Etiquetas
Recintos
Árboles
IMPRIMIR

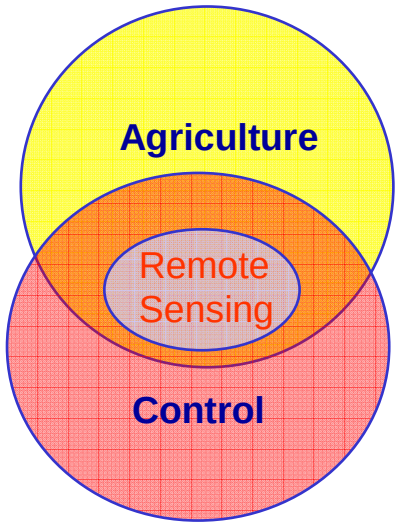
To administrate and control

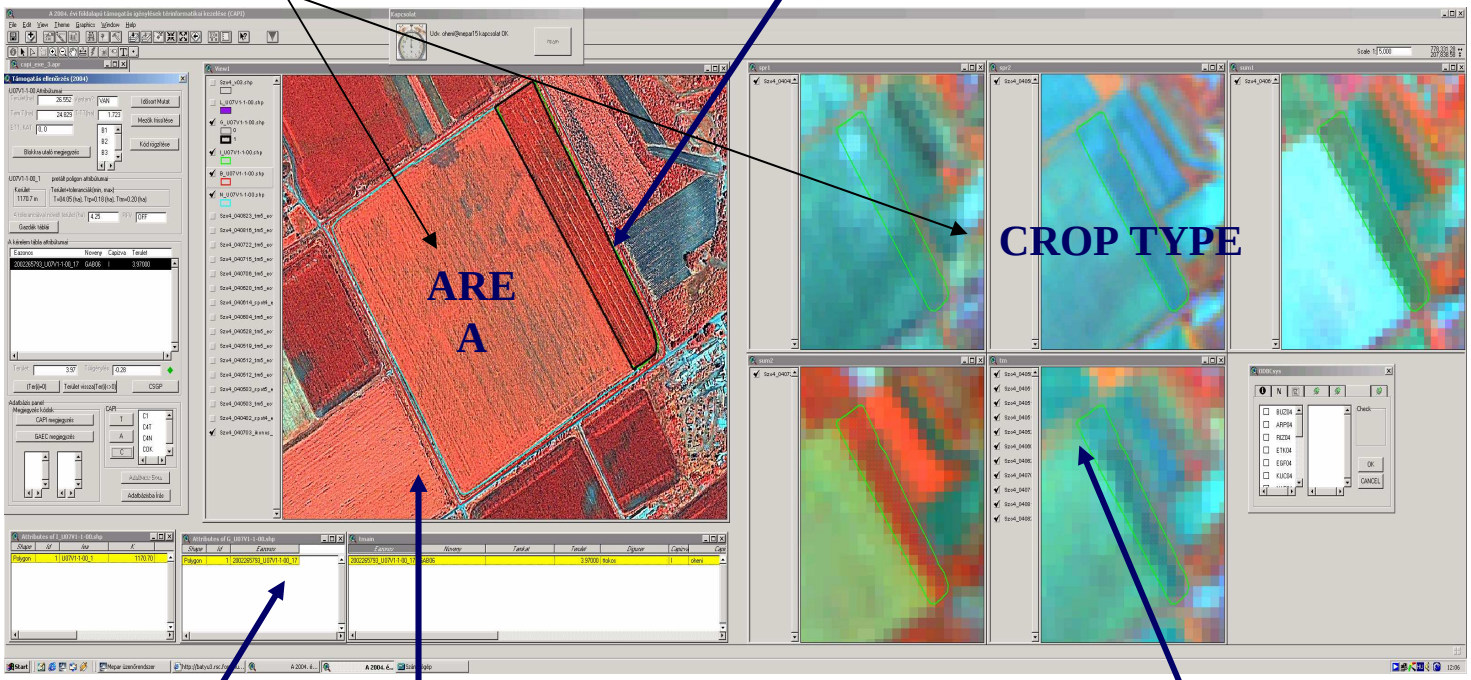
All farm parcels

Pastures | COP and SA | Olive trees

Parcels of interest

Digitised farmer drawing



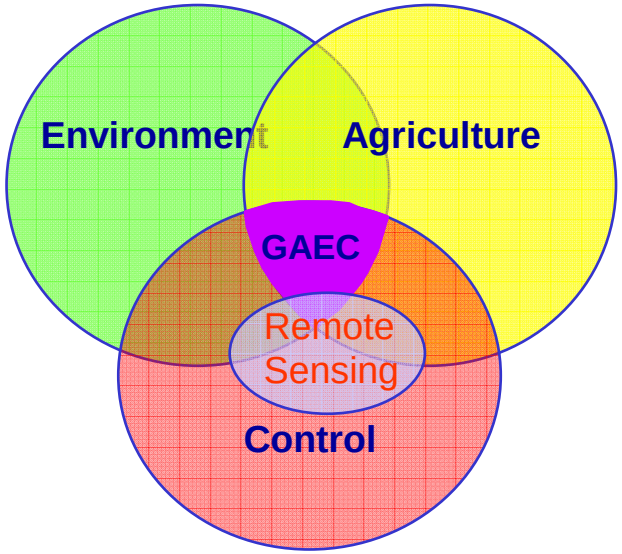


Claim database

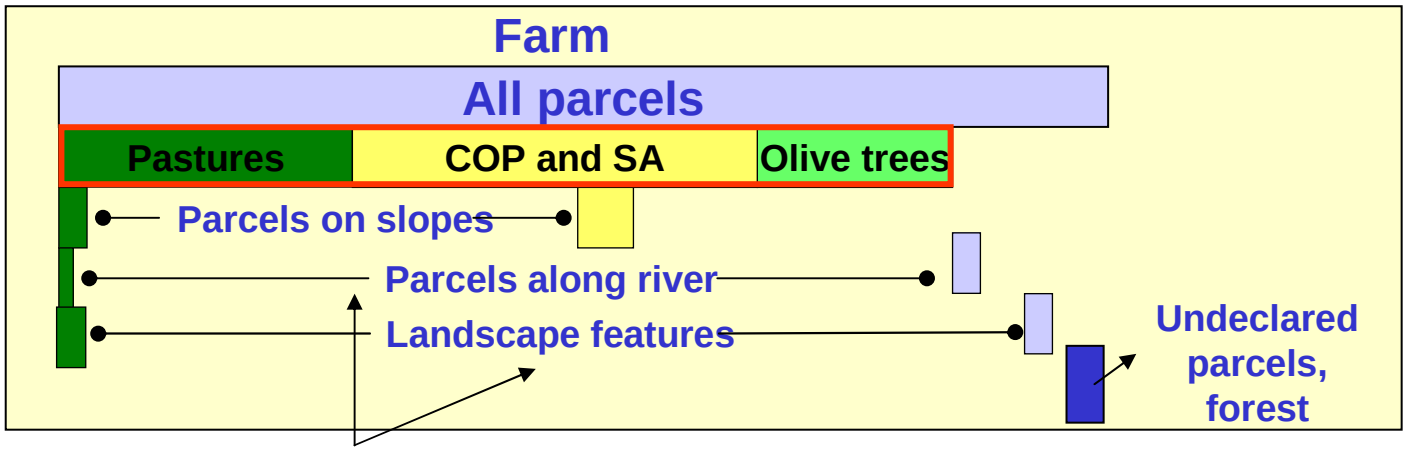
VHR images

HR satellite image time series

Cross compliance



→ More spatial check (slope, riverside, undeclared area …)
→ More 'objects' to identify (fire, erosion, bush, tree lines, isolated trees …)
→ More temporal checks (winter, fixed date, reference period …)



Except few cases, VHR images needed (less and less HR images and Radar too coarse)

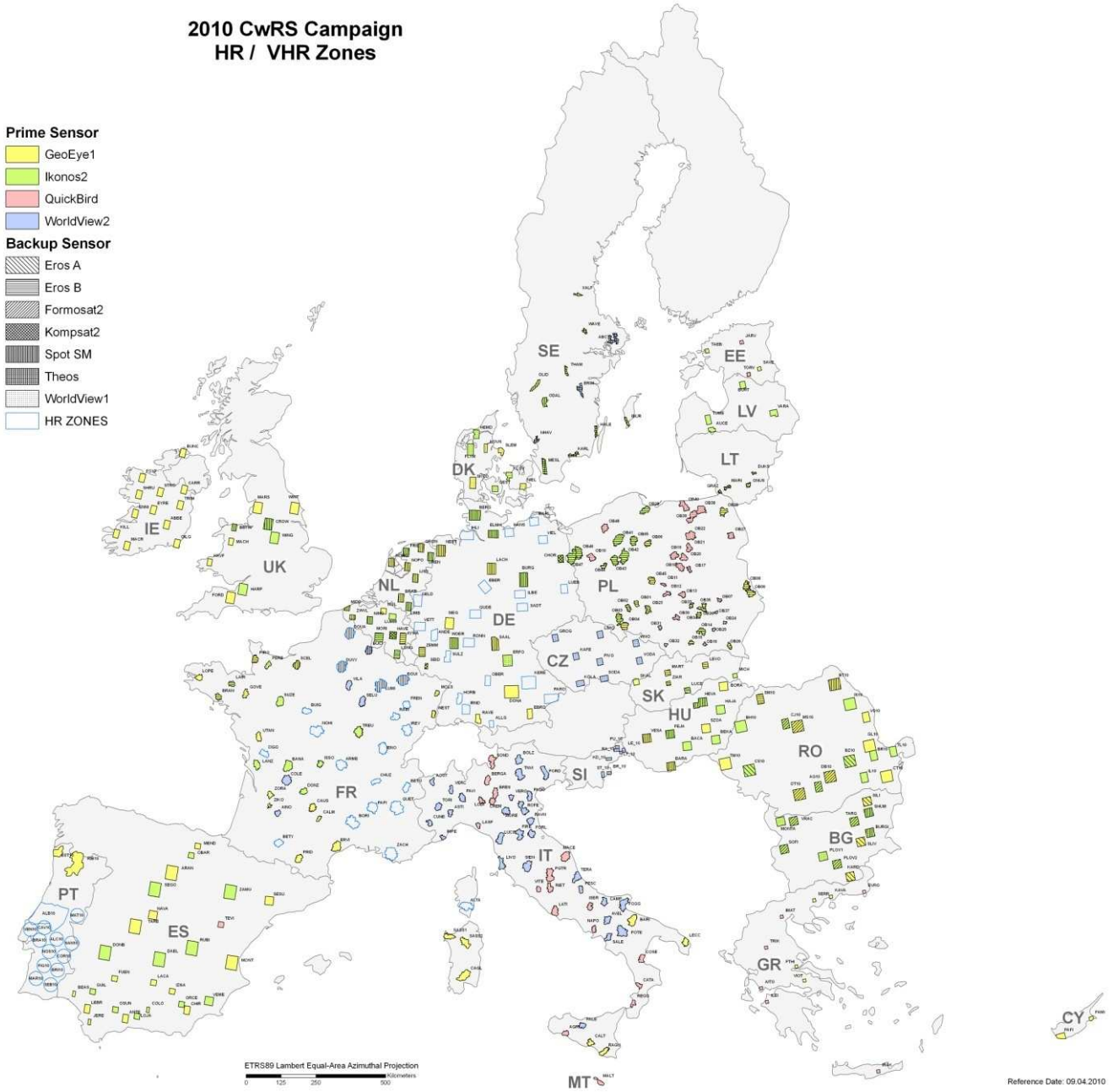
ANNEX III

Good agricultural and environmental condition referred to in Article 6

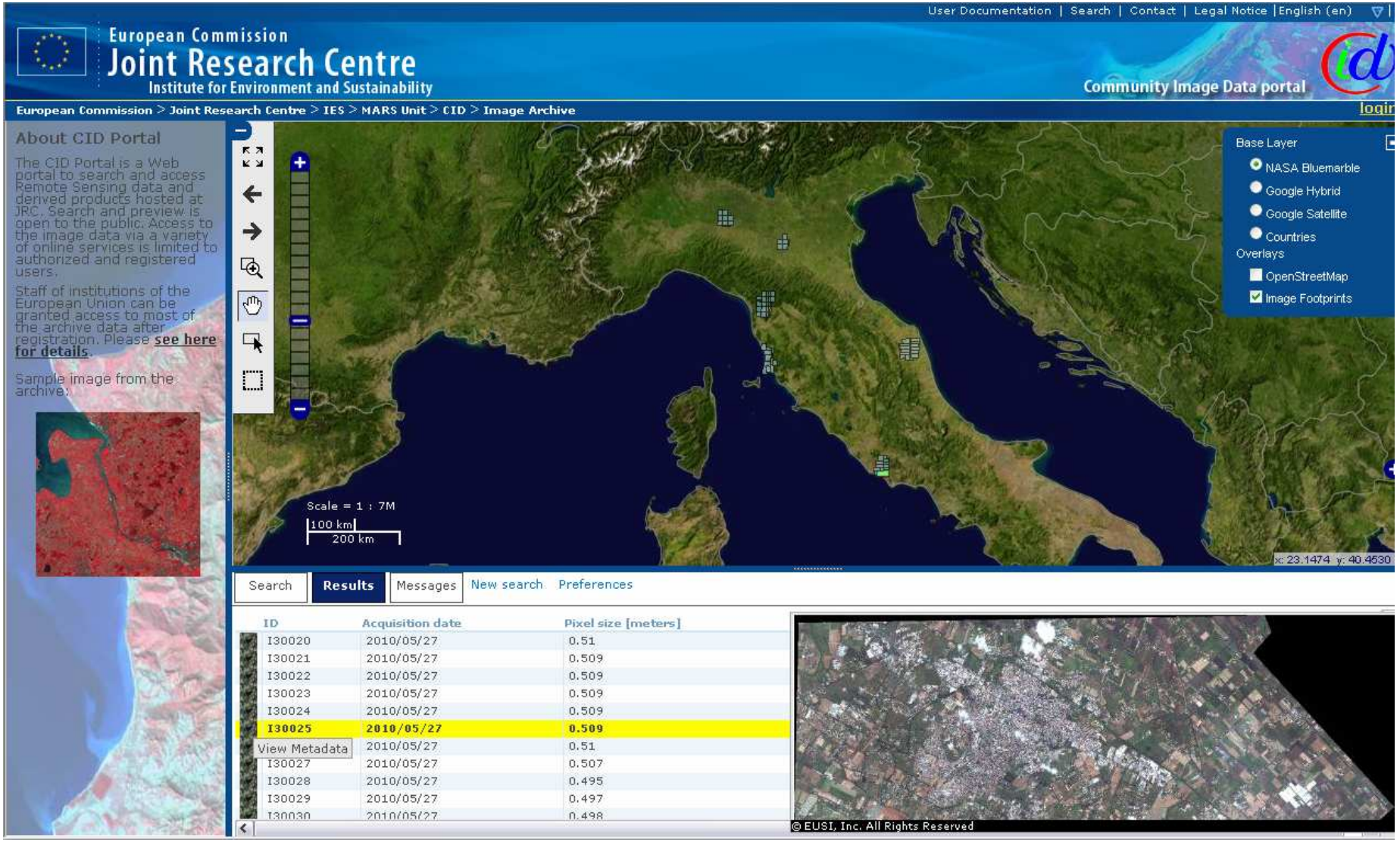
Issue	Compulsory standards	Optional standards
Soil erosion: Protect soil through appropriate measures	— Minimum soil cover	— Retain terraces
	— Minimum land management reflecting site-specific conditions	
Soil organic matter: Maintain soil organic matter levels through appropriate practices	— Arable stubble management	— Standards for crop rotations
Soil structure: Maintain soil structure through appropriate measures		— Appropriate machinery use
Minimum level of maintenance: Ensure a minimum level of maintenance and avoid the deterioration of habitats	— Retention of landscape features, including, where appropriate, hedges, ponds, ditches trees in line, in group or isolated and field margins	— Minimum livestock stocking rates or/and appropriate regimes
		— Establishment and/or retention of habitats
	— Avoiding the encroachment of unwanted vegetation on agricultural land	— Prohibition of the grubbing up of olive trees
	— Protection of permanent pasture	— Maintenance of olive groves and vines in good vegetative condition
Protection and management of water: Protect water against pollution and run-off, and manage the use of water	— Establishment of buffer strips along water courses (1)	
	— Where use of water for irrigation is subject to authorisation, compliance with authorisation procedures	

(1) Note: The GAEC buffer strips must respect, both within and outside vulnerable zones designated pursuant to Article 3(2) of Directive 91/676/EEC, at least the requirements relating to the conditions for land application of fertiliser near water courses, referred to in point A.4 of Annex II to Directive 91/676/EEC to be applied in accordance with the action programmes of Member States established under Article 5(4) of Directive 91/676/EEC.

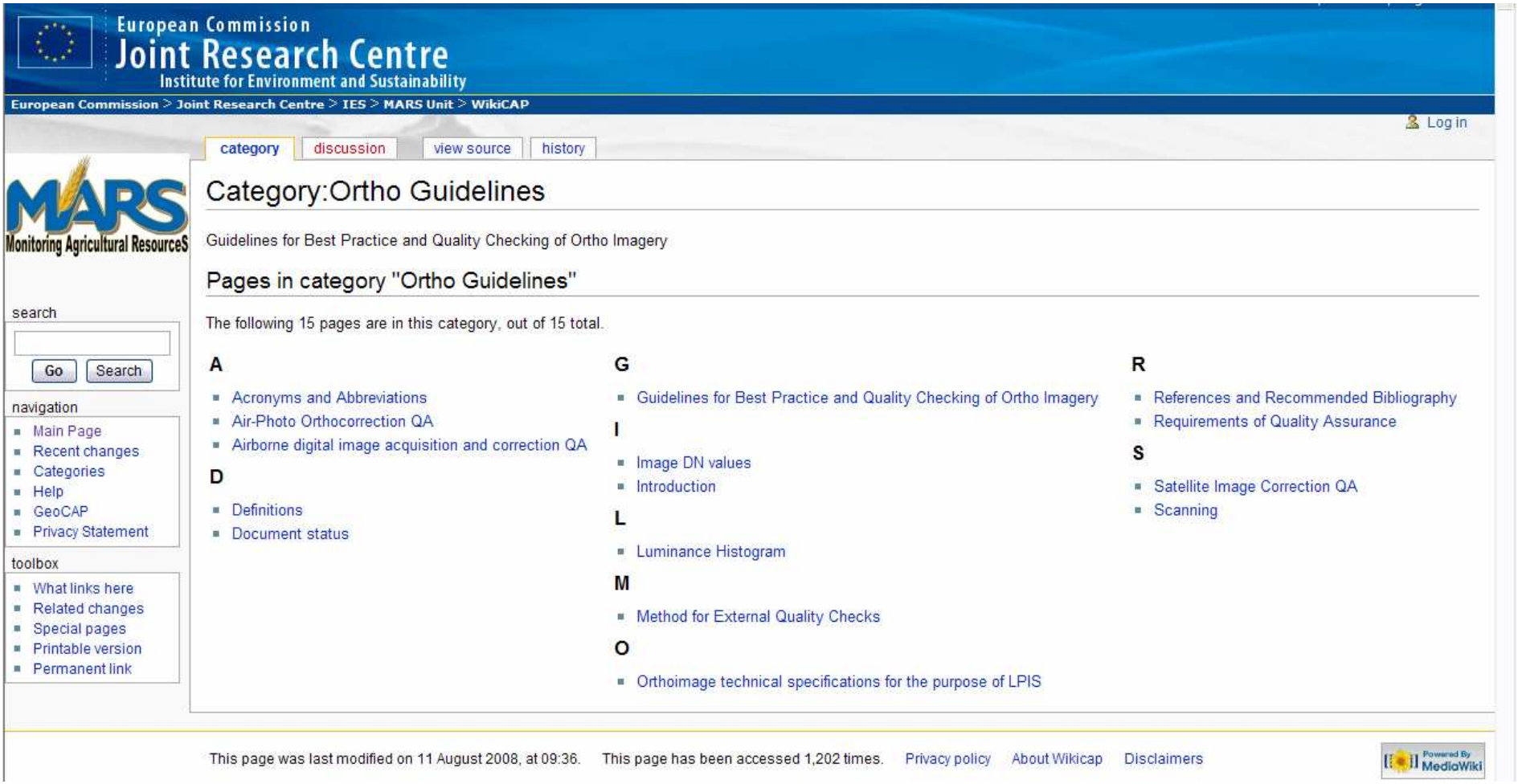
Council Reg 73/2009


2010 CwRS Campaign
HR / VHR Zones
Prime Sensor
GeoEye1
Ikonos2
QuickBird
WorldView2
Backup Sensor
Eros A
Eros B
Formosat2
Kompsat2
Spot SM
Theos
WorldView1
HR ZONES
SE
EE
LV
LT
DK
IE
UK
NL
PL
DE
CZ
SK
HU
RO
SI
FR
BG
IT
PT
ES
GR
CY
MT
ETRS89 Lambert Equal-Area Azimuthal Projection
Kilometers
0 125 250 500
Reference Date: 09.04.2010

Community Image Data portal



Ortho Guidelines WIKICAP



Ortho Guidelines WIKICAP

Declaration control

2007 application on
2005 orthophoto and LPIS

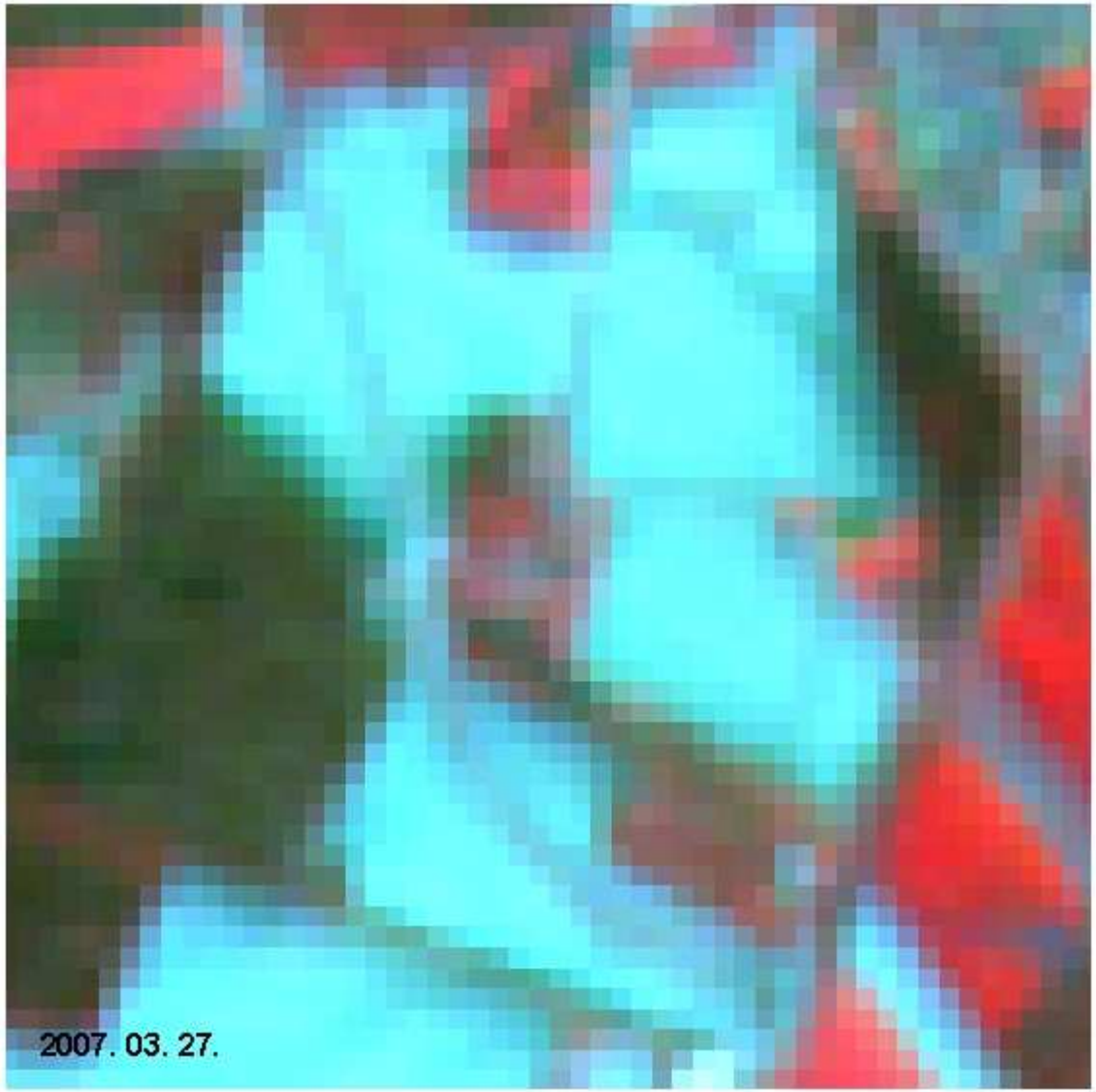
— Farmer's sketch 2007

Farmer claims that the road was built **after** he submitted his application (i.e.after 15/05/2007)

Declaration control

Farmer claims that the road was built **after** he submitted his application (i.e. after 15/05/2007)

Road construction has started well before the application was submitted: It can already be detected on High Resolution satellite images early 2006



FEASIBLE STANDARDS TO BE CHECKED USING REMOTE SENSING (IX)

STANDARD GAEC08: MAINTENANCE OF RETAIN TERRACES, KEEPING THEIR DRAINAGE CAPACITY AND AVOIDING THE RISK OF SILTING UP AND GULLY FORMATION

NON ELIMINATION OF TERRACES, BOUNDARIES, ETC IS CHECKED BY COMPARISION BETWEEN THE ORTHOPHOTO AND THE VHR IMAGE [Ref. Sardon, MARS PAC Annual Conf. 2007]

LPIS Quality assessment 2010-2011

Ortho-imagery use:

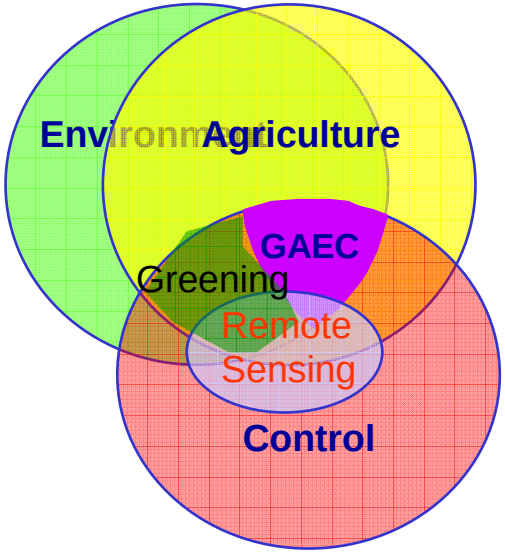
- orthoimagery acquired with off-nadir angles less than 30 degrees.
- use, if possible, orthoimagery with spatial resolution better than 1 meter.
- use the full spectral range of the imagery. If infrared channels are available, they should be used. the full use of the spectral information

Future CAP

- Extent of environmental concern and area concerned…

→ Greening of the CAP (crop diversification, winter cover, permanent pasture …)

→ Intrinsic link between GMES and agriculture



- Simplification of payments

but

- More complex land use-land cover management
- Almost all areas to consider but urban

What's for the future?

Landscape features (location, type)
- Hedgerow
- Group of trees
- Isolated trees
- Pond
- Ancient monument
- …

Land use / land cover
- Arable land
- pasture
- Forest
- Permanent crop
- …

Eligibility of land — 100% eligible

What's for the future?

3D view of rural landscape

Provide relevant **information** to farmers (digital, paper)
Increase awareness on Cross Compliance (**Advice**: FAS)
Reduce risk of infringements

But also all activities linked to GMES

Can also be derived from Remote sensing data

→ Sound **management of rural areas** (**LPIS as cornerstone**)

Summary of needs

1. Regular 3 years coverage of EU territory with VHR (0.5 m)
   - < 0.5 m not necessary
   - Aerial – LPIS QA
   - Satellite – control

2. Multi spectral data

3. Very good ortho rectification
   - Rapid availability
   - Accurate DEM
   - Close to nadir acquisition angle
   - Very good ortho rectification

4. VHR Radar data (need of technical knowledge) winter, cloud, water …