CONAE-National Commission on Space Activities

- **CONAE is a specialized agency created in May 1991 to be in charge of national space activities**
- **It is now under the authority of the Ministry of Foreign Affairs, International Trade and Worship**
- **It has a Strategic Plan: the National Space Program, issued in 1995 and revised periodically, the latest version is 2004-2015.**

The National Space Program

The Space Program particularly emphasizes the use and scope of the concept of "*Space Information Cycle* ".

It comprises the set of information from space which, together with information from other sources, will have a relevant impact on certain socioeconomic activities within the country.

So far, six Information Cycles have been defined in topics such as agriculture, forestry, hydrology, climate, oceanography, cartography, emergency management, geology and health applications.

Certainly, this is not a pure science approach, however it is mostly coincident with GEO.
In the frame of this approach, the 2004-2015 revision of the National Space Program calls for three series of satellites.
The first two for global Earth observation

Satellite Systems

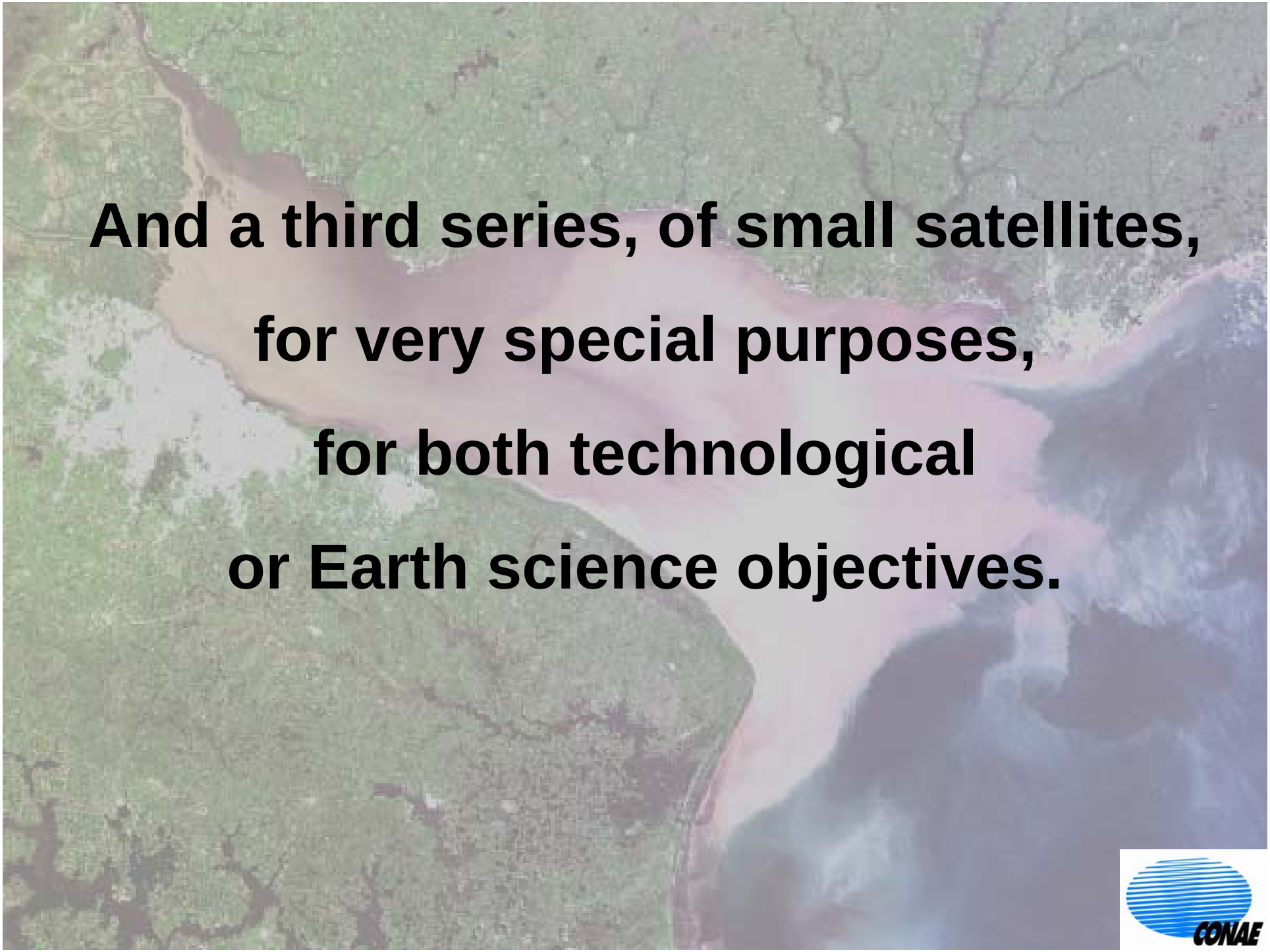
The National Space Program provides for two satellite series, depending on the main instruments they carry on board.

SAC Series

Instruments centered on the optical range and passive microwave range.

SAOCOM Series

Instruments centered on the active microwave range (SAR).

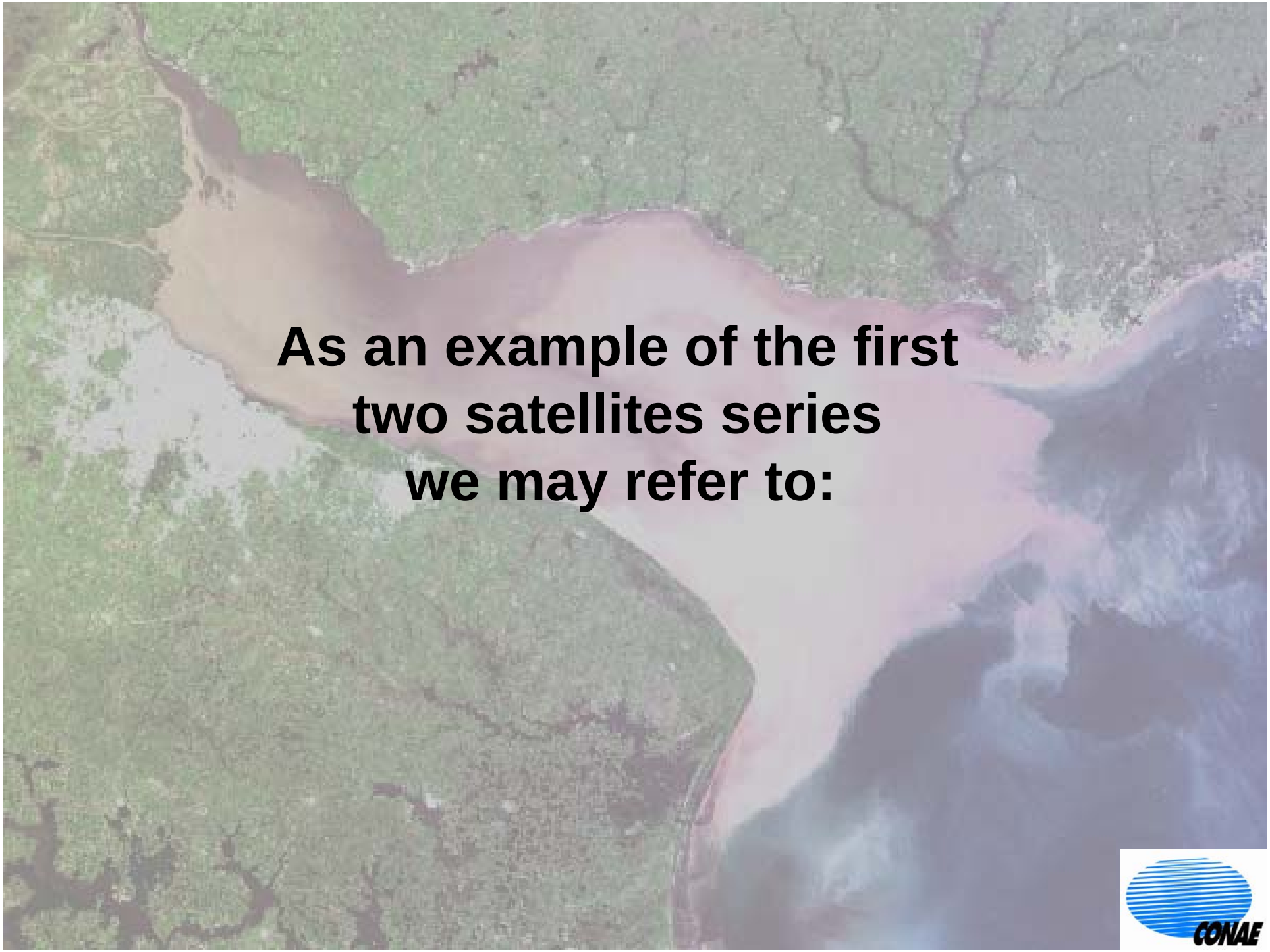


And a third series, of small satellites,

for very special purposes,

for both technological

or Earth science objectives.



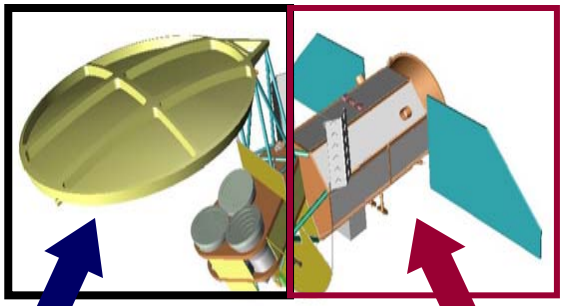
As an example of the first two satellites series we may refer to:

SAC-C
FIRST
ARGENTINE
EARTH
OBSERVATION
SATELLITE
9 instruments:
MMRS, HSTC, HRTC, DCS
GOLPE, MMP
IST, INES
ICARE
Satellite weight: 475 kg
Size: 1,85 m x 1,68 m x 2,2 m
Orbit altitude: 705 km
Orbit type: quasi polar – Sun synchronous
Inclination: 98.21 degrees
Pass over the Equator: 10.15 AM (+/- 6 minutes)
Revisit: 16 days, with 7-9 days subcycles
Launched on November 21, 2000

Partnership

AQUARIUS/SAC-D

International Partnership Mission



- **Aquarius Salinity Microwave Instrument**
- **Launch Vehicle**

- **Service Platform and SAC-D Science Instruments**
- **Mission Operations & Ground System**

Aquarius/SAC-D

Ocean circulation, global water cycle, climate interaction, environmental changes, natural hazards, atmospheric parameters, radiation effects

8 instruments:
Aquarius, MWR, NIRST, HSC, ROSA, CARMEN 1, DCS, TDP

Satellite weight: 1600 kg

Orbit altitude: 657 km

Orbit type: quasi polar – Sun synchronous

Inclination: 98.21 degrees

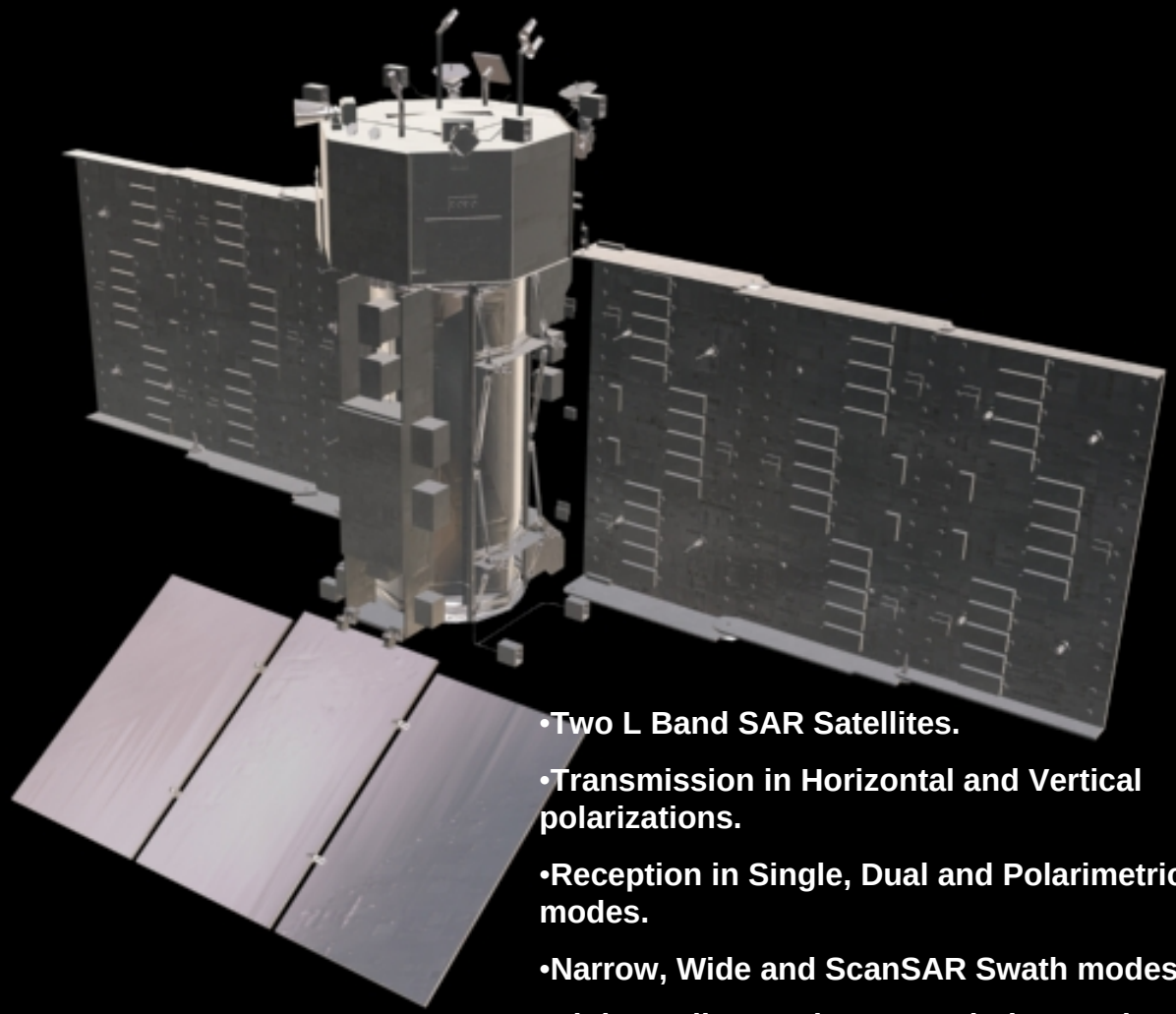
Pass over the Equator: 6 PM ascending node

Revisit: 7 days

Emergencies Affecting the Region

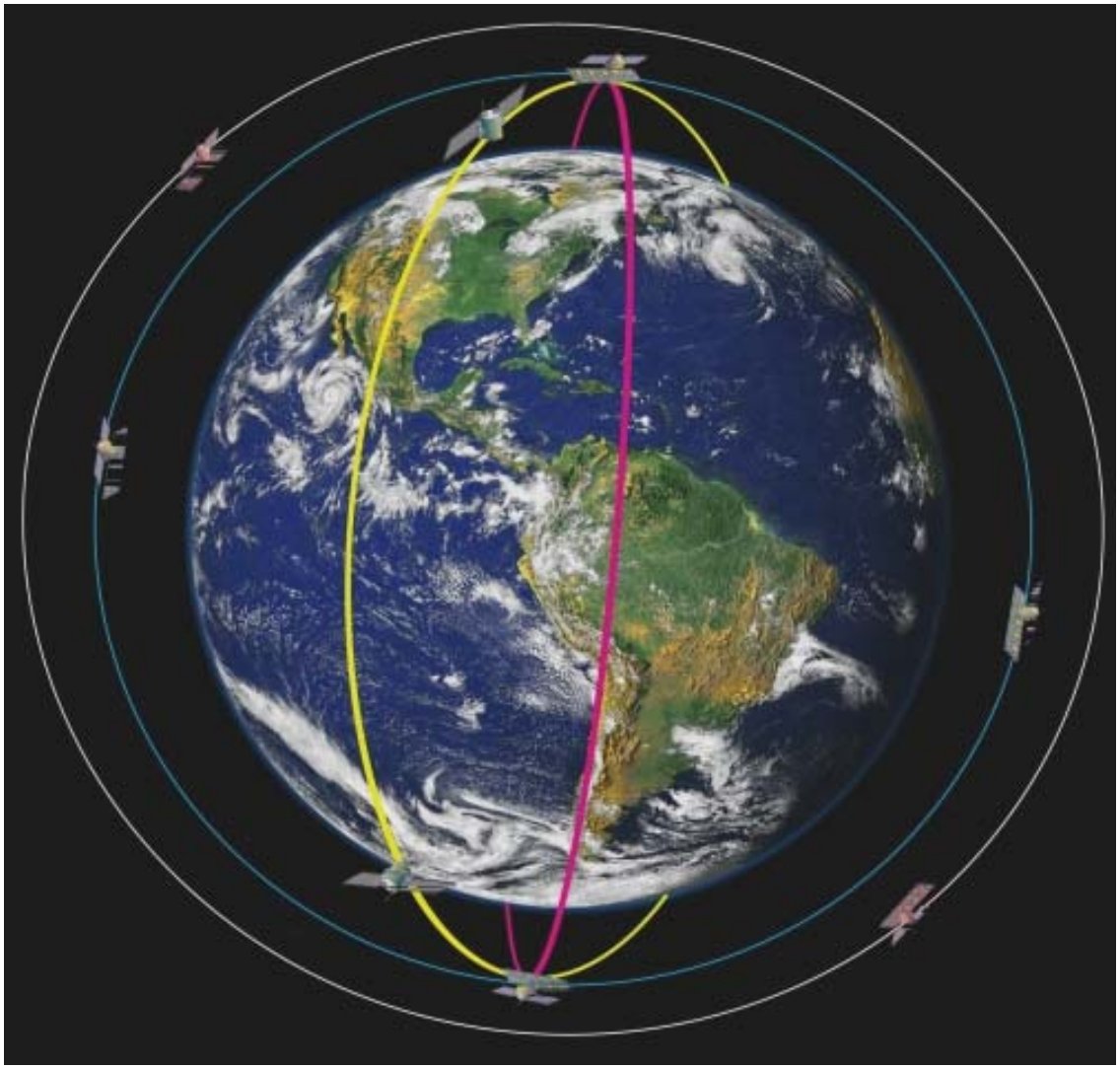
	Earthquakes	pamperos	Fires	Floods	Pollution	huracanes	drought	frost	vulcanism	tsunamis	Slides
Argentina	■	■	■	■	■		■	■	■		■
Belice			■	■		■					
Bolivia			■	■	■						
Brasil			■	■	■		■	■			
Chile	■		■		■				■	■	
Colombia	■		■		■		■		■		
Costa Rica	■		■	■		■			■		
Cuba			■		■	■	■				
Ecuador	■		■		■		■		■		■
El Salvador	■		■		■				■		
Guatemala	■		■		■	■			■		
Guyana			■	■							
Guyana Francesa			■	■							
Haití	■		■	■			■				
Honduras	■		■	■		■					
México	■		■		■	■	■		■	■	
Nicaragua	■		■			■			■		■
Panamá			■	■	■	■					
Paraguay			■	■			■				
Perú	■		■	■					■	■	■
República Dominicana			■	■		■	■				
Surinam			■	■		■					
Trinidad y Tobago			■			■					
Uruguay		■	■	■	■		■	■			
Venezuela			■	■	■		■				■

SAOCOM Mission



- Two L Band SAR Satellites.
- Transmission in Horizontal and Vertical polarizations.
- Reception in Single, Dual and Polarimetric modes.
- Narrow, Wide and ScanSAR Swath modes.
- High, Medium and Low resolution modes. (10 -100 m)

SAOCOM / COSMO-Skymed (SIASGE)

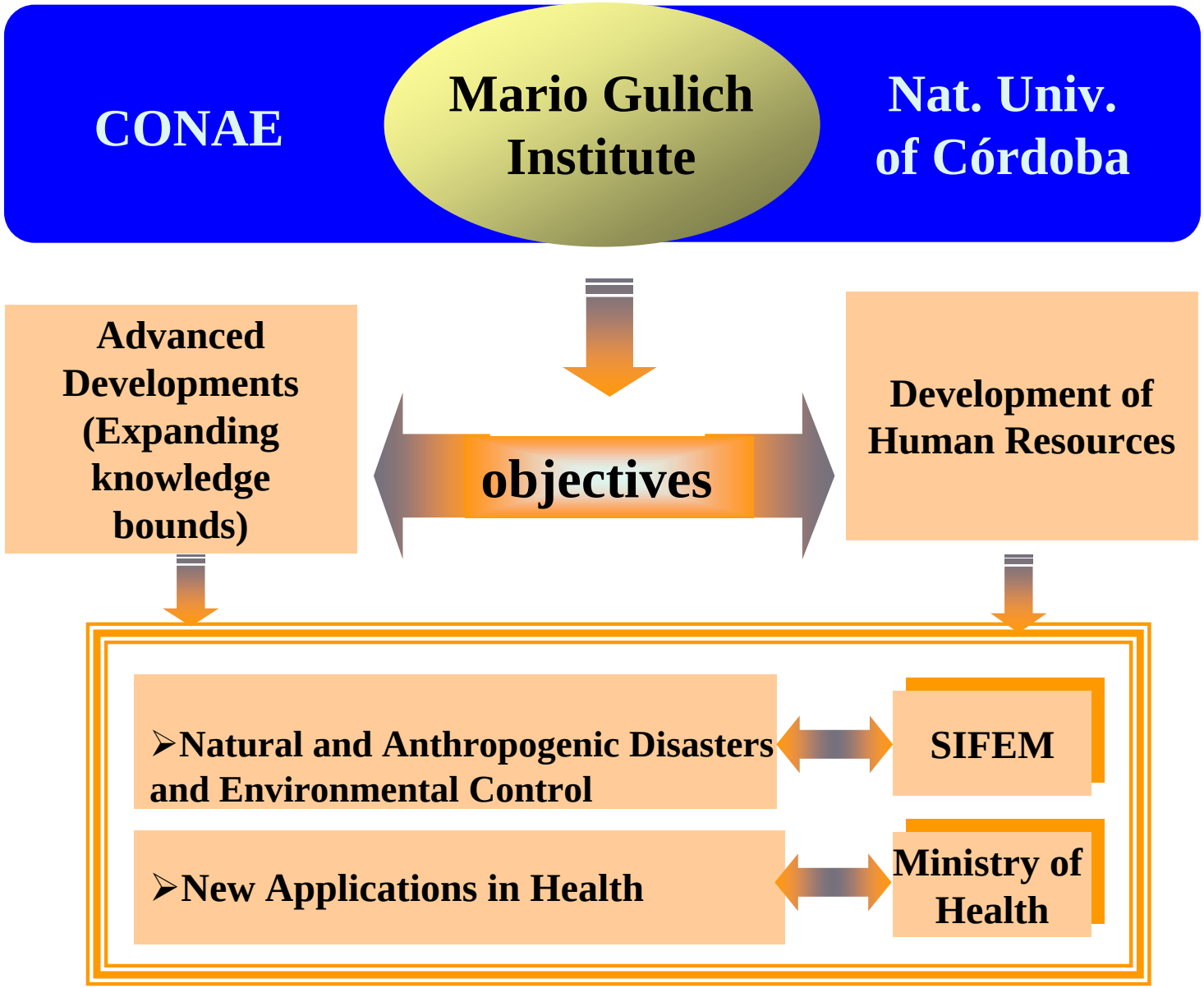


Orbits shown: 4

Angular Distribution: Approx. 30 degrees between orbital planes.

4 SAR X Band (Italy)
2 SAR L Band (Arg)

Revisit Time (400 km swath):
12 hours

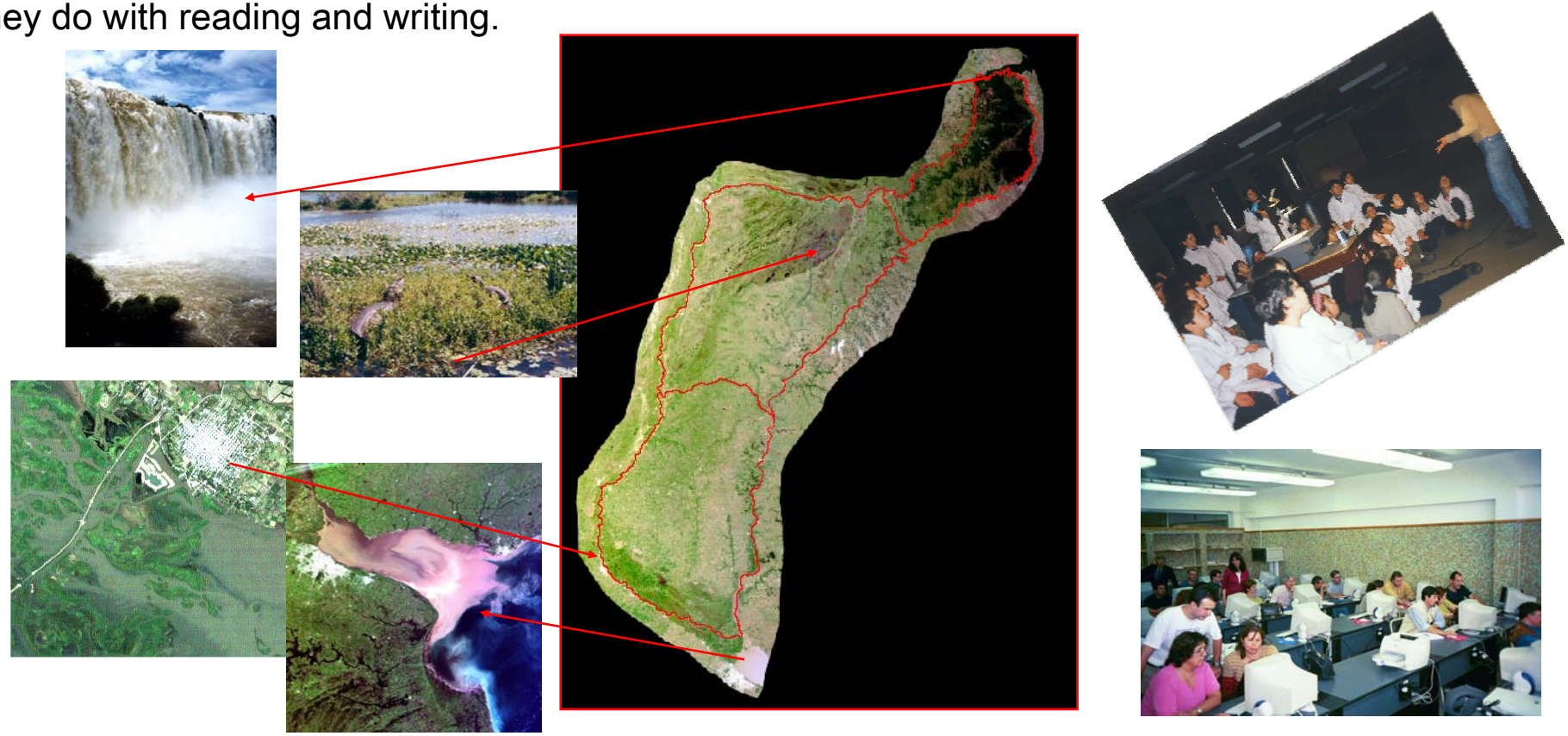

CONAE
Mario Gulich Institute
Nat. Univ. of Córdoba
Advanced Developments (Expanding knowledge bounds)
objectives
Development of Human Resources
➢Natural and Anthropogenic Disasters and Environmental Control
SIFEM
➢New Applications in Health
Ministry of Health

R&D Program with Application to Emergencies

- **Environmental Studies**
- **Meteorological and Oceanic Studies**
- **Advanced Computing:**
- **Modelling and Simulation, Particulary applied to emergency situation related to the use of space information**
- **Participation of Italian Universities and ASI**

SATELLITE IMAGES FOR SCHOOL

As one of its goals, the Space Program is intended to make **two million children and teenagers aged from 8 to 16 use this information on a daily basis, in a 7-year period,** for their school chores (in geography, history, environment, regional production activities, local insertion at provincial and regional levels, etc.), to later apply such knowledge to their productive lives, as they do with reading and writing.



Argentine Mesopotamia mosaic built with 4 SAC-C images that is distributed in schools to make recognition and environmental studies

With reference to the concept of international cooperation, in our opinion it has to be an associative cooperation in order to be effective.

Space Information System for Emergency Management

•Created by CONAE in 1998

•Provides space information for early warning, prevention, crisis monitoring and recovering.

• The users of the information work at the National, Provincial and Municipal levels.

•Frequent users are the Agricultural and Water agencies, as well as the National Park Administration and the Fire National Management Plan.

•Both the recently downloaded data and the archived data are permanently available for the users.

- **Web based system** to receive users request.
- **A unique procedure to obtain images** for emergency mgmt.
- The system is conceived as a **“fast track” channel**.
- The **time needed** to register **an institution** is roughly **10 minutes**.
- The **time needed** to register **a project** is roughly **2 hours**.
- The **signed docs** are sent by **fax**.
- **If an emergency suddendly appears, a phone call is enough.**

The feedback for CONAE are the reports on image usage that we publish later at CONAE Web Page

- Until **December 2006** there are **224** registered institutions.
- Until **December 2006** there are **236** registered projects.
- The **higher** demand is on images for flood mgmt.

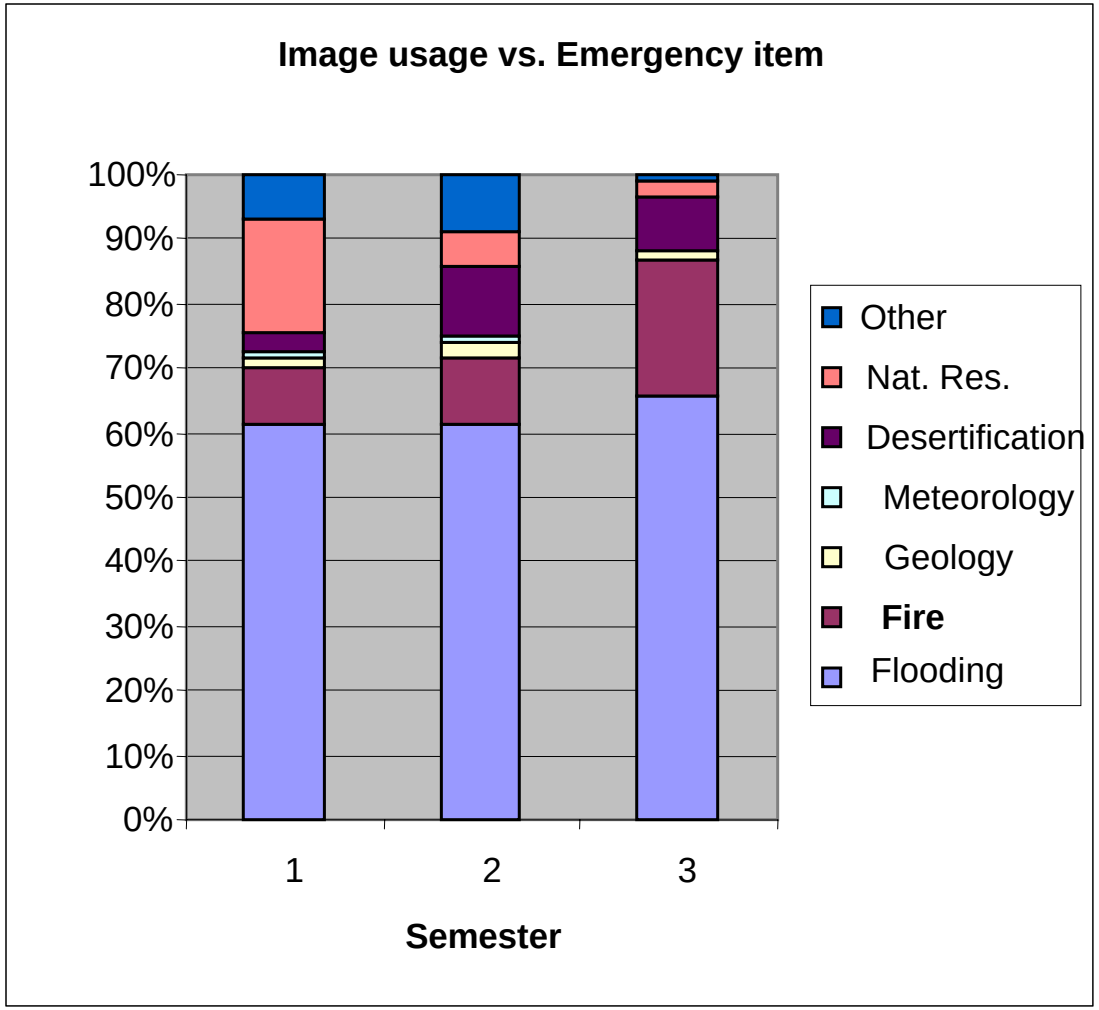
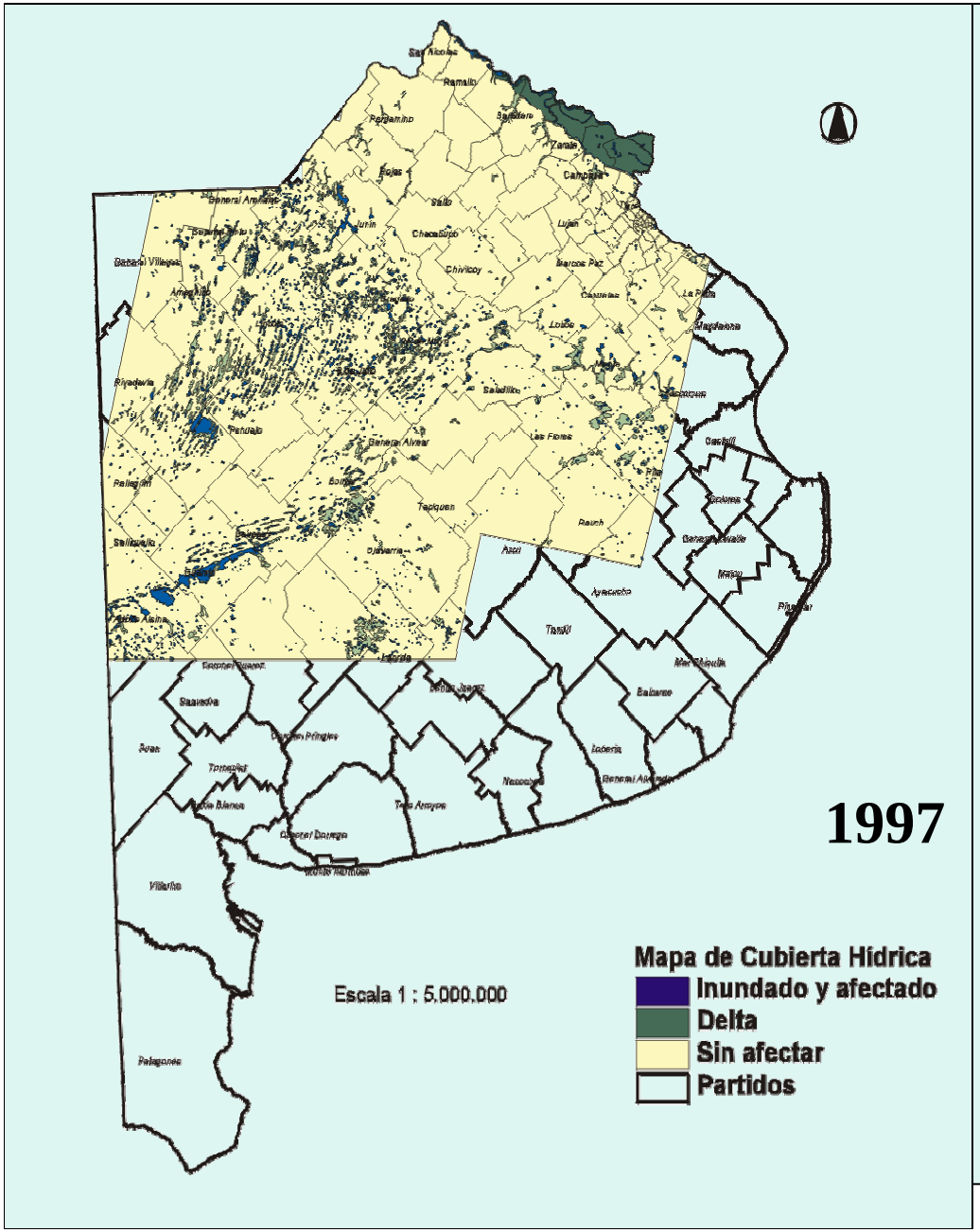
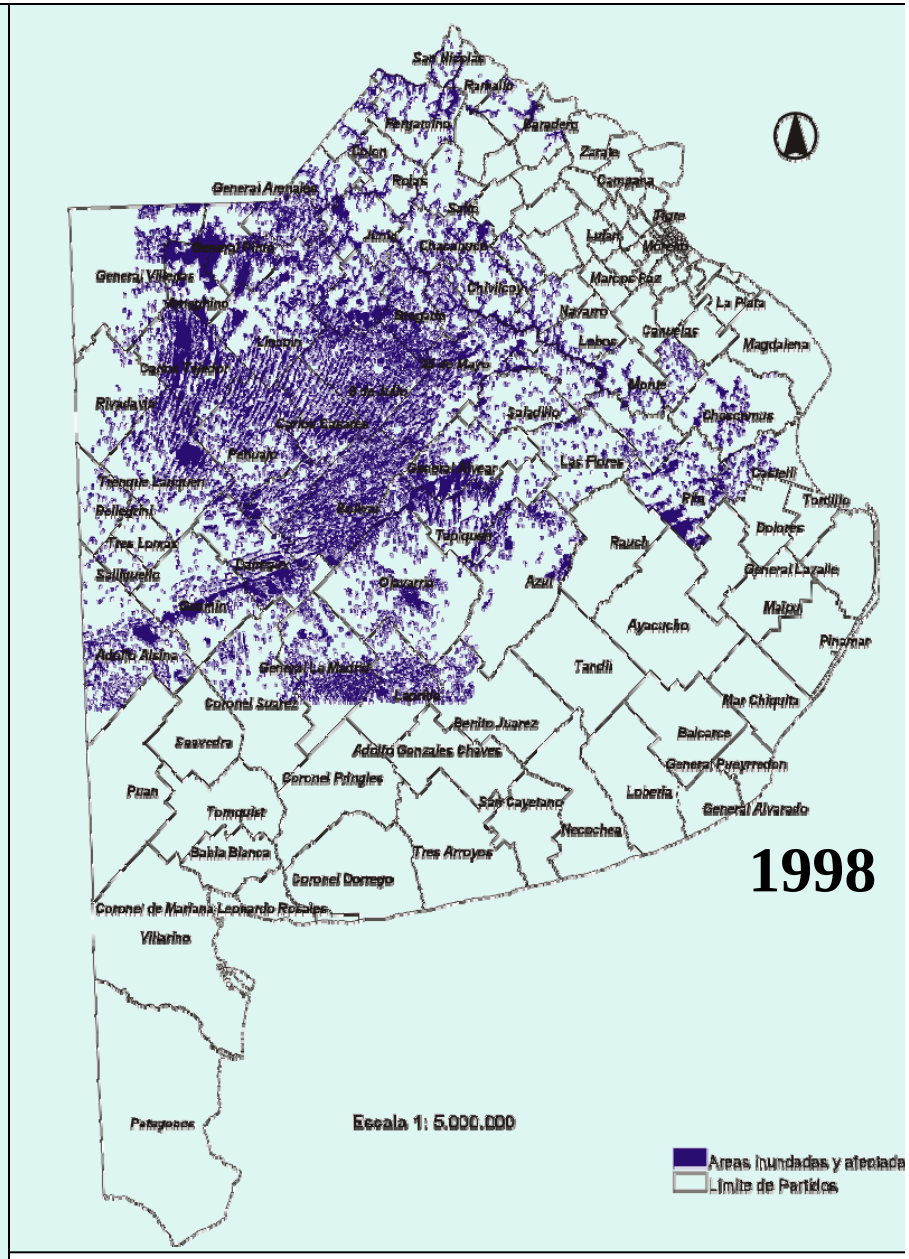


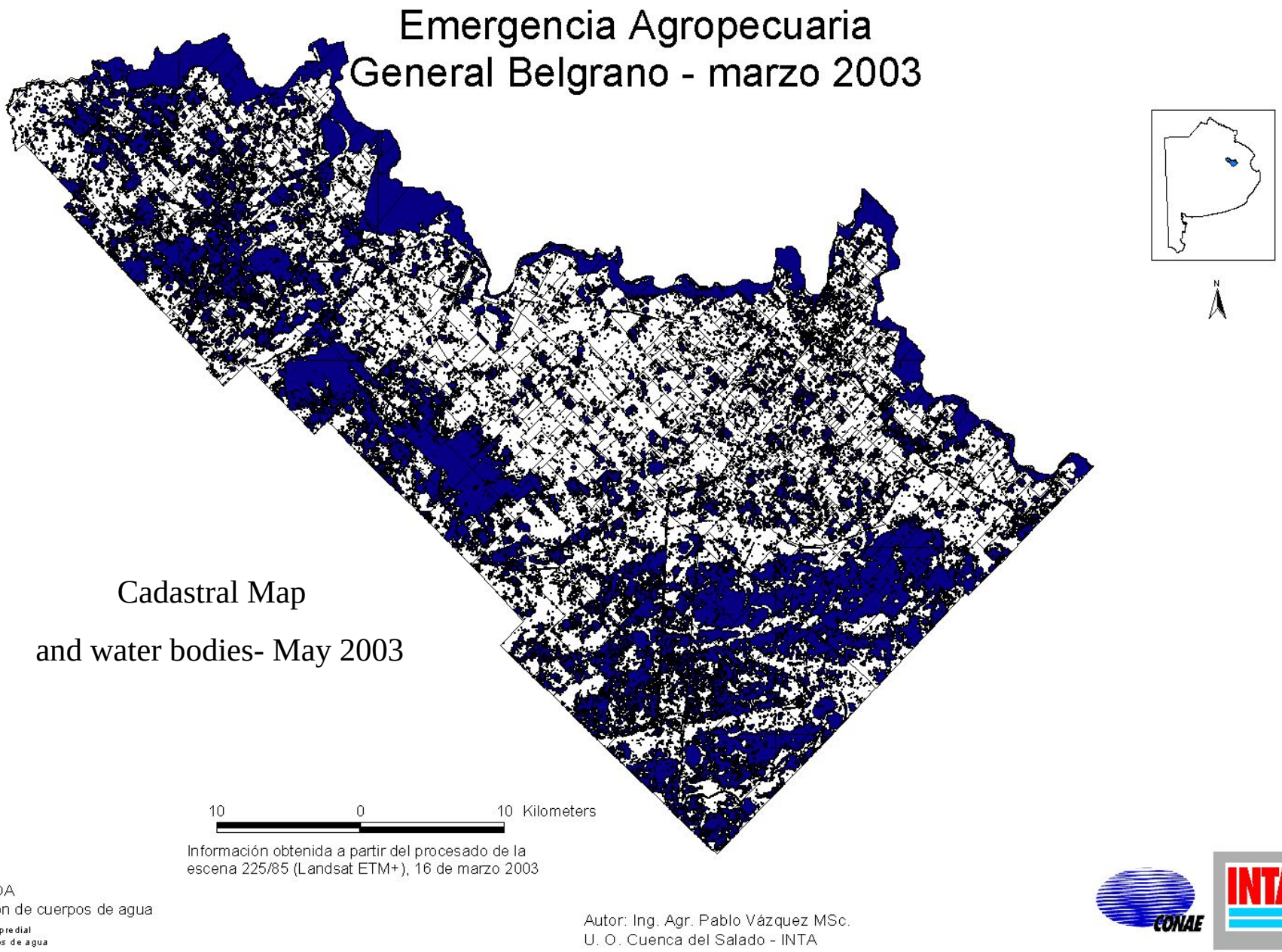
Image usage vs. Emergency item
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1
2
3
Semester
Other
Nat. Res.
Desertification
Meteorology
Geology
Fire
Flooding

Creating digital maps for multitemporal analysis





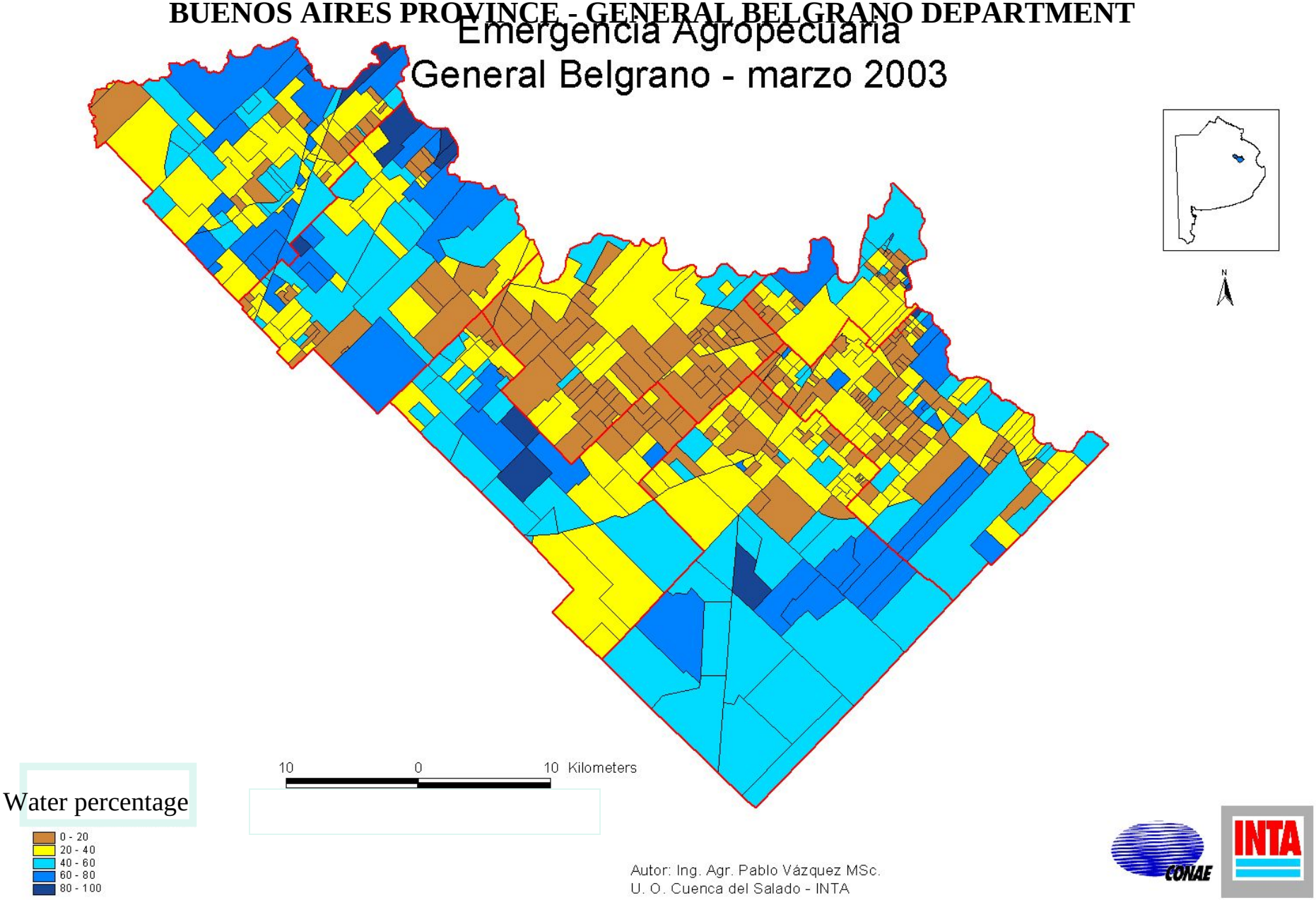
BUENOS AIRES PROVINCE - GENERAL BELGRANO DEPARTMENT



Cadastral Map

and water bodies- May 2003

BUENOS AIRES PROVINCE - GENERAL BELGRANO DEPARTMENT

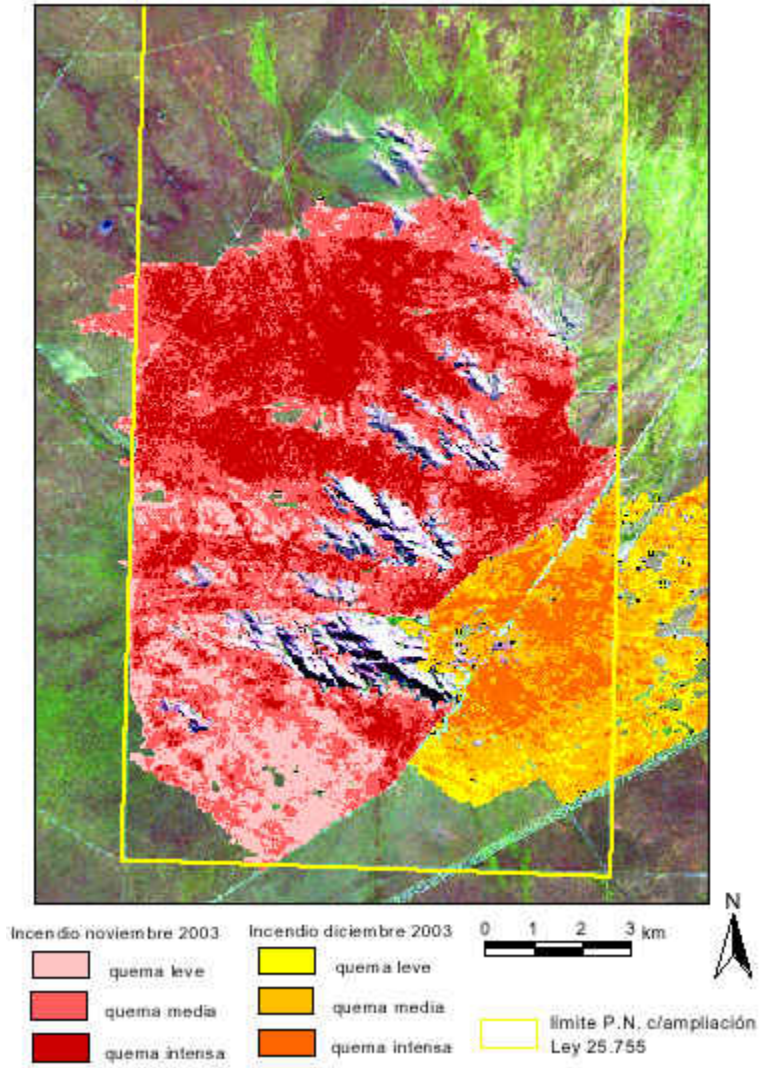


PARQUE NACIONAL LIHUE CALEL

Informe sobre las consecuencias ecológicas de los incendios ocurridos en noviembre y diciembre de 2003

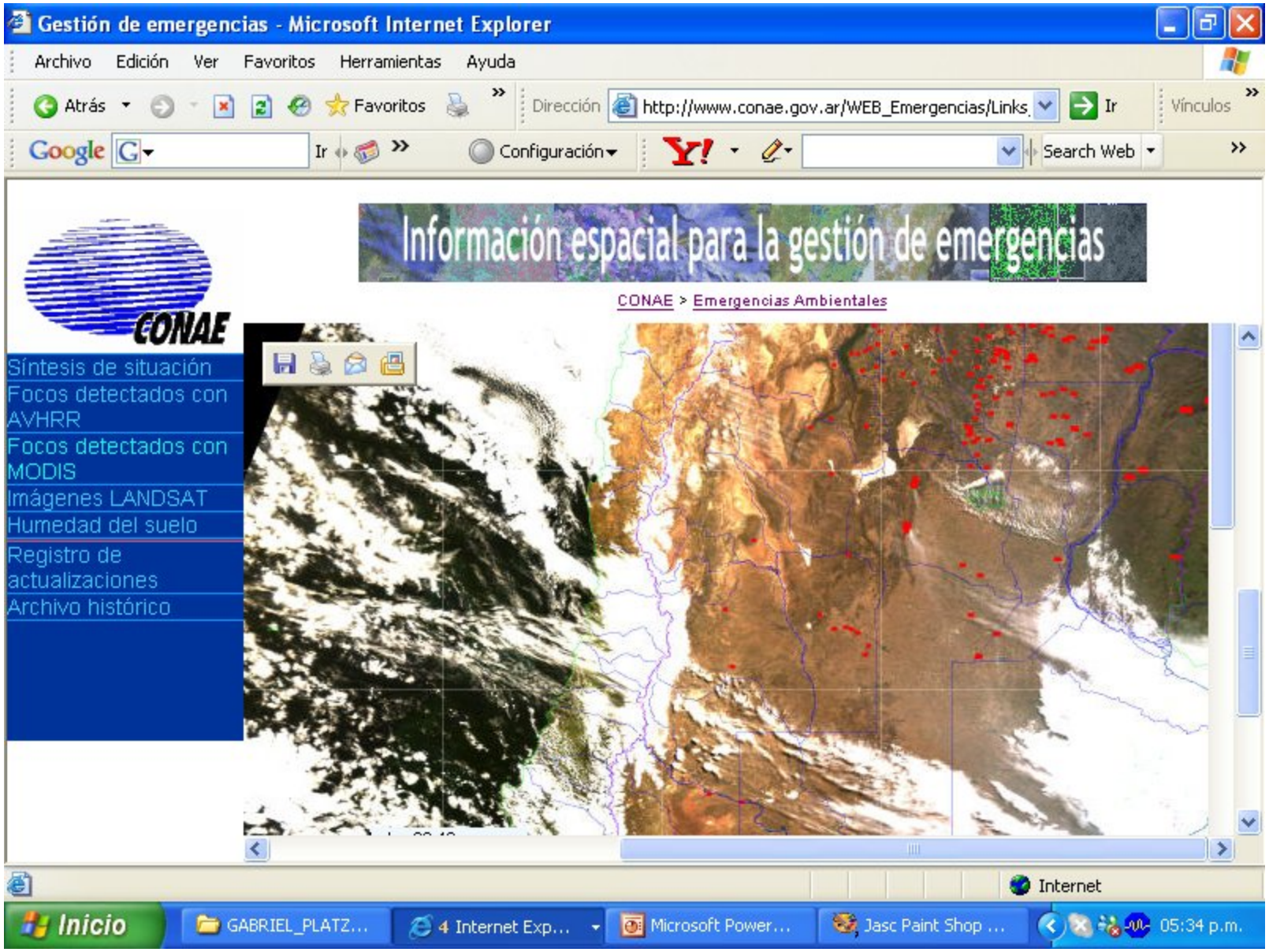
ADMINISTRACION DE PARQUES NACIONALES
Marzo de 2004

MAPA Nº 4: P.N. Lihue Calel - Incendios nov-dic 2003
Severidad de quema



HOT SPOT DETECTION – FOUR TIMES A DAY

FREE ACCESS THROUGH OUR WEB PAGE



Regional training course for PMs

Regional training course for PMs

Brenda

Jones

USGS

Regional training course for PMs

Francesco

Sarti

ESA

Regional training course for PMs

Roberto González

CONAE

Miroslava Morán

Panamá

CATHALAC

Curso regional para PMs

Gustavo

Cabrera

CONAE

Alejandra

Riquelme

Reyes

Chile

Relationship with CP agencies (Chile)

NDA signature (2)

INTERNATIONAL CHARTER ´SPACE AND MAJOR DISASTERS´

NON-DISCLOSURE AGREEMENT

The Recipient (s) of the International Charter 'Space and Major Disasters' data will commit to the following conditions:

a) The data property rights are reserved solely for the concerned Charter Party/Partner Agency, regardless of the location, or the form of the data.

b) All data are made available to others on a right to use basis only and on the condition that the Recipient(s) ensure(s) that the data shall not be distributed to any Third Party in any form or manner, or used in ways other than those for which the data were provided, without the written consent of the Charter Party/Partner Agency or its designate.

c) The data are provided for the purpose of meeting the objectives of the Charter, and as these shall not be copied or saved in any form or medium and shall remain the property of the Charter Party/Partner Agency.

d) All data and data products shall be clearly marked with the applicable Copyright inscriptions.

e) The data use by the Recipient(s) is subject to data distributor's licensing agreement that accompanies the data delivery.

f) The data are made available to the Recipient(s) without any assurance or warranty that the data product and the information derived meet the intended needs of the Recipient(s). Moreover, the Charter Parties/Partner Agencies shall accept no liability of actions, decisions and circumstances resulting from the use of these data products and information.

g) The Charter Parties/Partner Agencies reserve the right of use and demonstration of all and any of the results and promotional products that are derived from the data.

MINISTERIO DEL INTERIOR
DIRECCION
Oficina Nac. de Emergencia

CARMEN FERNANDEZ GIBBS
DIRECTORA NACIONAL
OFICINA NACIONAL DE EMERGENCIA
MINISTERIO DEL INTERIOR

13 mayo 2007

NDA Signature
CATHALAC – SERVIR and Costa Rica University

THANK YOU!