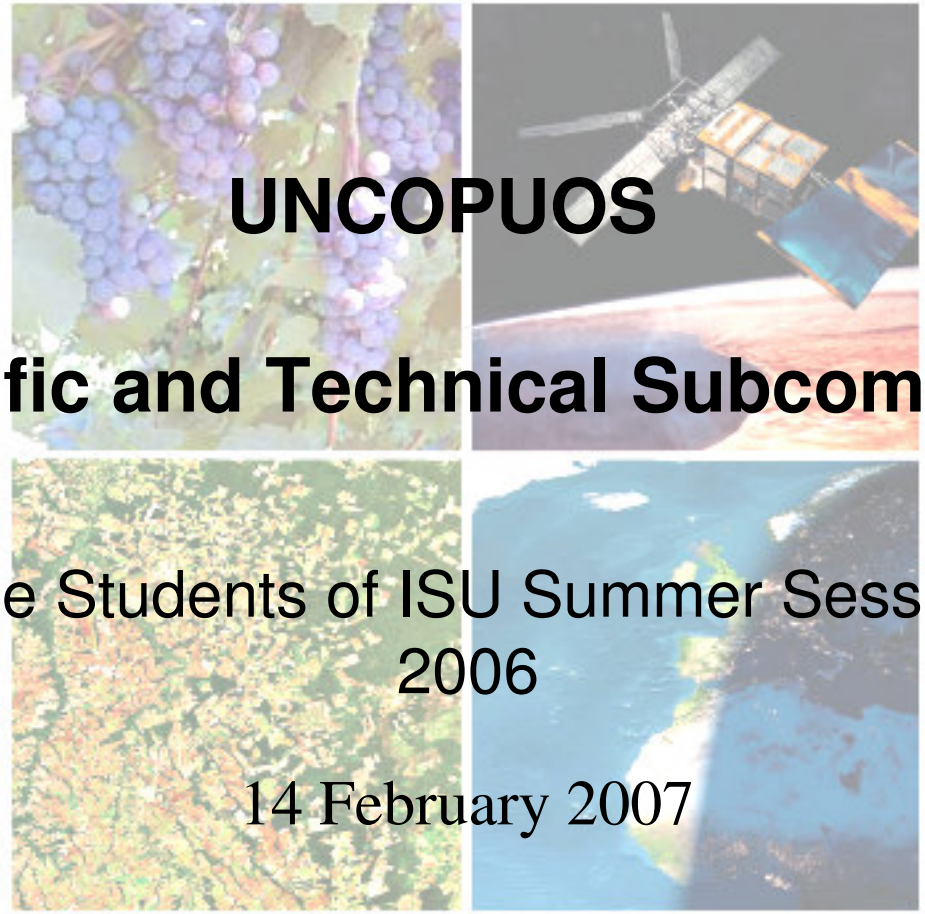
SOL

Sistema d'Observació Local
Système d'Observation Locale
Sistema de Observación Local

Earth Observation Systems for Small Countries and Regions



UNCOPUOS

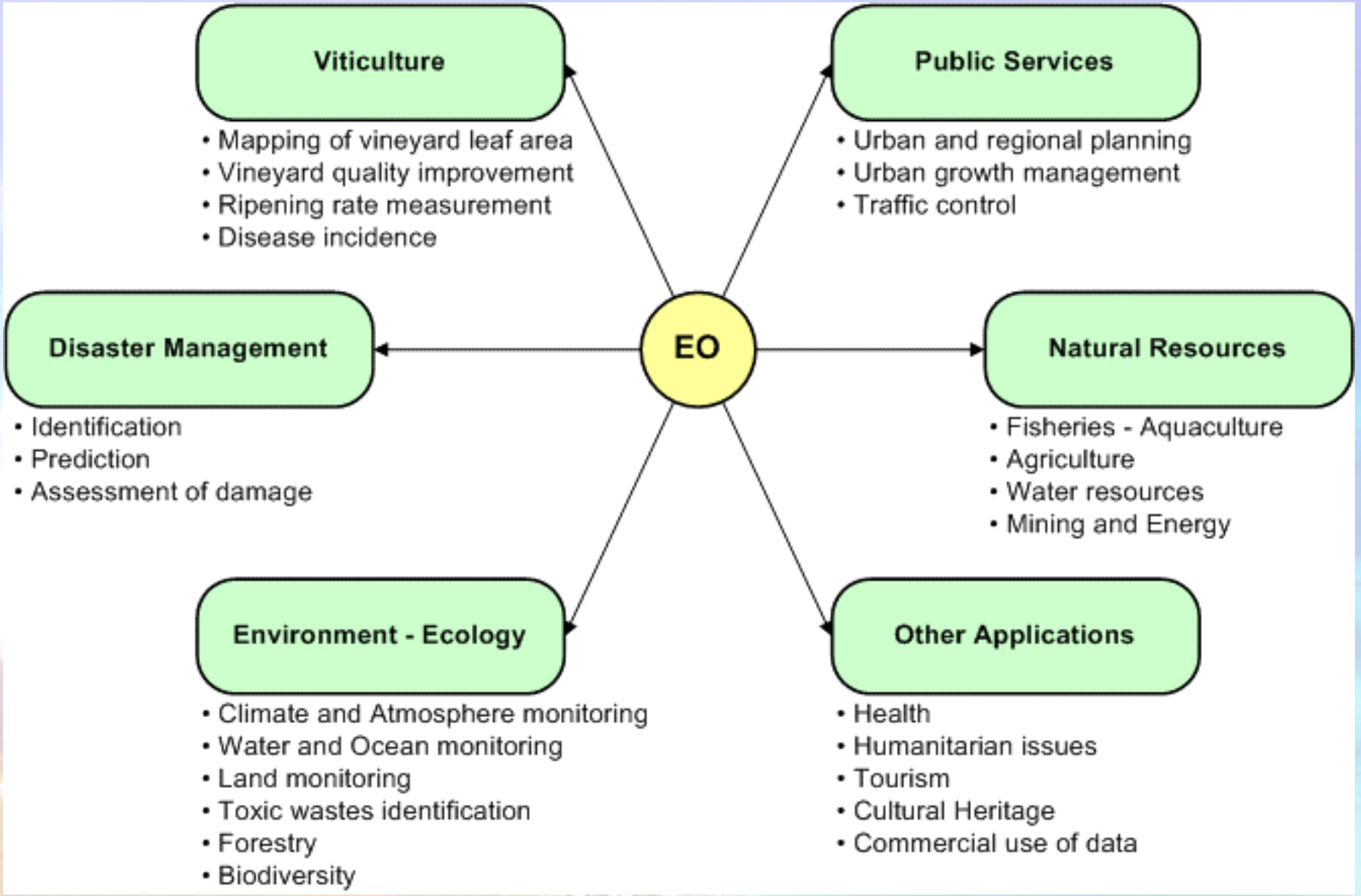
Scientific and Technical Subcommittee

The Students of ISU Summer Session 2006

14 February 2007

Introduction

- Earth Observation (EO) civil programs have become valuable tools for decision-makers at various levels (natural resources, environment, urban planning…)
- EO is now within reach of many more countries than a few years ago
- The SOL project's aim is to bridge the gap existing between the needs of small countries and regions and the many existing EO systems and data.


Viticulture
• Mapping of vineyard leaf area
• Vineyard quality improvement
• Ripening rate measurement
• Disease incidence
Public Services
• Urban and regional planning
• Urban growth management
• Traffic control
Disaster Management
• Identification
• Prediction
• Assessment of damage
EO
Natural Resources
• Fisheries - Aquaculture
• Agriculture
• Water resources
• Mining and Energy
Environment - Ecology
• Climate and Atmosphere monitoring
• Water and Ocean monitoring
• Land monitoring
• Toxic wastes identification
• Forestry
• Biodiversity
Other Applications
• Health
• Humanitarian issues
• Tourism
• Cultural Heritage
• Commercial use of data

Proposal for a SOL Selection Tool

- SOLST will be a tool for selecting EO options best suited for the needs of a country or region
- The system architecture will use a decision tree mechanism of data mining to identify most suitable EO data and system options for:
  - EO professionals
  - Mid-level policy makers, and
  - Advisors to senior decision makers
- SOLST will specifically target small countries and regions with limited resources

SOLST Design

- When implemented, SOLST would have 3 parts:
  - User inputs: outputs of selected EO options
  - Information requests: output of interdisciplinary EO introduction documents
  - Forum section: space for interactive and real time cooperation options
- The project focused on testing three specific cases: Alsace, Catalonia and the Island of Mauritius

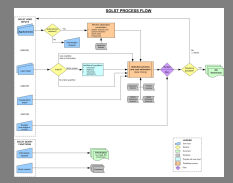
SOLST Methodology

Requirements

- Application
- Intent
- Maximum Budget
- Cooperation Option

→

SOLST



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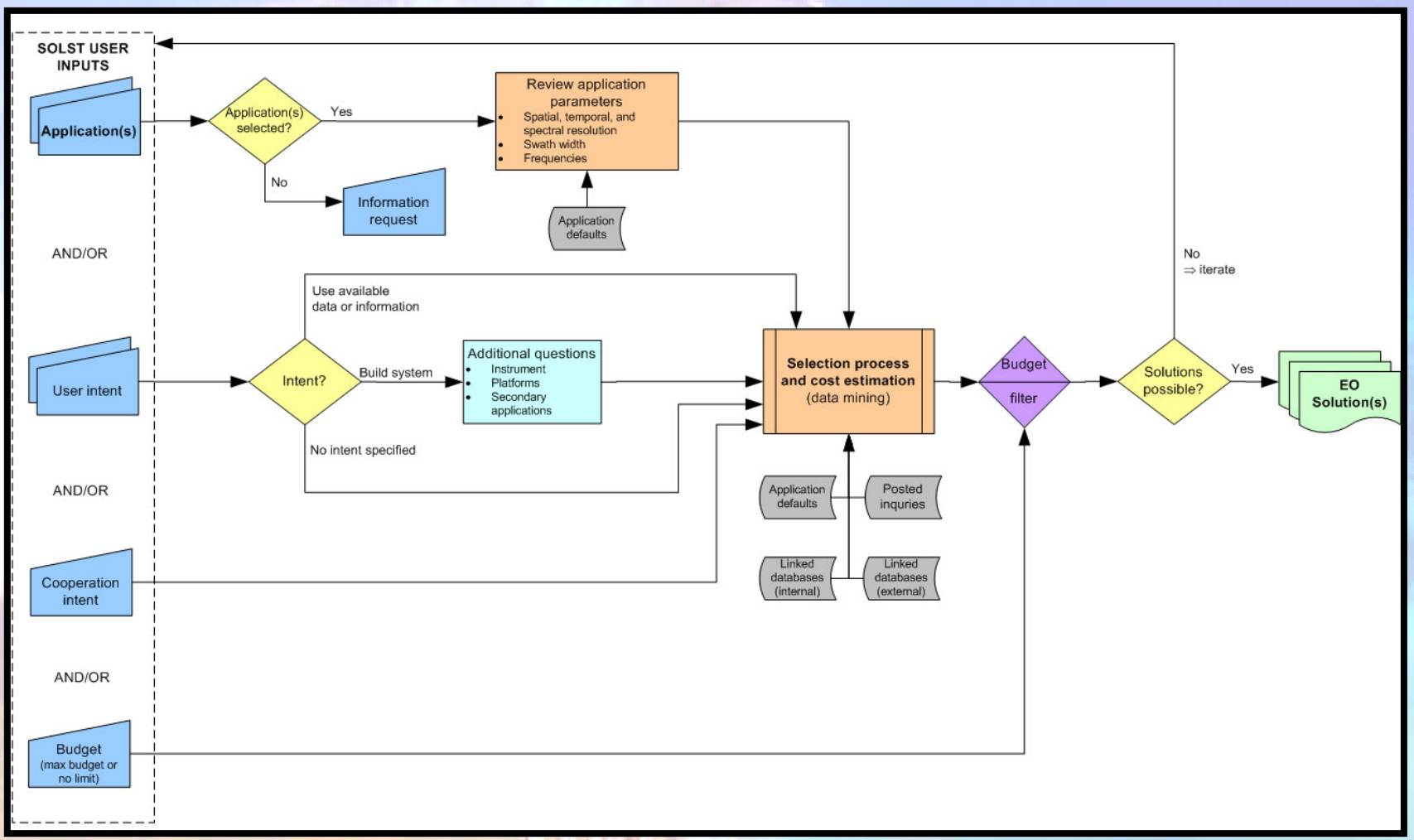
Option n
Option 2
Option 1

EO Solutions

Linking of an application to the needed technical parameters and the available EO options

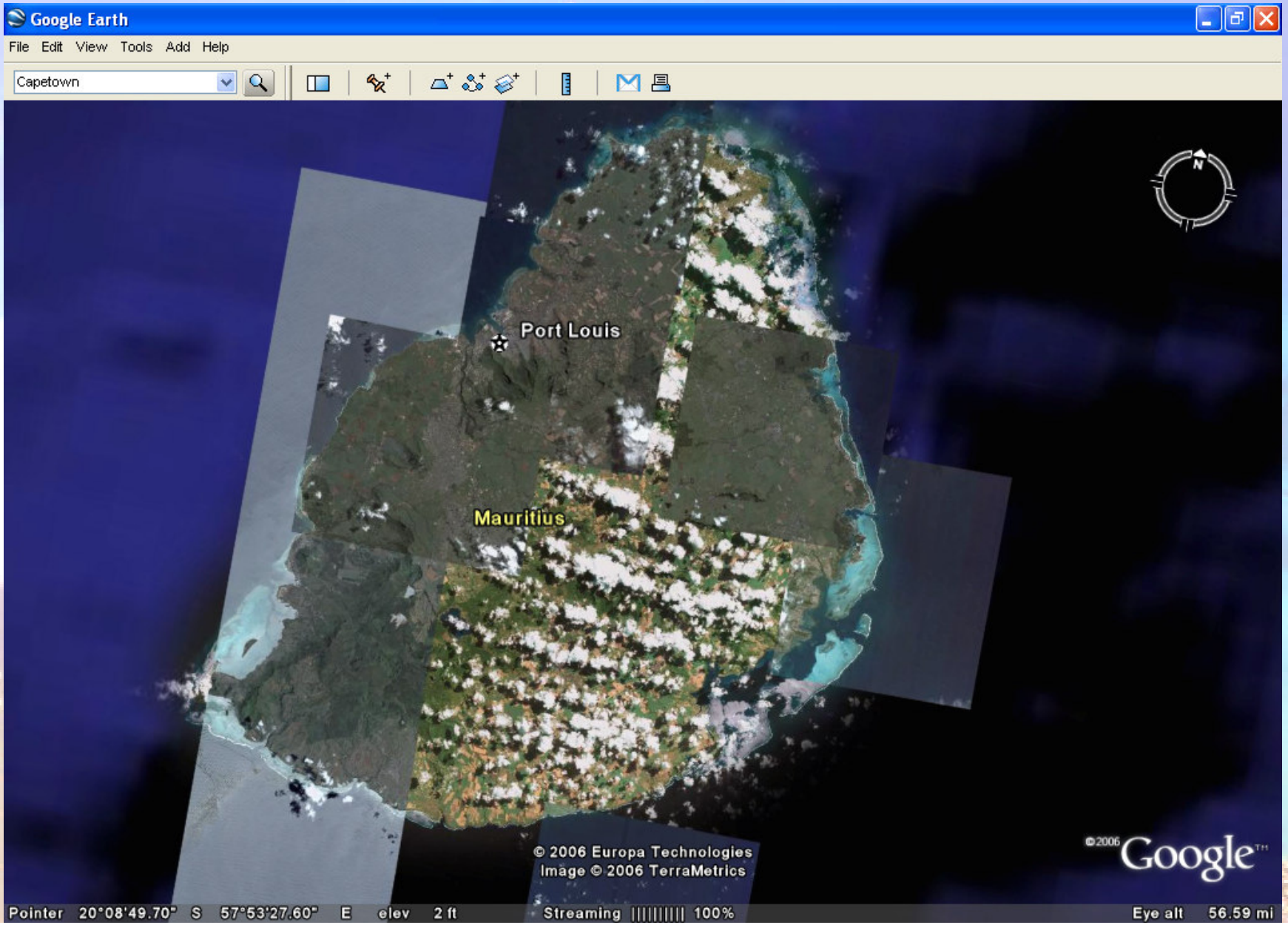
SOLST Process Flow



Further work on SOL

- SOLST, once developed, will require frequent updating in response to rapidly developing EO technology, changing data access controls, and market evolution.
- The study recommends that the future SOLST be integrated into a system like the planned Global Earth Observation System of Systems (GEOSS) database.
- Further work is now being undertaken at ISU by Masters students

Mauritius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Port Louis
Mauritius
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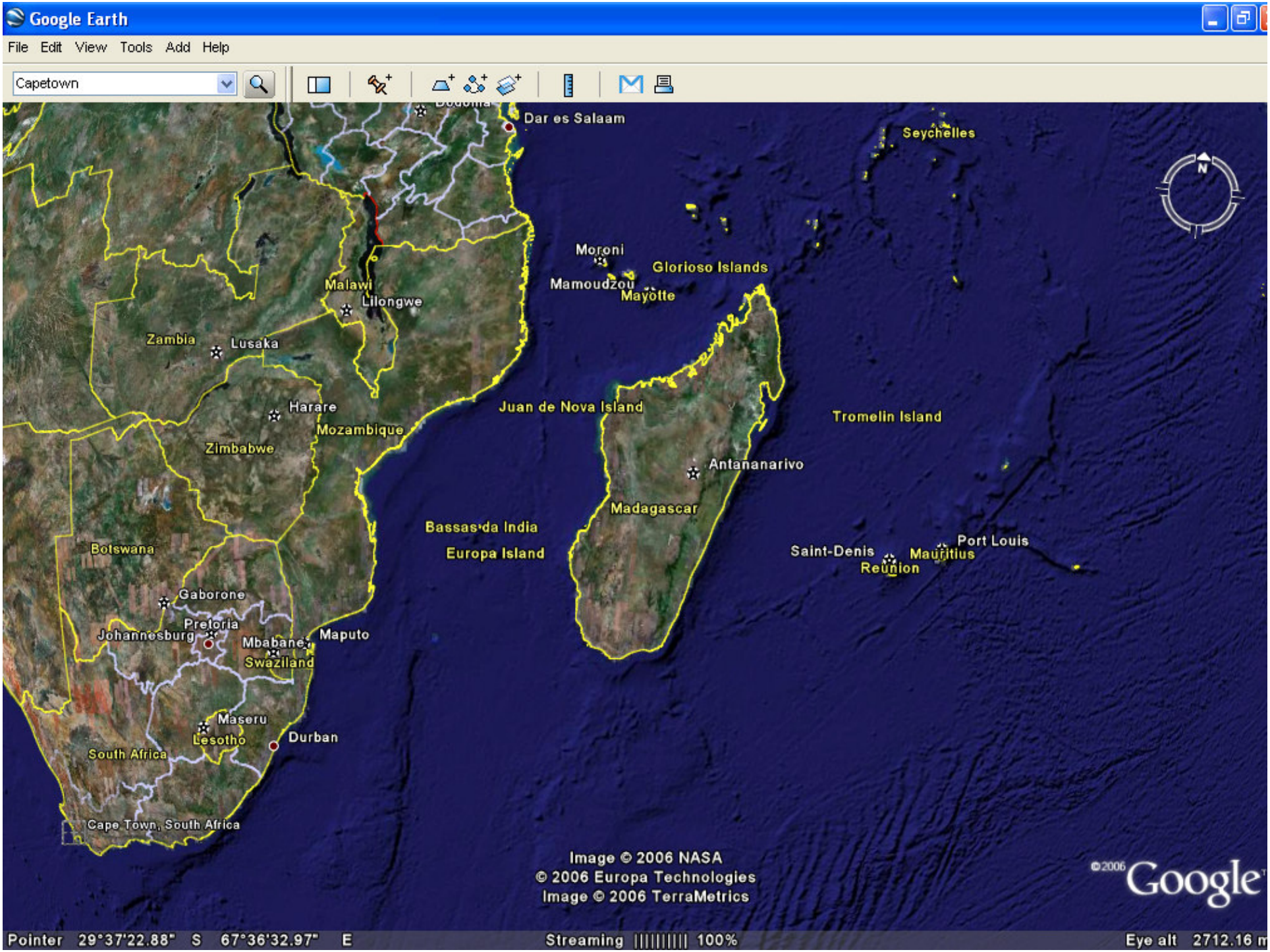
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Zimbabwe
Juan de Nova Island
Tromelin Island
Antananarivo
Madagascar
Bassas da India
Europa Island
Botswana
Gaborone
Pretoria
Johannesburg
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Needs

- Monitoring Sugarcane
- Monitoring the EEZ
- Monitoring the marine environment
- Coastal surveillance
- Marine Depth detection
- Disaster Management –Tsunami Warning and Mitigation System

Mauritius: Key Findings

- EO programs can be a useful tool for managing environmental resources and improving weather monitoring.
- Under its current budget conditions, Mauritius cannot afford to invest in its own EO system; therefore other options are:
  - (1) Obtain available free data.
  - (2) Purchase commercially available EO data.
  - (3) Cooperate with another country or region in developing an EO system for other capabilities.

Nabila Abd-El-Hamed

Jesús Alonso

Assad Anathallee

Szandra Bereczky

Lydia Bourouiba

Bartosz Buszke

Thierry Cattaneo

Murat Celik

Juan Carlos Fernández Díaz

Magali Foulet

Shanece Fowler

Jorge Fuentes

Adina Gillespie

Marlo Graves

Raphaela Hechl

Jonathan Hofeller

Koki Kashihara

Kirk Kittell

Donald MacPhail

Charlotte Mathieu

Ryan McArdle

Enrico Palermo

Luigi Panariello

Antonio Piccirillo

Kenn Rodzinyak

Christiane Ruebrecht

Annelie Schoenmaker

Maxime Senes

Janine Symanzik

Bin Tong

M. Ashley Whelan

Baoguo Wu

Liyan Zhang

Ray Williamson
Faculty Advisor
Renee Boileau
Turdimurat Tursunmuratov
Teaching Associates

Team SOL

Thank you for your attention

Presented by:

Annelie Schoenmaker - schoenmaker@isu.isunet.edu

and

Adina R. Gillespie - a.gillespie@ucl.ac.uk

For more information: http://www.isunet.edu