

# IGOS and CEOS WGC V

A review by Gordon Keyte, Space Department, QinetiQ

CEOS WGC V-21, 15 - 17 October, 2003, Beijing, China.

The QinetiQ logo is located in the bottom right corner of the slide. It consists of a blue curved shape, resembling a stylized 'Q' or a horizon line, with the word 'QinetiQ' written in white sans-serif font inside it.

QinetiQ

# Background

- Increasingly, sponsors require that EO systems are application oriented.
  - Support for Calibration and Validation will depend on links to application programmes, especially to IGOS
- CEOS Plenary has directed Working Groups to support IGOS activities
- In UK, BNSC is interested in the links between WGCV and IGOS-P Themes (BNSC developed the initial CEOS data base of satellite EO activities in 1992)
  - BNSC Workshop to be held in December 2003 to review International Collaboration Programmes

# Evolution of IGOS

- CEOS Strategic Implementation Team (SIT) created in 1996 to develop IGOS
- SIT identified six key projects as a means of demonstrating IGOS concept
- The initial projects were:
  - Disaster Management Support
  - Upper Air Measurements
  - Global Observation of Forest Cover (GOFC)
  - Global Ocean Data Assimilation Experiment (GODAE)
  - Long Term Continuity of Ozone Measurements
  - Ocean biology
- Projects focussed on specific observation issues and required to deliver products to demonstrate integrated approach.
- Subsequent meetings of SIT led to formation of IGOS-P, with specific partners

# IGOS-P: Integrated Global Observation Strategy- Partners Group

- Formed - in 1997 to establish a framework for harmonizing the common interests of space based and in-situ observation systems.
  - Aim: to develop a strategy for implementing Global Observing Systems
  - Generally no exchange of funds - a best efforts basis.
- Partners include:
  - Sponsors of Global Observation Systems (ICSU, FAO, UNESCO, UNEP, IOC/UNESCO, WMO)
  - Global Observing Systems (GCOS, GOOS, GTOS Programme Offices, GOS/GAW)
  - CEOS
  - IGFA
  - Programme offices of IGBP, WRC P

## IGOS-P activities:

- Establishment of a Theme approach to defining the IGOS, including definition of the Theme Process
  - Discussion and approval of IGOS-P Themes
  - Receives reports from Theme leaders
  - Production of IGOS promotional material
  - Meets annually from 1998
- 
- Note: Original 'IGOS' demonstration projects continue but under sponsorship of individual agencies (eg, GOF C).

## Current Role of CEOS SIT:

- Value assessment of IGOS-P Themes
- Recommended scope for improvement of Theme Process (eg, broader involvement by IGOS Partners)
- Led to establishment of IGOS-P Implementation Taskforce to 'develop a consensus on the role of IGOS-P in implementation of IGOS-P Themes'

# IGOS-P Themes

- Current IGOS-P themes:
  - Ocean
  - Integrated Carbon Cycle (IGCO)
  - Global Water Cycle
  - Global Atmospheric Chemistry (IGACO)
  - Geohazards
  - Coastal Theme (possibly including a Coral Reefs Theme)
- Themes selected according to criteria set by IGOS-P. Require reports at IGOS-P meetings
- Implementation is responsibility of individual partners
- Current emphasis is on implementation of existing themes

## IGOS-P Theme current status (1)

- Ocean
  - Co-leaders: Eric Lindstrom (NASA), Colin Summerhayes (GOOS)
  - First IGOS-P Theme
- Global Carbon (IGCO)
  - Co-leaders: Phillipe Ciais (CES), Jeff Tschirley (GTOS), Colin Summerhayes (GOOS)
  - Draft report planned for end 2002
- Global Water Cycle (IGWCO)
  - Co-leaders: David Carson (WMO), Richard Lawford (GCIP)
  - Report team and advisory group established
  - Report in preparation, complete in September 2003



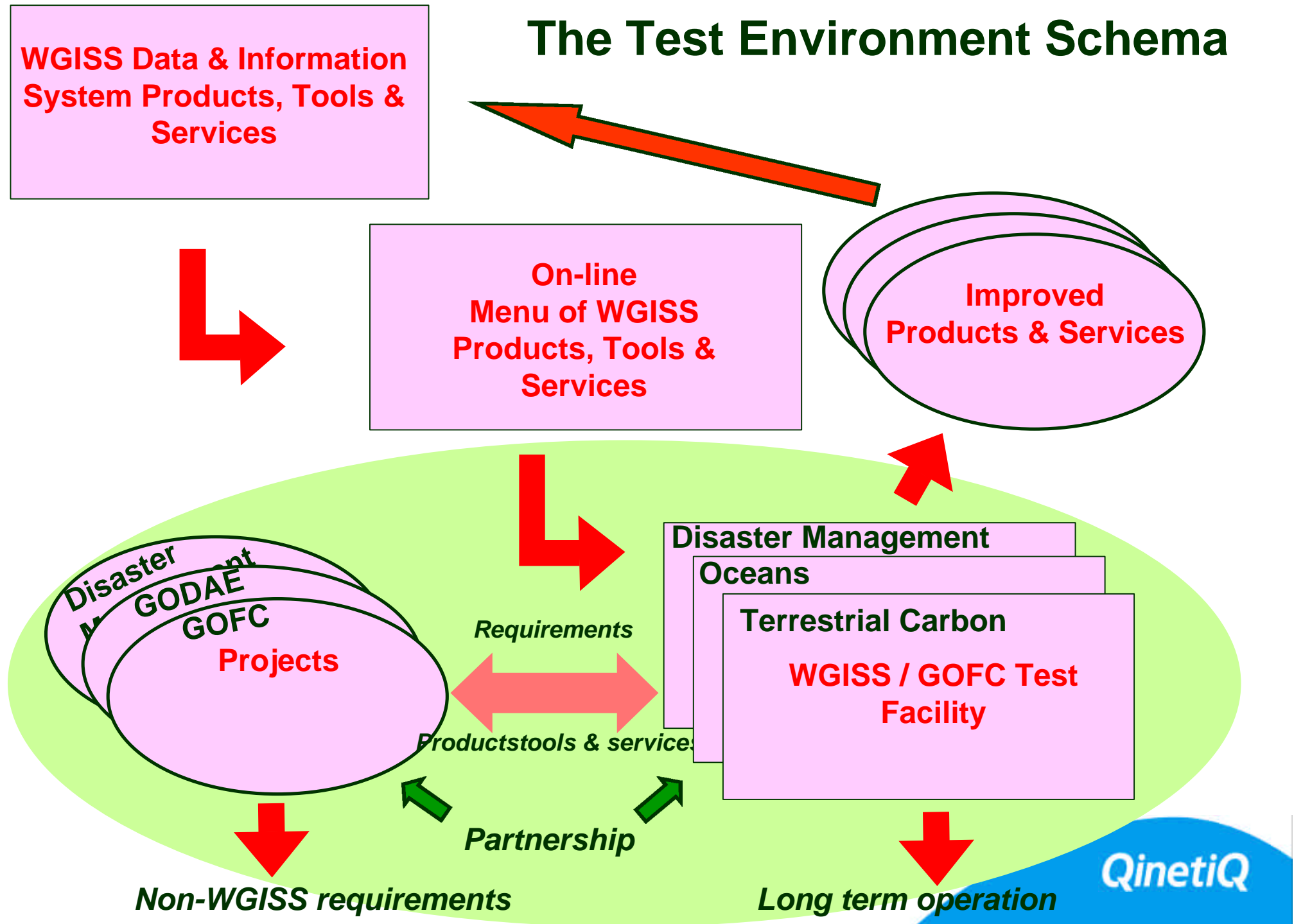
## IGOS-P Theme current status (2)

- Atmospheric Chemistry
  - Co-leaders: Len Barrie (WMO), Joerg Langen (ESA), Guy Brasseur (CNRS)
- Geohazards
  - Co-leaders: Stuart Marsh (BGS), Marc Pagnini (ESA), Robert Missotten (UNESCO)
  - Report prepared for May 2003
- Coastal/Coral Reefs
  - Co-leaders: Arthur Dahl (UNEP), Alan Strong (NOAA)
  - Scope of theme (beyond Coral Reefs) to be reviewed in IGOS-P-10

# CEOS W G activities in support of IGOS: (1) W G ISS

- Structure:
  - Technology and services subgroup
    - International Directory Network
    - CEOS Interoperable Catalog System
    - Data Services
    - Networks and A rchive
    - EOGEO workshop
    - CEOS Grid
  - Projects and applications subgroup
    - Global Datasets
    - Global Mapping Book
    - WTF CEOP
    - WTF Core Sites (W G C V)
    - Pilot Ocean project
  - Developed concept of W G ISS Test Environment to provide a framework for working in partnership with other organisations

# The Test Environment Schema



## CEOS WG activities in support of IGOS: (2) WGC V

- WGC V Work Plan (v 3.1): no explicit tasking in relation to IGOS but recognises need to recommend techniques (eg, validation) to IGOS
- WGC V Subgroups
  - LPV : Ongoing definition of techniques and products in support of GOF C (Forest Cover) - one of the earlier IGOS Projects
  - Terrain Mapping: No formal links but could contribute to original IGOS projects, eg, GOF C and Disaster Monitoring projects.
  - Atmospheric Chemistry: New group but expect close liaison with IGAC O theme
  - SAR: Potential for involvement in Carbon Theme (IGCO) through biomass measurement and polarimetry. Largely technology driven.
  - IVOS: Currently focussed on broad technical issues, output is applicable to most IGOS-P themes
  - Microwave Sensors: As for IVOS.

## Remarks:

- Sensor Calibration seems to be an issue for the space agencies whereas Validation is of increasing concern to the 'user' organisations, eg, comments from WCRP at 9th IGOS-P meeting,
- WGCV Subgroups LPV, TM and Atmospheric Chemistry have potential for supporting specific IGOS-Themes as they are essentially focussed on environment products,
- SAR, IVOS and Microwave Sensors are concerned with specific types of sensor - their work could be applied to a number of IGOS-P themes
- Sponsorship of WGCV Subgroup activity is (usually) through member organisation - this does not necessarily correlate with the sponsorship of IGOS-P Themes
- Implementation of IGOS-P themes is currently being addressed by the Implementation Task Force.

## Suggestions... ..

- Within existing programmes, Subgroup reports could identify specific contributions to IGOS-P Themes and hence strengthen case for subgroup sponsorship
- In addition,
  - W G C V could establish correspondence between W G C V and IGOS-P Theme teams (and with IGOS-P Implementation Taskforce) to:
    - ensure that cal/val issues are adequately addressed within the Theme reports (reports could be circulated to subgroup chairs)
    - to determine Theme requirements for Calibration and Validation
    - to define possible demonstration projects to address issues of concern at the Theme level (implementation subject to subgroup sponsor agreement)
    - to identify new subgroups, or to broaden scope of existing groups to embrace IGOS requirements