

Report on UK EO Data Quality Workshop held at RAL on Tuesday March 9th 2010

1. Background

The aim of the workshop was to explain the concepts behind QA4EO in the context of the drivers for quality assurance and to help develop a framework and roadmap for how the UK could exploit its leading position.

The Quality Assurance Framework for Earth Observation (QA4EO) has been established and endorsed by the Committee on Earth Observation Satellites (CEOS) as a direct response to a call from the Group on Earth Observations (GEO).

2. The sessions

The objectives for the workshop were to start with some introductory presentations on the international context for Data Quality and then have some overview presentations on general requirements.

This was followed by an introduction to the international QA4EO activity and presentations representing the range of data quality activities currently being carried out in the UK.

The organisations in the UK with EO related data quality activities include:

- NPL – Development of QA4EO
- DMCii – DMC QA/QC
- Argans – MERIS QA/QC
- Vega - ESA IDEAS support
- Logica - GECA Validation Centre support
- Southampton Uni. – NCAVEO Project follow-on
- Met Office – Satellite QA/QC activities
- RAL - ATSR/SLSTR cal/val and QA/QC
- UCL - DEM quality information services
- NCEO – supporting cal/val activities

These activities demonstrate the breadth and strength of the UK DQ community.

A list of the presentations is given in the Annex below, and they can be downloaded from http://web.me.com/wcudlip/DQ_Workshop

3: The Discussion

The workshop concluded with a discussion session in which some possible points for debate were presented; and these were used to stimulate comments and to help identify how support activities might be prioritised

The main points displayed were:

- Position UK as QA leader in Europe
- How to improve co-ordination across government organisations (e.g. BNSC, NERC, DEFRA etc.)
- Gain further experience of using QA4EO (e.g. Case Studies)
- Support the use of QA4EO in EO community (e.g. additional guidelines)
- Other issues (e.g. QA4EO promotion; conformance testing etc.)

Some of the noted comments were:

Nigel Fox mentioned that there is an opportunity for the UK to take forward and lead the initiative for QA4EO implementation in GEO. A new strategic implementation team is being established within GEO, to include SBA representatives, but it needs an entity or country to volunteer to help resource the leadership and management functions e.g. secretariat etc.

With the establishment of the ESA International Space Innovation Centre (ISIC) at Harwell and the associated ESA Climate Office (headed by Pascal Lecomte, who is the current chair of the CEOS Working Group on Cal/Val (WGCV)), there is an opportunity to develop synergy between the ESA UK activities and UK DQ activities.

It would be good to develop case studies on the exploitation of QA4EO, supported perhaps by a website with Best Practice and Lessons Learnt information. It is recognized that the current QA4EO documentation is very technical. It would be good if more general introductory guidelines could be created and tailored for different communities.

It was noted that the next GEO Ministerial Summit is in November 2010 in China. It would enhance the UK international reputation if it could be seen to be strongly supporting data quality initiatives at that time.

Validation is an important part of data quality and so it is important that in-situ data (which is often required for calibration and validation) can be incorporated into the overall scheme.

It was recognized that improved co-ordination across government organizations (e.g. NERC, BNSC and Defra) might allow synergistic activities to be carried out without a major increase in budgets.

Co-operation and co-ordination can be encouraged and enhanced with relatively small practical projects such as were undertaken in the NCAVEO Project.

A small team of volunteers was identified to plan and co-ordinate the way forward:

Nigel Fox	NPL
Steve Mackin	DMCii
Ted Milton	Southampton University
Darien Simon	UK-EOF
Dave Smith	RAL
Marie-Claire Greening	Greening Consulting
Andy Shaw	NCEO, NERC
Wyn Cudlip	GeoSeren (representing BNSC)

4. Conclusions and Recommendations

There is a strong DQ community in the UK who are keen to support better co-ordination amongst themselves and internationally.

There is an opportunity for the UK to strengthen its lead in DQ activities across Europe and the world through leading the QA4EO activity in GEO.

Increased support for DQ related activities in international programmes (such as CEOS WGCV and WGISS) would help strengthen the UK position as a leading player in international DQ initiatives

The international support for QA4EO is building and, in order to further increase UK expertise, it would be good to support the exploitation of QA4EO in the UK. This could be done by supporting specific QA4EO case studies and ensuring additional guidelines, best practise, and lessons learnt are disseminated and made easily available.

Initial priorities arising from the discussion would appear to be:

1. Lead the QA4EO in GEO activity.
2. Increase support for international participation
3. Support UK Case Studies

5. Recommendations

NERC and BNSC to discuss how they might proceed to address the conclusions of the workshop.

The DQ Team to develop specific ideas that could help progress DQ activities both in the UK and internationally.

Annex 1: Workshop Presentations

Copies of the presentations are available from:

http://web.me.com/wcudlip/DQ_Workshop

Session 1 – Context 9.30am to 10.50am

Focus on the end-user perspective and the need for QA.

- 1 Workshop introduction (Andy Shaw, NCEO)
- 2 Introduction to the international context (Pascal Lecomte, ESA / Marie-Claire Greening, Greening Consulting)
- 3 Climate Drivers (Alan O'Neill, NCEO) (no written presentation)
- 4 UK-EOF presentation (Beth Greenaway, ERFF)

Session 2 – QA and QA4EO 11.10am to 12.30pm

To present some UK QA activities and provide overview of QA4EO

- 5 QA4EO Overview (Nigel Fox, NPL)
- 6 ESA Perspective (Giuseppe Ottavianelli, ESA)
- 7 Current and future optical missions: from MERIS to OLCI (Samantha Lavender, Argans)
- 8 NCAVEO perspective (Ted Milton, Southampton Uni.)
- 9 CEOI Perspective on QA/QC (Paul Monks, Leicester Uni.)

Session 3 – Exploitation 1.30pm to 3:00pm

To show how QA4EO concepts can be exploited.

- 10 ESA QA/QC in QA4EO context (Sian O'Hara, Vega)
- 11 QC & QA: Met Office Concerns (Bruce Wright, Met Office)
- 12 GECA Validation Data Centre (Geoff Buswell, Logica)
- 13 ATSR/SLSTR Quality Assurance (Dave Smith, RAL)
- 14 DEM Quality Assurance (Peter Muller, UCL)

Session 4 – Discussion 3.15pm to 4.00pm

To discuss how UK should proceed to create harmonised framework.

- 15 - Points for discussion