GHG-CCI

6th CCI Colocation Meeting, ESRIN, 28 Sept – 1 Oct 2015

GHG-CCI input on:

ECVs: What's operational and what still requires R&D?

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ECVs: What's operational and what still requires R&D?

General remark:

What is required is not „R&D or Op“ but „**R&D AND Op**“

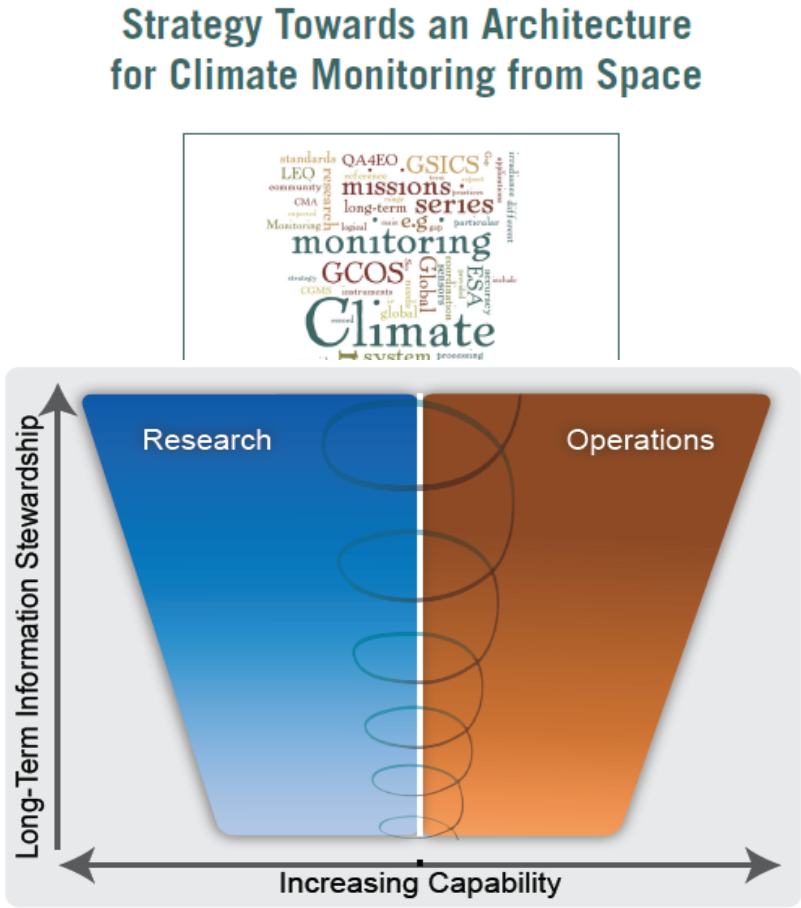

Figure 5.2. A holistic view of the interdependency of research and operations needed for sustained and routine climate monitoring.

GHG-CCI status

- Thanks to CCI, the GHG-CCI algorithms have been significantly improved and used to generate long-term GHG data sets
- A system has been developed for regular reprocessing with improved algorithms for improved quality and time series extension
- Many user requirements are now fulfilled (but not all)
- Many users (~400) & many peer-reviewed publications (~40)
- Note also: GHG-CCI team members delivered & currently deliver data products to ECMWF within MACC-III / CAMS
    - focus here is on quasi-NRT, not on generating long-term consistent data sets for climate applications meeting GCOS requirements; CCI and CAMS are therefore highly complementary

GHG-CCI & ”operational”

In „How operational are the CCI ECVs?“ *):

- Criteria have been defined for „operational“ (proven capability to generate state-of-the-art products, regular product delivery, documentation, version tracking, …)
- **Based on these ciriteria it is concluded that GHG-CCI is operational**

*) **How operational are the CCI ECVs?**
Seed questions for 5th Colocation Meeting Day 2 breakout sessions

GHG-CCI answers added by Michael.Buchwitz@iup.physik.uni-bremen.de with inputs from G. Lichtenberg (DLR), Frederic Chevallier (LSCE)
(last change: 27-Oct-2014)

GHG-CCI & R&D

R&D is needed to

- **further improve the algorithms** to fulfill all relevant user requirements
  - For example, GHG-CCI meets the demanding GCOS XCO_2 accuracy requirement (target < 1 ppm), not however the much more demanding requirement of the GHG-CCI CRG (threshold < 0.5 ppm); also the GCOS XCH_4 stability requirement (< 2 ppb/yr) is not yet met (for SCIAMACHY)
- **to solve future problems** (instrument degradation, etc.)
- to extend the time series by adding **new sensors** (OCO-2, S5P, TanSat, GOSAT-2, MERLIN, …)