

Freshwater discussion

Blake Schaeffer: Asks whether any ESA or NASA representatives are here, which seems not to be the case. However, they would certainly be interested to participate in the benchmark dataset requested.

Arnold Dekker: Those organizations would have to apply any disclaimer. In Australia, for some product (?) a chain of custody was established after court case. This will generally become the case when EO products are used in management – someone has to be made available.

Steeff Peters: How about in situ measurements?

Nicky Villars: Copernicus services are already produced in such scope, aiming to be involved in legislative decisions.

Paul DiGiacomo: Agrees that such issues have been overcome in the US, too.

Steve Greb: Has any of the groups already discussed specific parameters of interest?

Laurence Carvalho: Was discussed – chl, algal blooms, tss, turbidity (true?)

Arnold Dekker: We had such a discussion in the coastal group, too. The users wanted, for reporting WQ in the 6 GBR areas, in the end only one health indicator for dry and wet season, i.e. 12 maps, rather than all 7 products daily as originally requested.

Coastal water discussion

Arnold: Adds to Erin's presentation that they discussed about defining qualitative rather than quantitative indicators, which will resolve many accuracy related issues inherent to quantitative estimates.

Steve Greb to ask to expand on the overarching service described in the 2nd presentation: It is meant as the background for the Community of Practice, i.e. fostering regionally successful approaches that can be adapted in other regions or globally.

Broader questions

Mark Dowell: There were certain aspects specific to WQ-EO in the presentations, but many aspects would apply in a much broader context. The question arises, how do we feel about that? How independent shall our initiative be from ongoing, e.g. Copernicus

Arnold Dekker brings up another topic; private industries vs. public good providers. How can we combine that in the summit's vision? Are public private partnerships the option? We will have to clarify the roles more clearly.

Paul DiGiacomo : We had some good comments on this. The private sector should come in when it comes to local adaptation, highly customized products.

Thomas Heege disagrees, as they have already made large investments and build large processing capabilities, and would not leave this field to public service organizations. Among others, they are already engaged in the German Copernicus ground segment.

Paul DiGiacomo clarifies that he would not expel commercial actors from global activities, but thought that locally customized services would be the best role for them to step in.

Carsten Brockmann mentions that they identified developing countries as one of the key application scopes, which again means those countries have hardly any funds available.

Menghua Wang: GEO should start from simple, easily applicable products and a global scope.

Blake Schaeffer: Another potential for private companies is software, which is not well handled by public organizations.

Steeff Peters sees as his road to go some very specific, demand-driven services as e.g. for aquacultures. He thinks that from a simple global aiming at a global audience, several further opportunities will arise from private companies. Thomas Heege agrees with Steeff's other point, that the industry in calibration, validation and solicitation by the GEO WQ group.

Emos (last name? participant from Ghana) mentions that a lack of data is a general issue in Africa. AfriGEOS will help in this regard, but other sources and products are needed.

Milton: One of the primary goals of this working group should be to advocate data continuity and free data access. He mentions that also the need to go to high resolution imagery for inland waters opens

Arnold replies that this is potentially a recommendation for the group, similarly to the disaster charter, where any data requested from private providers is in emergency cases freely provided to charter organizations. We might develop an idea like that to make high resolution data available for water quality monitoring.

Steve Greb: The bullet comments in the presentations referring to "task by GEO" are missing a little the point – we are GEO! But of course it's ok if we intend to elaborate on those points ourselves, in the working group.

Steve also raises that the relevance of developing countries needs should be discussed in more detail.

Laurence Carvalho: We've seen many product examples in the morning presentations, we should further elaborate on those in small groups, but push forward quality, standardization etc.

Emos: **Comment not understood, Steve Greb took note.** In Africa, mobile communication, emerging democracies etc. ask for "living maps", real time information etc.

Carsten Brockmann: Identifies a question; there is no ECV for inland waters – are we happy with this, or do we have to promote certain parameters?

Steeff Peters: Lakes are often called “sentinels of climate change”, as the latter often causes trends in transparency or other lake water properties.

Erin Hestir: 30-35% Carbon emission in Swedish lakes in a recent AGU publication

Blake Schaeffer: What is actually the scope of GEO activities, is our scope including in situ model and other downstream process components?

Paul DiGiacomo: We are GEO. It's really up to us where we see gaps and want to aim with our activities.

Steve Greb: Yes, we address all those components potential relevant for monitoring activities. It is even a goal of GEO to escape the remote sensing dominance and strengthen the link between all relevant components.

Adrian Strauch: In comparison to the RAMSAR GEOBON global wetlands observation system, they try to proceed in small steps from user needs. This strategy seems reasonable also for the WQ working group.

Erin Hestir: What is the role of in situ, remote sensing or other observatories in the wetlands observation system?

Adrian Strauch: It aims to integrate already existing datasets from all these sources, and complement them with new Sentinel remote sensing products.

Left of Menghua: Thought that GEO was less about producing final products and applications, while individual organizations account for the final steps. The discussions in this WQ group seem actually to cover even the last aspect.

Paul DiGiacomo: The Communities of Practise were established exactly to address the gap between data producers and users, through the definition of good interfaces as e.g. exchanged products.

Dominique Berod: GEO is indeed not about providing services, but to link the groups that work together up to the level of e.g. e pilot application.

Left of ...: Building applications is a multi-billion dollar business. Unless GEO has access to big money, they should not take the responsibility for such services.

Paul DiGiacomo: This is about leveraging all ongoing efforts.

Steeff Peters: In situ data consists of monitoring data, which we talk about, but also remote sensing reference data as in Limnades. Protocols for the latter need harmonization, which was done in GLaSS.