



Meeting Minutes	
Subject	Coastal Erosion Progress Meeting #7
Date	27 th May 20
Minute Taker:	Noelia Zorrilla
Agenda: <ol style="list-style-type: none">1. Introduction2. Outstanding actions3. Production update4. User Gp Feedback5. Metadata Approach6. Service Gp QC Approach7. Web Services Demo8. Product Exploitation9. Product Improvements10. Workshop Planning11. Any Other Business	Attendees: <p>Martin Jones (Chair), Andres P Garcia (BGS) Xavier Monteys (GSI) Yeray Castillo (GSI) Paula Gomes (IH Cantabria) Christian Marchese (Arctus) Thomas Jaegler (Arctus) Albert Garcia-Mondejar (IsardSAT) Mark Pattle, (IsardSAT) Salvatore Savastono (IsardSAT) ARGANS Ltd Francois Regis Martin-Lauzer Craig Jacobs, Steve Emsley, Anne-Laure Beck, Noelia Abascal-Zorrilla, Amine Taji, Scott Miles</p>

1. *Introduction:*

- 1.1. The chair, Martin welcomed everyone to the 7th Progress Meeting, noting that everyone is now used to “teleworking” with some nations beginning to relax some restrictions that have been in place due to COVID-19. The agenda for the meeting was agreed and apologies accepted.

2. *Outstanding Actions from Last Meeting*

ACTION: User Group. One outstanding action remains for some of the User Group to supply the family tree for their national (regional and local coastal management systems). Those received are posted within the password protected Partners Pages of the coastal erosion website (which ESA TO has access to).

3. *Update from service user group on Production*

- 3.1. Martin identified that the production approach briefed at the last PM#6 had been welcomed by all partners and that weekly bilateral meetings were proving a very effective way to collect the required auxiliary data, gain priorities from the User Group and demonstrate progress with product design.
- 3.2. What has become clear is that the lengths of coastline identified within Annex 4 to the PVP are being produced for Waterlines, however, to derive Datum Based Shorelines requires Auxiliary data beyond the key Focus areas.

ACTION: User Group to continue to provide Auxiliary Data over the full coastline or advise during the weekly production meeting that modelled data will suffice.

- 3.3. So far within Phase 2 two nations have had their first block of production with Ireland receiving 715Km of Waterlines and Quebec receiving 509Kms.

4. *User Group Product, Validation and Evaluation Feedback*

- 4.1. The User Group introduced this section by thanking the service group for the development and delivery, identifying that the Validation Document comments should be considered as evolving feedback to help develop the products and remarked that they were very pleased that the feasibility design was now maturing into a production capability with metadata and quality control procedures becoming a reality. They recognised how vital the Auxiliary Data requirements placed upon them were and all are actively sourcing that data. It was also recognised that access to some Auxiliary Data has been hampered due to COVID-19.
- 4.2. It was stated that the initial PVR should be considered as a first view based on the feasibility work and was akin to feedback as opposed to true validation. As production increases and develops a more mature validation and evaluation will be derived ready for the Final Review.
- 4.3. The Weekly Production meetings were fully endorsed as a great vehicle to ensure a team approach to optimising delivery and sharing knowledge, although connectivity has caused some problems.

ACTION: ARGANS Ltd - TEAMS will be used at the Teleworking method for the Weekly Production mtg.

- 4.4. Paula declared that the Spanish Ministry had now responded (COVID-19 added a small delay) to the Validation report and their comments will be included within the PVR and posted on the Coastal Erosion website within the Documents Section. In addition, it was declared that the current state of the SAR WLs and their standard deviation when viewed as whole meant a better understanding of what they represent is required, and they would clearly need more refinement in order to be used.

ACTION: IH Cantabria to forward Spanish Ministry validation report and ARGANS to incorporate and post.

- 4.5. Xavier & Paula both identified that use of commercial VHR data to improve the products would be something they would value and it was agreed that after the initial four 4 week production blocks (ie one per nation) had been concluded a review of next steps would be held and whether priority should be placed to redesign the processors to accept Commercial VHR would be required. It was stated by Martin that no budget for additional Commercial VHR existed in addition to the VHR images required for the precise co-registration of the Sentinel-2 images and so any decision to proceed down that route needed to be supported by the User Group supplying the VHR data.

ACTION: User Group to identify which Commercial VHR types there would be interested in and what holdings of Commercial VHR they could release to the project.

5. *ARGANS Ltd Approach to Metadata.*

- 5.1. It had been stated by the User Group earlier in the meeting that Metadata hadn't formally been identified as a requirement, however the whole consortium recognises its value and considerable effort has been devoted to its development. Steve presented the approach we will adopt and stated that for this Earth Observation project we can consider Metadata supporting three themes, namely, descriptive, structural and quality information.
- 5.2. A table of metadata contents has been developed engaging with all the processor owners within the production chain and this will be posted onto the website – documents page – so that the partners can review and send feedback. Four key question arose; *What metadata has been excluded that needs recording, what is the structure and content of Quality Information, how to retrofit metadata to current processed data and how would end-users like to access metadata, formats.*

ACTION: All to review Metadata Spreadsheet posted within the Documents Section of the Coastal Erosion website and provide feedback.

6. *Service Group Approach to Quality Control*

- 6.1. Anne-Laure introduced the topic stating that each processor required a bespoke approach and we considered the “**Internal Quality Control**” as those measures that can be automated within the processor and “**External Quality Assessment**” is the process of adopting external sources of data to judge whether our own data can be released or not. It's all about CONSISTENCY in the corpus of knowledge: what you've kept and considered as sound outputs are accepted by other experts that we believe are competent, so that we do not “break the rules”.
- 6.2. Each processor owner from ARGANS Ltd and IsardSAT gave a short presentation covering the internal and external QC processes for each product. This included a “heat map” approach for

waterlines, looking at internal products for sediment and organic suspended material to add masks, and looking at consistency within clusters for seafront mapping etc.

- 6.3. The QC associated with SAR Waterline products and the general understanding of what the SAR sensors were observing caused considerable discussion and it became clear that the level of understanding varied across the consortium. The relationship between coastal geometry/geology with ascending and descending satellite transit was not well understood, the effects of night and cloud cover, although much less obstructive to radar was also not understood and so it was agreed that a separate one-off meeting would be arranged to delve deeper into to enable IsardSAT (the group experts) to further explain the SAR WL QC and raise the general awareness and knowledge on what SAR is delivering.

ACTION: IsardSAT to arrange a SAR QC extraordinary working group meeting.

- 6.4. The presentations will be posted along with these minutes and the Progress Report #7 within the documents section of the coastal erosion website.

ACTION: Service Group to post QC presentations within the Coastal Erosion website.

- 6.5. Xavier asked if the internal products that support QC for SDB could be released and whether the thresholds used to define the masks using the metadata file could be shared.
- 6.6. It was made clear that these products are internal/intermediate products and wouldn't be "supplied" as official products via the webservice, however consideration will be given to "sharing" them.

ACTION: ARGANS Ltd to consider sharing internal QC products on a case by case specific basis.

7. *Webservices Demonstration*

- 7.1. Steve presentation the developments that have occurred over the last 2 months since the last Progress Meeting. One of the key tenets to designing a data base to support a web service delivery is to agree the naming convention for the products to enable efficient storage and retrieval. This approach will focus on Product files, Metadata files, Auxiliary Data files and Processor Log Files.
- 7.2. Steve identified the significant steps designed to meet the "back-end" need with a forecast that the remaining components required to deliver a Version 1.0 are currently 4 weeks away.
- 7.3. The "front-end" component will initially be based on PHP and at a later stage might be translated to Django which enables greater flexibility. Andres identified that he had encountered some previous using PHP with ESA.
- 7.4. The key questions posed to the User Group were: *Drop the PHP version front-end and commence work on the Django version 1.5 due end June? Exactly what are the Use Cases for end users' expectations on interacting with the interface?*
- 7.5. The presentation will be posted on the website.

ACTION: ARGANS Ltd Version 1.0 of the webservice to be available to partners to beta test week commencing 29 June

8. *Product Exploitation*

- 8.1. The User Group individually identified that via their stakeholder communities that interest was developing and that they all individually has expectations that such a service could be rolled out across their complete national coastlines, especially as they develop their Vulnerability Indices and Erosion Rates to adopt Earth Observation products.

- 8.2. ARGANS Ltd also identified that it was incorporating the developed technologies into its proposals but also stated that future exploitation must raise the profile within out thinking and it was agreed that Exploitation will become a standing Agenda item for the Progress Meetings.

POST MEETING NOTE: Following discussions after the meeting it is proposed that a Marketing/Exploitation Working Group is formed, chaired by Craig Jacobs (ARGANS Ltd) that will comprise a member of each element of the Consortium to develop the stakeholder engagement for a future market. The aim is to meet for an hour every fortnight with an aim to ensure contracts can be in place by the end of Phase 2 and also prepare presentations for the next PM#8.

9. Product Improvements

- 9.1. Anne-Laure introduced a series on product improvements that are currently being assessed.

These covered all the products and range from.

- assessing the multi sensor view leading to a 1km strip visible over the sea from S2
- assessment of cloud, cloud shadow and water artefacts on SDB
- Interpolation between land focused and ocean focused atmospheric corrections
- Sub-pixel analysis to reduce the zigzag effect seen on waterlines/shorelines
- Data gap resolution by interpolation and flagging
- Improved Waterline to Shoreline transformation
- Seafront line creation from the classification maps
- Better image selection based on a polygon cloud cover approach

- 9.2. IsardSAT briefed on their work looking at InSAR/StereoSAR to realise a terrain model covering the back of beach profile. FRML raised the issue of looking at different radar bands (TerraSAR and Cosmo-Skymed...potentially ICEYE) to conduct research to refine the beach DTMs and requested that GSI may wish to consider purchasing/obtaining said data with a view to further improving the Dublin data set.

ACTION: GSI to consider commercial SAR purchase to support further DTM research.

- 9.3. The slide decks will be posted on the Coastal Erosion website

10. Workshop Planning

- 10.1. The principles for the workshop were discussed last meeting, however it was agreed that no workshop could be planned before Sept 20 due the current COVID19 Pandemic. The proposed format for all national workshops suggested a single day event with part presentational on the project, the processes/production and its outcomes followed by a series of course featuring the value, capabilities and limitation of Remote Sensing in general, the products derived specific to Coastal Erosion and finally a course on the utility and application/wider employment of earth observation products within a wider user/stakeholder coastal management community.
- 10.2. Planning must now commence in earnest and assume a virtual workshop as a likely outcome but with a venue identified should condition enable. The need to identify a date for diaries and a list of invitees is now paramount. To support this approach, it was agreed to hold a Planning Meeting in late June by which time partners should have identified a date, a venue and a list of invitees.

ACTION: The User Group (working with the Service Group) to agree dates and initial list of invitees ready for a Planning Meeting to be held (via Teams) and to agree a date in week commencing 29 June.

11. Any Other Business

- 11.1. Andres introduced that BGS are working as PhD adviser to an Edinburgh University student researching S2 modelling.
- 11.2. Andres further stated for the record that he wished to share his thanks and that of the User Group to ARGANS for its management and drive and to the Service Group for its product approach.
12. If no comments/amendments are received by 8th June 20, the minutes will be considered a true reflection and recorded.

Action Summary			
No	Who	What	when
7.1	User Gp	One outstanding action remains for some of the User Group to supply the family tree for their national (regional and local coastal management systems).	ASAP
7.2	User Gp	User Group to continue to provide Auxiliary Data over the full coastline or advise during the weekly production meeting that modelled data will suffice.	Weekly Production Mtg
7.3	ARGANS Ltd	TEAMS will be used at the Teleworking method for the Weekly Production mtg.	From today
7.4	IH Cantabria	IH Cantabria to forward Spanish Ministry validation report and ARGANS to incorporate and post.	8 June 20
7.5	User Gp	User Group to identify which Commercial VHR types there would be interested in and what holdings of Commercial VHR they could release to the project.	1 Jul 20
7.6	User Gp/ IsardSAT	All to review Metadata Spreadsheet posted within the Documents Section of the Coastal Erosion website and provide feedback.	15 Jun 20
7.7	IsardSAT	IsardSAT to arrange a SAR QC extraordinary working group meeting.	15 Jun 20
7.8	GSI	GSI to consider commercial SAR purchase to support further DTM research.	29 Jun 20
7.9	ARGANS Ltd	Service Group to post QC presentations within the Coastal Erosion website. (all presentations will be posted)	8 Jun 20
7.10	ARGANS Ltd	ARGANS Ltd to consider sharing internal QC products on a case by case specific basis.	15 Jun 20
7.11	ARGANS Ltd	Version 1.0 of the webservice to be available to partners to beta test week commencing 29 June	29 Jun 20

7.12	ARGANS Ltd	The User Group (working with the Service Group) to agree dates and initial list of invitees ready for a Workshop Planning Meeting to be held (via Teams) and to agree a date in week commencing 29 June.	First meeting week commencing 29 Jun 20
PMN	ARGANS Ltd	POST MEETING NOTE: Following discussions after the meeting it is proposed that a Marketing/Exploitation Working Group is formed, chaired by Craig Jacobs (ARGANS Ltd) that will comprise a member of each element of the Consortium to develop the stakeholder engagement for a future market. The aim is to meet for an hour every fortnight with an aim to ensure contracts can be in place by the end of Phase 2 and also prepare presentations for the next PM#8.	First meeting week commencing 22 Jun 20