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Aeolus User Readiness

(Submitted by Stephen English)

Summary and Purpose of Document

Aeolus is widely recognised as one of the most important innovative satellite research missions in recent times. It is therefore a major opportunity to improve all aspects of weather analysis and prediction. User readiness is therefore very important and in this paper steps taken are briefly reviewed.

IPETSUP members are invited to take note of the plans for Aeolus user support and provide comments.

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Introduction

Aeolus is an ESA Core Explorer Mission with a Mission Requirements Document targeting impact in global NWP. The basis for the requirements is the WMO requirements. Aeolus was launched successfully on 22 August 2018 and initial evaluation of data quickly demonstrated the validity of the horizontal line of sight wind product. Aeolus entered Phase E2 on 31st January 2019. Further evaluation is on-going. The DG of EUMETSAT has also confirmed in writing to ESA EUMETSAT's intention to move programmatically forward with the preparation of a potential operational Doppler wind liar mission based on Aeolus.

User Support preparations

1. ESA-ESRIN will provide information to users via a website that is in the process of being setup.

2. Documentation, tools and the data access are ready. This was tested at the CAL/VAL rehearsal workshop in 2017 and as part of the ground segment overall validation. These aspects adhere to ESA standards which are consistent with CGMS best practice guidelines.

3. ESA have set aside resources for user support. The level of resource is based on experience from other missions as well as estimations from Aeolus experts. User queries will be handled by an ESA helpdesk in interaction with ESA staff, the PDGS (ESA Payload Data Ground Segment) and the

Aeolus DISC (Data Innovation and Science Cluster), comprising of product, processor and instrument experts.

4. The Aeolus MAG meeting end January 2019 and the Aeolus Cal/Val & Science workshop in March 2019 will also discuss user support to address any open issues.

Data Dissemination

1. Release of data to the world will happen after initial Cal/Val results are available, after the Cal/Val workshop, in Q2 2019.

2. All Aeolus products will then be provided in Earth Explorer format to the world in NRT, via the Aeolus data dissemination facility https://aeolus-ds.eo.esa.int/oads/access/collection, including download via the website and ftp options.

3. Furthermore, the L2B HLOS wind product will be provided in BUFR format by ECMWF and forwarded to EUMETSAT who will then distribute it to the world via GTS and EUMETCast.

Data Impact Demonstration and Communication

1. Leading national as well as international weather centers, such as for example ECMWF, MeteoFrance, KNMI, DWD, NOAA, Met Office, JMA and CMA, plan to evaluate data and potential impact.

2. Scientific exploitation and NWP impact activities will be organised via the Aeolus yearly workshops.

3. It is anticipated that further information will be presented to CGMS in 2019 meeting, though details are yet to be confirmed.

4. ESA will host an Aeolus Cal/Val and Science workshop in March 2019 which will plan the assimilation and impact activities for Aeolus in the coming year up to the WIGOS meeting in May 2020.

5. ESA, ECMWF and others continue to address other questions on how to communicate about the mission. This meeting will also address how we measure and communicate on the overall mission performance.

The plans for user support for the Aeolus mission appear to be thorough and complete, and IPETSUP-5 is invited to comment and to consider additional steps to ensure the maximum possible uptake of the remarkable opportunities arising from this mission.