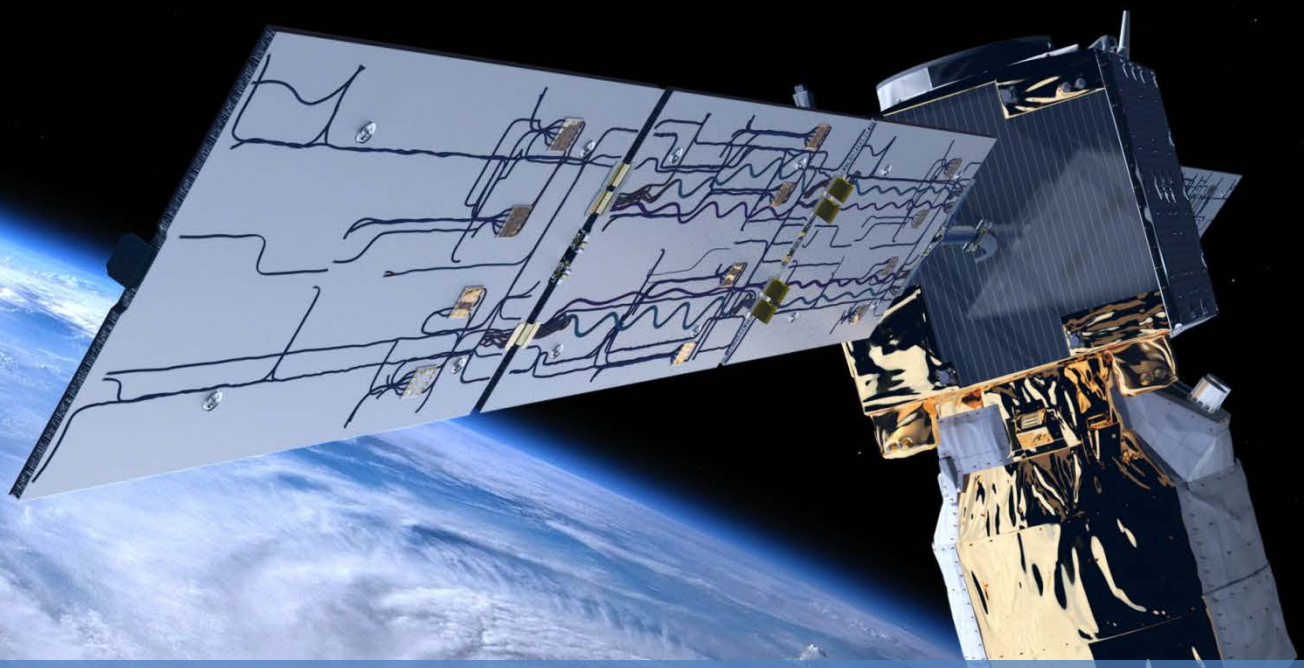

Summary Panel A discussions Cal-Val Requirements

Oliver Reitebuch and Anne Grete Straume

ADM-Aeolus CAL/VAL Rehearsal Workshop, Toulouse, France, 28-30 March 2017

Summary Panel A (1/5)

- CAL/VAL Implementation Plan is clear and relatively complete. Details still to be filled.
- **Expanding CAL/VAL teams and scientific team participation:**
  - More groups around the world with **MST Doppler radar** and lidar and aerosol lidars should be encouraged to join Aeolus CAL/VAL and product exploitation:
    - U. Singh offered to contact Indian lidar groups (during cal/val Session)
    - V. Lehmann will promote Aeolus and wind profiler meeting in Tokyo in May (Indian groups will participate); also some tropical sites
    - S. Ishii can also promote Aeolus in radar community
  - **CAL/VAL AO site will be reopened in 1-2 months time**, and will remain open. This will be announced.
  - Global radiosonde network and operational wind profiler network should be exploited
  - Google Loon small drifting balloon winds should become available (contacts with ECMWF)
  - G. Halloran: MetOffice share weather model with BOM and will encourage them to pick up Aeolus assimilation (during Morning Cal/Val session)

Summary Panel A (2/5)

- **Communication between ESA, expert teams and CAL/VAL teams**:
  - Password protected wiki page with mission planning, instrument health information, product quality information**, interactive page for PIs to upload information too,** reporting by teams at the end of commissioning phase, workshop, regular meetings and workshops in phase E2
- **When should/will the teams get access to data?**
  - Some teams would like to receive L1b product very early to start to look at Useful signal / atmospheric backscatter from selected scenes => no need to wait until fully processed winds
  - Some would like to wait for a reasonable L2b product, but doe not need to be perfect
- **When to launch campaigns**?
  - Not too early, wait for instrument and operation to become relatively stable and characterized. *Ground-based observations can start earlier.*
  - Not too late, CAL/VAL teams can help to detect/solve instrument and product issues
  - Industry and ESA will first verify instrument, ground segment data processing to L1 (including L0).
  - **First campaigns planned around summer 2018** and depend on planning of other projects (piggy-bagging on other campaigns). Driver is not always satellite schedule.

Summary Panel A (3/5)

- When to launch campaigns?
  - ESA will assess together with the algorithm teams when to announce that campaign preparations can start
- **Flexibility of vertical sampling and decision mechanism**:
  - Vertical sampling will be fixed for industry purpose at start of mission
  - Later optimized for impact NWP models
  - **Teams can apply for commanding of specific vertical sampling for campaigns.**
    - For specific regions or periods (ground/airborne campaigns), specific request for Strateole-2 ballon flights in winter 2018/2019 and 2020
    - Application to be sent to mission manager
    - He will assess with expert team in ESA , ECMWF and expert team f possible
    - When agreed, planning of sampling is uploaded weekly, change in commanding is trivial
    - Applications should be sent to ESA 2-3 months in advance

Reference or baseline orbit measurement track over specific sites

- Several observatories with enhanced atmospheric monitoring capabilities “supersites” a
- Optimisation process from ESA with support from ADMAG

Summary Panel A (4/5)

- **Cal/Val Requirements reflect instrument/mission requirements**
  - Cal/Val requirements (collocation, techniques, statistics) should be included in the implementation plan
  - Also atmospheric variability and representativeness needs to be addressed
  - Recommend to perform Triple Collocation (3 or more collocated observations), method developed by Ad Stoffelen
  - Not to be too restrictive in protocols, but in the analysis of the statistics

- **Organization and Information Distribution**
  - A WIKI page will be set up within the next 2-3 months; frequent updates on the mission status would be very valuable
  - A good example is the Cryosat Wiki page and also during larger airborne campaigns (e.g. NAWDEX) this was a very effective way of communicating
  - Encourage Cal/Val Teams to use the Wiki page for raising questions, issues, and reporting: it is an active forum
  - 1 Central Website (single point of entry) for information for instrument, algorithm, quality and cal/val and tools (overpass, data readers, and visualisation)

Summary Panel A (5/5)

- **Assessment of systematic errors**
  - Long-term datasets are needed to assess systematic errors
  - Challenge is number of usable collocations
  - Triple collocation might help

- **Other Topics**
  - For boundary layer comparison (wind, aerosol) the vertical resolution is rather coarse, and needs to be considered
  - PBL sampling needs to be known (not down to the earth surface)
  - Funding is not secured for many activities => actual personal working on it will probably not start before begin 2018
  - Tutorials and training materials might be very useful for those persons who work on colocation and validation
  - ADDF (Dissimination) should be open also this year and before launch for new person