

CGMS and IWWG



CGMS 45 outputs for IWWG

HLPPs have been updated for the period 2017-21.

HLPP 3.2.1:

Establish commonality in the derivation of AMV for global users where appropriate (e.g., through sharing of prototype algorithms) and consider backwards compatibility when designing AMV algorithms for the 16-channel imagers, so that present state-of-the-art algorithms can be applied to old imagery.

HLPP3.5.2:

Continue research into improved derivation and assimilation of high resolution winds for use in high resolution data assimilation and nowcasting. ICWG and IWWG to liaise as appropriate on the provision of further information characterising the AMV derivation for enhanced QC and error characterisation

CGMS 45 outputs for IWWG

Actions to IWWG from plenary.

A45.02 to CGMS space agencies, IROWG, IPWG, IWWG, ICWG, ITWG: CGMS International Science Working Groups and CGMS space agency members to formulate science questions, including the impact of data latency, in view of the 7th Impact WS 2020 (ref. CGMS-45-WMO-WP-02) and provide these to Iriishojgaard@wmo.int

A45.12 to IWWG: IWWG to prepare a proposal to CGMS on how to fund the analysis of the future

Action from WGII:

ACTION: IWWG to liaise with the NOAA representative on PSTG (Jeff Key, jeff.key@noaa.gov) regarding the potential use of 3D winds from AIRS for Year of Polar Prediction studies.

IWWG recent activities

- ✓ 3rd Intercomparison study. Dataset prepared, results to be send to Javier before 1st November
- ✓ Common QI. Piece of code developed by NOAA/CIMSS. To be used for 3rd Intercomp study
- ✓ Horizontal wind capabilities updated in OSCAR database. IWWG inputs sent to WMO
- ✓ New 2016 GCOS Implementation plan "The Global Observing System for Climate: Implementation Needs" reviewed and corrected for AMV products
- ✓ AMV BUFR sequence updated. Sent to WMO
- ✓ Contribution for the second Essential Climate Variables (ECV) Inventory Gap Analysis. (Régis for upper troposphere winds, Ad for surfaces winds)
- ✓ Preparation of IWW14 (Jeju Island, April 2018)

Scientific Roadmap for the Development of AMV Products: White Paper



AMV White Paper - Outline

- EUM/TSS/REP/17/933419: Scientific Roadmap for the Development of AMV Products: White Paper
- Content summary:
 - Securing the actual operational capabilities for AMV production
 - AMVs from GEO satellites
 - AMVs from LEO satellites
 - Future capabilities for operational AMV production
 - Sentinel AMVs
 - 3D winds from IR sounders
 - Consistent quality through international cooperation
 - Other dynamics related products of potential interest
 - Technical considerations on toolbox developments and algorithms overview
 - Challenges and risks

Toolbox strategy for future AMV algorithms

Algorithm baseline :

- AVHRR code (maintenance only)
- AMV Tool box for Imagers
- 3D wind Tool box for IR sounders

Green = operational
Blue = in development

	2017	2018	2019	2020	2021	2022	2023	2024
EPS/AVHRR Single	Green	Green	Green	Green	Green	Green	Green	Green
EPS/AVHRR Dual	Green	Green	Green	Green	Green	Green	Green	Green
MSG SEVIRI	Green	Green	Green	Green	Green	Green	Green	Green
MTG FCI	Blue	Blue	Blue	Blue	Green	Green	Green	Green
EPS-SG /METImage Single	Blue	Blue	Blue	Blue	Green	Green	Green	Green
EPS-SG /Dual MetImage/MetopC	Blue	Blue	Blue	Blue	Green	Green	Green	Green
S3 SLSTR Single	Blue	Blue	Green	Green	Green	Green	Green	Green
S3 SLSTR tandem	Blue	Blue	Green	Green	Green	Green	Green	Green
MTG IRS	Blue	Green	Green	Green	Green	Green	Green	Green
IASI	Blue	Green	Green	Green	Green	Green	Green	Green
IASI NG	Blue	Blue	Blue	Blue	Green	Green	Green	Green

Mid-term goal: essentially only 2 scientific baselines:

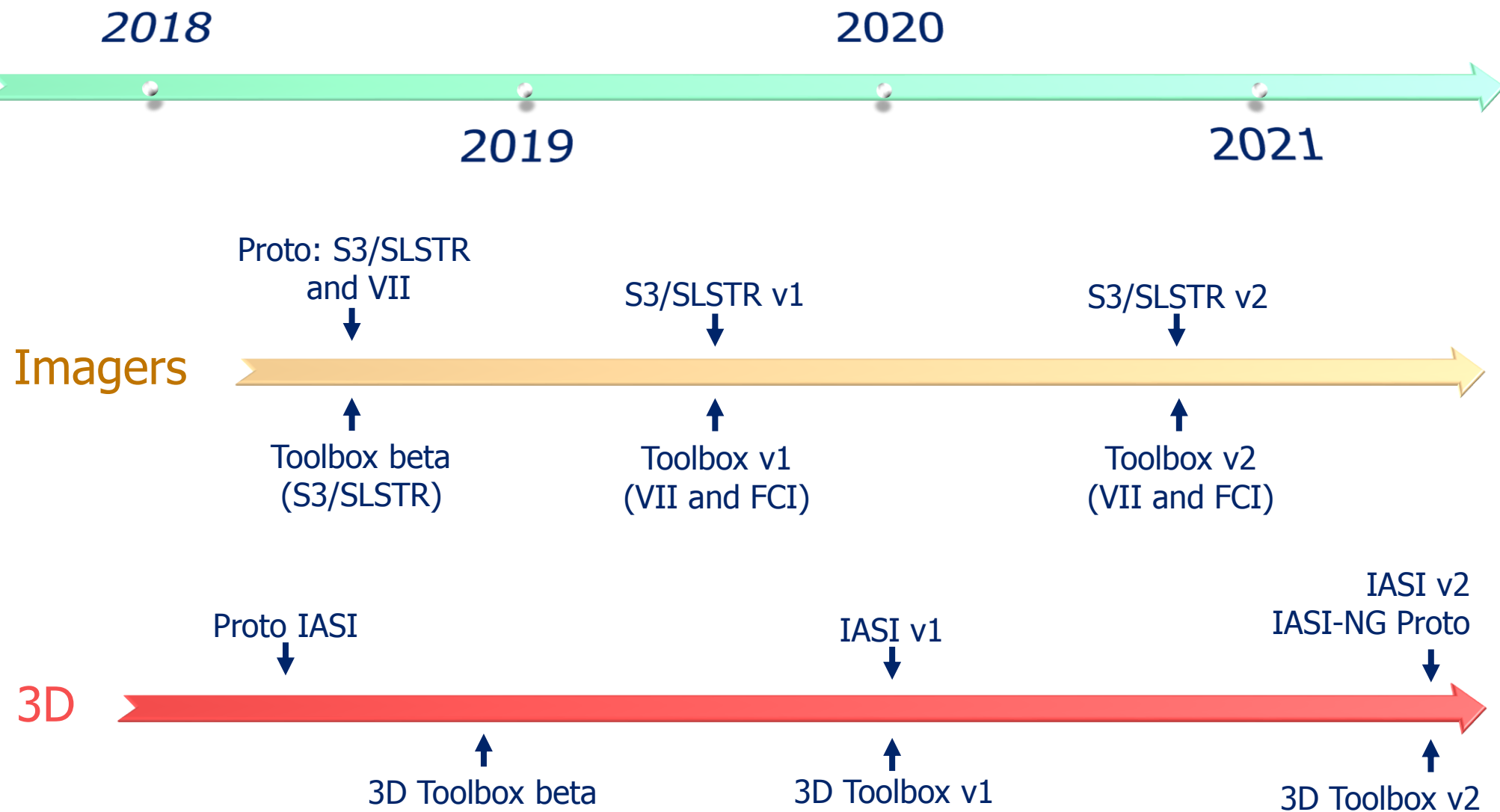
- 'AMV tool box' developed for Imagers from S3/SLSTR algorithm
- '3D wind tool box' developed for IR sounders from IASI winds algorithm

Summary

- The AMV products roadmap white paper aims to optimise the scientific support to the maintenance and development of AMV products at EUMETSAT during 2018-23.
- The development of toolbox for imagers and IR sounders is the main objective.
- The planned activities cover EUMETSAT programmes (MSG, MTG, EPS, EPS-SG) and Copernicus Sentinel-3 using Imagers and 3D IR sounders instruments.
- The increasing user need for uncertainty and quality information will be addressed.
- The consistency and global quality of AMV product will be sought through international cooperation.
- The implementation risks include resource availability, the continuity of expertise, and multiple implementation instances across programmes.

Tentative Roadmap Implementation

(to be reflected in the annual PDIP)



Thanks

Questions ?