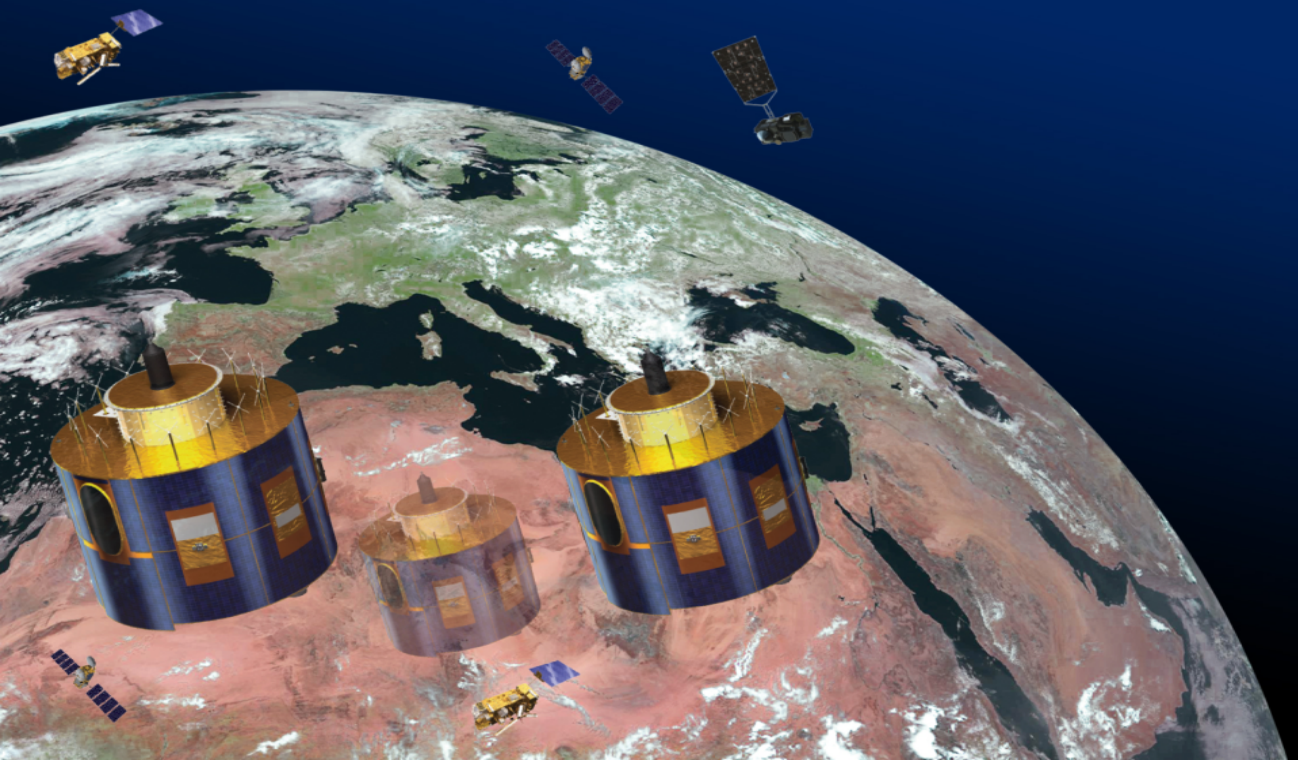

IRS Level 1 Format Feedback

May MAG

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IRSL1FS Relevant Open Issues

- **O.I.1 Spectra Radiance Scaling**
  - 16 bit scaling/WN provides sufficient range for the full spectra dataset (for power users)
  - Need to modify full spectra to allow negative radiances.
  - Removing per WN scaling for netCDF viewers would impact dynamic range.
  - PC radiances capture necessary dynamic range.
  - PC radiances simplified from variable 1/2/4 byte scaling to 4 byte.
- **O.I.5 DC-Images**
  - Requested by *MAG M3.Rec.2, but not currently provided in datasets*
  - Note the archive quicklooks are based on the DC-images and accessible via the Product Browser
  - *MAG recommends that this is important to provide detail on scene homogeneity ideally for both bands. Actual details of how that is presented are TBC.*
- **O.I.6 L1b Calibration Dataset**
  - As per action *M3.A.1: No Cal product foreseen at moment.*

IRSL1FS Internal Open Issues

- Open Issues on internal handling of data:
  - O.I.2 DPP/PAD definition
  - O.I.3 Manifest file definition
  - O.I.4 Special Datasets
  - O.I.7/8 Non-consolidated variables and missing source

Format Feedback from Miguel (1/2)

- **Addition of attribute *coordinate*:**
  - ✓ This is already part of the latest IRSL1FS (v3I)
  - ✓ EUM will check if more variables require this in next format update
- **Attributes *scale_factor* and *add_offset* fixed per datacube vs per WN:**
  - ❖ Rejected as this would impact the dynamic range. (see above - Related to O.I.1).
  - ❖ Full spectra only used by 'power' users so this is not seen as an issue.
- **Use of attributes *fill_value* and *valid_range*:**
  - ✓ Latest format (v3I) has *valid_range* attributes (6 entries)
  - ❖ Currently no *fill_values*. (Test team - assessment of next format familiarisation dataset – TBC when/resources poss summer)
- **Filename changes to help locating dwells on disc (Iac and dwell IDs):**
  - ✓ It is already there, clarify to MAG (see Dataset User Guide)
- **Use of NETcdf internal compression and removal of PC internal 1,2,4 byte encoding:**
  - ✓ 1/2/4 byte has now been removed to have single array (4 byte)
  - ✓ Internal compression is TBC – but not seen as an issue

Format Feedback from Miguel (2/2)

- **Avoid using deep group structure as this is more cumbersome to open (HDF is quicker as you can open whole path in one go)**
  - ❖ Users can read directly with HDF libs.
  - ❖ Future netCDF versions will probably evolve to do this as well.
- **Rotation of matrices and yaw flag:**
  - ✓ Propose the addition of a *yaw_flip* flag (in GFS part of format)
  - ✓ L1b data is geolocated so no issue of false positioning
  - ❖ TBC: how matrices are represented in each yaw config. Currently PS does not specify any rotation. This will be looked at for PDR update July/18.
- **Provision of radiance->BT conversion parameters for DC images:**
  - ❖ TBC with agreement to provide DC-images vs other scene homogeneity information

Additional L1 Format Issues

- Review of L1b content for updated L2PF IRS processing chain.
- Clarification of use of ICID and ICID version for users of dataset.
- TBC on any L0 level monitoring parameters that get included in L1b format

Summary

- Some format related actions still open
- FS O.I.s being worked on and updates planned for IDPF-S PDR and CDR
- Some of the MAG recommendations require a strong justification
- Issues raised in Format Feedback Doc have been addressed with a few TBCs
- On going alignment between L1 and L2 processing will be done over summer.