



NIWA
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GRUAN ozonesonde data product update

Richard Querel et al.

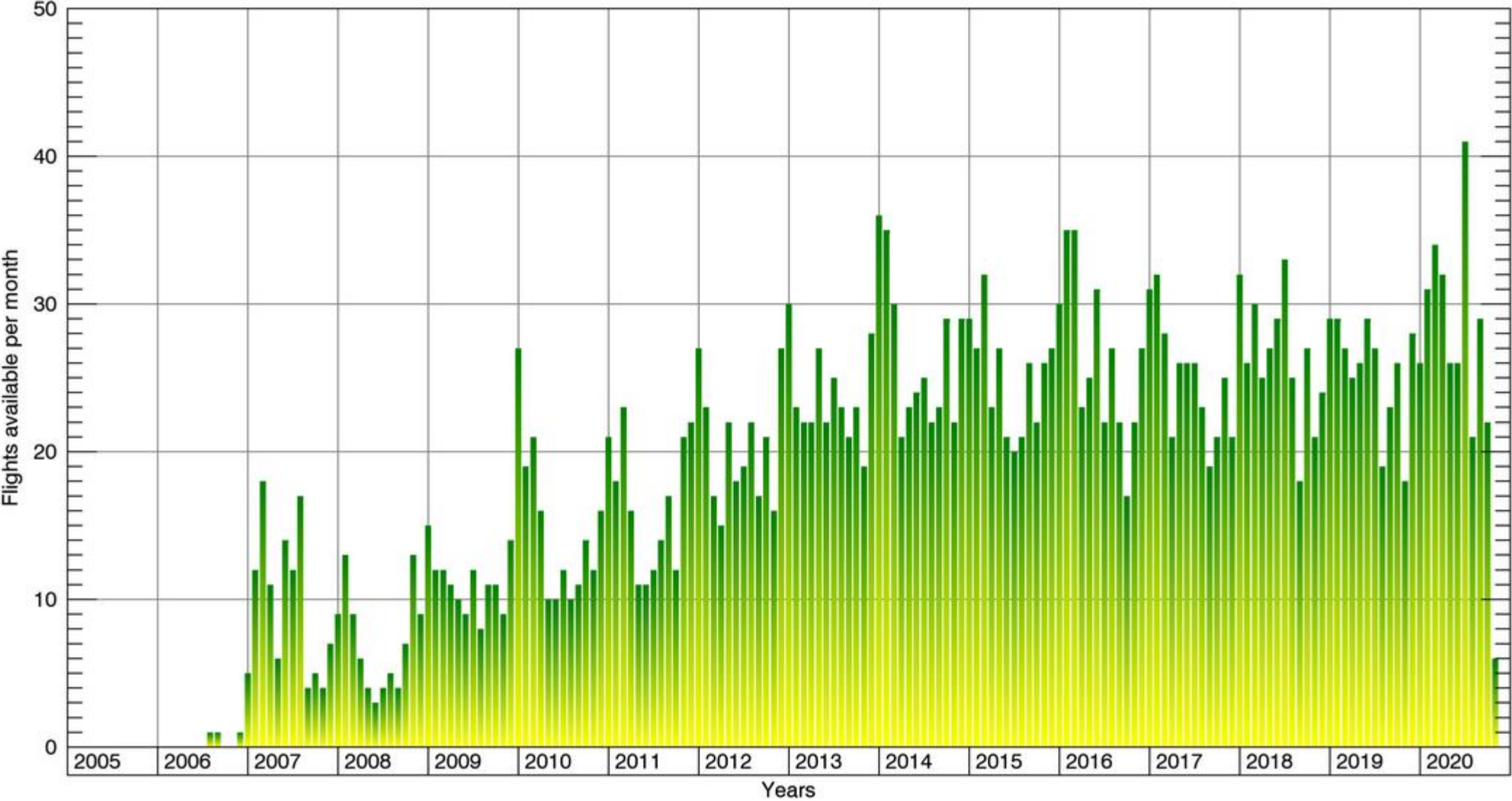
Virtual ICM-12

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Ozonesonde data product - progress

- The GRUAN Lead Centre already hosts 1000s of ozonesonde profile raw data (3395 as of 2020-11-15)
- The expectation is that the Lead Centre will process and host the ozonesonde data
- Computing ozone profiles from the raw data and meta-data is trivial
- Outstanding issues are defining a data format that conforms to GRUAN standards, but also includes the ASOPOS recommended parameters. Ideally naming will be consistent across formats too.
- Proper treatment of uncertainties is also essential

GRUAN Ozone Launches (total: 3395 at 2020-11-15)



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Ozonesonde data product - progress

- ASOPOS 2.0 report nearly complete: submit to WMO December 2020
- GRUAN to fully adopt its best-practice recommendations & SOPs
- Uncertainties are well described (incl. peer-reviewed papers)
- Additional ground-checks (i.e. comparison to UV photometer) to be recommended for “GRUAN” ozonesondes (likely the only difference)
- Eventual goal is for WOUDC / NDACC / SHADOZ / GRUAN ozonesondes to all provide identical profiles for the same flights, with interchangeable file formats (idealistic for now)
- File format converters already exist between these networks

Ozonesonde data product - progress

- Ian Boyd has recently created a draft ozonesonde GEOMS .hdf format for EVDC (ESA Atmospheric Validation Data Centre)
- e.g. NDACC is moving to GEOMS .hdf files for data submissions and until now ozonesondes have only been ASCII NASA Ames. GEOMS .hdf is the recommended format for satellite validation activities.
 - <https://evdc.esa.int/documentation/geoms/>
- Useful if the GRUAN netCDF and GEOMS hdf ozonesondes files could share common parameter naming conventions and include all recommended parameters (as defined in the ASOPOS report)
- An initial comparison between the GRUAN and ASOPOS data/meta-data parameter list has been made.

Ozonesonde data product - progress

- Difficulty will be with existing sites
- e.g. Lauder has a long-term ozonesonde record and does not follow all SOPs as defined by ASOPOS 2.0 report. Is it “GRUAN” then?
- For long-time-series the recommendation is to not alter processes...
- The new (ideal) ozonesonde SOPs are then more readily applied to new ozonesonde programmes and campaigns. Existing programmes are a bit trickier.
- One next area of investigation will be to look at these differences between new SOPs and existing SOPs and decide which elements can be changed and which (if any) are important to maintain.

Ozonesonde data product - progress

- With the finalised ASOPOS 2.0 report as starting point, a document with GRUAN-specific ozonesonde content can be produced.
- While Jacquie Witte had mostly completed a self-contained ozonesonde GDP document, my preference is to build on the peer-reviewed ASOPOS 2.0 report as reference material and produce a short document containing only the GRUAN-specific content.
- Anne Thompson (ASOPOS/SHADOZ) has offered to be involved with this new GRUAN specification ozonesonde document
- Holger Vömel, Matt Tully and Ankie PETERS have also offered to contribute.

Thanks!