NWP Sub-Group

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Statement to CGMS

1.

IROWG **recognises the rapid progress** that has been made in the **exploitation of commercial observations**.

The progression to the routine operational assimilation of these data at a number of centres has been a demonstration of effective inter-agency collaboration.

Statement to CGMS

2.

IROWG supports the statements that CGMS has given on the desirable number of observations for the baseline and target observing systems.

Some members expressed the view that the **target observation quantities** should be **increased**. It was agreed that we would await results from the proposed ROMEX experiment, which seeks to acquire all RO data from all missions, including commercial missions, to obtain a very large number (32,000 or more per day) of real RO data for a limited period of time (approximately 3 month) for testing of impact vs. number of occultations in operational NWP, as well as to provide a unique research data set. It is hoped that this will provide a sound basis for future statements on the desirable number of observations and validate the results of EDA studies and OSSEs.

Recommendation to CGMS

1.

IROWG strongly supports an **open data policy** towards the purchase of commercial RO data, and recommends that all agencies follow this model.

IROWG believes that the free and open exchange of data contributes to the greatest improvements in forecast quality, due to the ability to compare processing methods and assimilation techniques.

Recommendation to CGMS

2.

IROWG reaffirms our support for a publicly funded baseline of government funded high-quality observations.

The rationale for this statement is that agency funded missions can provide stable, long-term, traceable and reliable observations. The expertise of publicly funded data-processing centres is invaluable in assessing and archiving commercial data provision. They also help to reduce the risk to the global observing system if one or more commercial providers were to go out of business, or if the market became dominated by a single player. The CGMS baseline also provides a reference point against which the commercial companies can compare and innovate.

Recommendations within IROWG

1.

For reanalysis and other purposes, it is helpful to have archives of large RO quantities.

IROWG encourages institutions to **purchase full datasets** (with all observations and low-level data) and to make these available to the global community. The procured data should also be archived and be subject to regular reprocessing activities.

Recommendations within IROWG

2.

IROWG recommends an action to every operational processing centre to **provide a clear set of detailed documentation on their procedures** (QC, smoothing, etc.).

These should be produced in a timely manner (i.e. as release notes to be a part of the data release).

Recommendations within IROWG

3.

IROWG has noted that a number of important **research topics** which deserve attention in the coming years.

- IROWG encourages the community to investigate **whether additional benefit can be extracted from RO measurements in the lower troposphere**. With a particular thought on how SNR affects this usefulness. (high priority)

- Observation operators for **polarimetric and aircraft RO** are currently being developed. Once these operators are ready, IROWG encourages **experimentation** with these new observations and operators. (high priority)

- IROWG recommends that agencies investigate **the potential of GNSS-R measurements** (both nadir and grazing angle), working with scientists from relevant other communities as needed. (medium priority)

- IROWG encourages the **renewed lab measurements of the k1, k2 coefficients** as used in the calculation of refractivity. (low priority)

Action within IROWG

1.

The science of radio occultation depends upon accurate geodetic data for precise orbit determination. IROWG discussed the need for a variety of services to be available which meets this need.

J. Haase to conduct a survey of the ground-station infrastructure which is used by the RO community.

Recommendations within Sub-Group