**The GAIA-CLIM project: Making more optimal use of non-satellite data to characterise data from satellites**

***Peter Thorne1, Anna Mikalsen2, Fabio Madonna3, Karin Kreher4, Jean-Christopher Lambert5, Bill Bell6, Joerg Schulz7, Martine de Maziere5, Bruce Ingleby8, Gerrit de Leeuw9, Alessandro Fasso10***

***1****Maynooth University, Maynooth, Ireland*

**2***NERSC, Bergen, Norway*

**3** *CNR, Potenza, Italy*

**4** BKS, Germany

**5** BIRA-IASB, Brussels, Belgium

**6** Met Office, Exeter, UK

**7** EUMETSAT, Darmstadt, Germany

**8** ECMWF, Reading, UK

**9** FMI, Helsinki, Finland

**10** University of Bergamo, Bergamo, Italy

The GAIA-CLIM project is a Horizon 2020 project running 2015-2018 that brings together 18 European partners to advance our ability to use non-satellite measurements to characterise satellite data. The project aims to achieve this by using high quality, metrologically well-characterised data such as those arising from GRUAN, NDACC and TCCON, and understanding the inevitable additional uncertainty in any comparison arising from non-coincidence of satellite and non-satellite measurements. Use of such an approach assures a meaningful assessment of the satellite data. Several approaches shall be developed and compared.

A Virtual Observatory facility to visualise and analyse the co-locations arising shall be developed by several partners and hosted by EUMETSAT, as a demonstrator of capabilities. Possible avenues to operationalization of this facility shall be given, but such operationalization necessarily will require a different mechanism than a time-bounded research project.

The project is also to provide an inventory of remaining gaps and their impacts leading to a documentation of prioritised recommendations as to next steps to improve our ability to use non-satellite data to characterise satellite data. This shall be developed in concert with the broader community through a series of user workshops as well as solicited input. An early draft of the gaps analysis and impacts document and feedback template is available at [www.gaia-clim.eu/page/gaid](http://www.gaia-clim.eu/page/gaid) . This presentation shall outline project aims, structure, and important outcomes to date.