**The Essential Climate Variable Greenhouse Gases as generated by the ESA project GHG-CCI**

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The GHG-CCI project is one of several projects of the European Space Agency’s (ESA) Climate Change Initiative (CCI). The goal of the CCI is to generate and deliver data sets of various satellite-derived Essential Climate Variables (ECVs) in line with GCOS (Global Climate Observing System) requirements. The “ECV Greenhouse Gases” (ECV GHG) is the global distribution of important climate relevant gases – specifically atmospheric CO2 and CH4 - with a quality sufficient to obtain information on regional CO2 and CH4 sources and sinks. The main goal of GHG-CCI is to generate long-term highly accurate and precise time series of global near-surface sensitive satellite observations of CO2 and CH4. SCIAMACHY on ENVISAT and TANSO-FTS/GOSAT are currently the two main satellite instruments used within the GHG-CCI project because multi-year time series of near-surface sensitive atmospheric CO2 and CH4 data products can be derived from their radiance observations. In addition other satellite instruments such as IASI/METOP and MIPAS/ENVISAT are also used. In the presentation an overview about the latest data products will be given and selected highlights from using the GHG-CCI data products to address important questions related to the sources and sinks of CO2 and methane will be presented.