

Characterisation of the ionized atmosphere in terms of essential variables

Aim is to establish a multi-disciplinary network of scientists to integrate geodetic and geophysical technologies for comprehensive monitoring of the ionized atmosphere in terms of essential Earth observation variables (EVs). The definition and provision of these EVs will lead to the overall improvement of societal well-being by identifying risks and mitigating the impact of space weather extremes on critical infrastructures for daily life.

The main objective of this project is to convene experts from IAGA, as the organisation leading the understanding of properties related, e.g. to the ionosphere and magnetosphere as well as to the Sun and the solar wind, and the IAG, as the organisation advancing geodesy, to assess the feasibility of describing the main characteristics of the ionization-based stratification of the atmosphere in terms of EVs. IAGA's main contribution is the high-level of knowledge, understanding and geophysical modelling of the physical processes that govern the Sun's influence on the atmosphere, while IAG's contribution is based on the detection and mathematical modelling of the effects caused by those processes on geodetic measurements.