



Mission statement

The EISCAT Scientific Association exists to provide scientists with access to incoherent scatter radar facilities of the highest technical standard:

- by developing and operating a continuing program of observatory measurements in cooperation with other ground-based and space-borne instruments and as part of the global network of incoherent scatter radars, the EISCAT Scientific Association seeks to provide a long-term database of ionospheric measurements of the highest quality.
- by supporting and operating the particular experiments of individual, and groups of, visiting scientists, EISCAT seeks to allow its users to address the widest possible range of research activities particularly in the areas of geospace and basic plasma physics.
- by providing leadership in the design and construction of hardware and software to support these goals, the EISCAT Scientific Association seeks to provide educational opportunities for young scientists and to foster appropriate Knowledge Transfer and Economic Impact.
- by developing and maintaining a well-founded science strategy, EISCAT seeks to provide a framework for the development of EISCAT-supported science and for the evaluation and development of scientific programs within the overall field.

Scientific Strategy

To understand the various forms of coupling between the Sun, the interplanetary medium, the terrestrial magnetosphere, ionosphere, and atmosphere of the high-latitude regions, natural and anthropogenic forcing, and related plasma physics and dynamics, and to achieve the necessary knowledge, understanding, principals, and techniques which would allow mankind to monitor, predict, and mitigate such processes within the next 30 years.



Antenna in aurora. Photo by Craig Heinselmann

Specific goals

To develop large-scale facilities, techniques, and methods and, together with other ground-based and space-borne instruments, and as part of the global network of incoherent scatter and other middle and upper atmosphere radars, to encourage and undertake high quality research related to the Global Goal through studies addressing:

- Behaviour and energy budget of the high-latitude regions, including space weather effects
- Fundamental plasma physics and dynamic processes in the near-Earth space environment
- Trends in atmospheric and ionospheric conditions, including long term/global change
- Properties and dynamics of the interplanetary environment
- Parameterisation of these processes and the development of techniques for their prediction