The Swarm mission was selected as the 5th mission in ESA's Earth Explorer Programme in 2004. This mission aims at measuring the Earth's magnetic field with unprecedented accuracy. This will be done by a constellation of three satellites, where two will fly at lower altitude, measuring the gradient of the magnetic field, and one satellite will fly at higher altitude. The measured magnetic field is the sum of many contributions including both magnetic fields and currents in the Earth's interior and electrical currents in Geospace. In order to separate all these sources electric field and plasma measurements will also be made to complement the primary magnetic field measurements. Together these will allow the deduction of information on a series of solid earth processes responsible for the creation of the fields measured. The completeness of the measurements on each satellite and the constellation aspect, however, implies simultaneous observations of a unique set of important electrodynamical parameters crucial for the understanding of the physical processes in Geospace, which are an important part of the objectives of the International Living With a Star Programme, ILWS. In this paper an overview of the Swarm science objectives, the mission concept, the scientific instrumentation, and the expected contribution to the ILWS programme will be summarized. (C) 2007 Published by Elsevier Ltd on behalf of COSPAR.