



ESA's Future Candidate Earth Explorer: Phase A Mission Concepts

K. Scipal and the ESA Team

European Space Agency, Netherlands (klaus.scipal@esa.int)

The European Space Agency released a call for ideas for the next Earth Explorer Core Mission in March 2005. Twenty-four proposals were received and carefully reviewed on scientific and technical aspects. Six proposals have been selected for further study during Phase 0. The six candidate explorer missions are A-SCOPE (Advanced Space Carbon and Climate Observatorium of Planet Earth), BIOMASS (for global measurements of forest biomass), CoReH2O (Cold Regions Hydrology high-resolution Observatory), FLEX (Fluorescence Explorer), PREMIER (Process Exploration through Measurements of Infrared and millimetre-wave Emitted Radiation) and TRAQ (TRopospheric composition and Air Quality).

The technical and scientific Phase 0 studies are the basis for a further down-selection to up to three missions to proceed in the feasibility Phase A. In January 2009, after a User Consultation Meeting, ESA's Earth Science Advisory Committee will advise the Director of Earth Observation Programs on the selection of missions to proceed to Phase A. Based on a proposal of the Director the Earth Observation Program Board is then expected to make a formal selection in February 2009. One candidate mission will finally be implemented as the 7th Earth Explorer with a foreseen launch in 2016.

In this paper we describe the scientific background, the mission objectives, the observation requirements, the mission concept and the mission elements of the selected Phase A candidate missions.