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Frascati, 12 March 2013

**Subject: ESAC Recommendation on the ESA Earth Explorer-7 Mission Selection**

Dear Lead Investigators and Members of the Biomass, CoReH<sub>2</sub>O and PREMIER Mission Advisory Groups,

On behalf of ESA, I wish to extend my sincere gratitude for your contribution to the preparation of the Candidate Earth Explorer-7 missions. The User Consultation Meeting taking place in Graz last week was an impressive demonstration of very sound scientific investigations and a tremendous preparatory effort.

Your support is valued to ensure that science-driven missions remain a key element of the ESA Earth Observation programmes landscape. ESA and its Earth Science Advisory Committee (ESAC) acknowledge the importance and value of the comprehensive set of information assembled as the foundation to recommendations which the ESAC will now have to make to the Executive, who wishes in particular to pay compliments to the high quality of presentations made at the User Consultation Meeting. In addition, recognition is given to the sustained scientific contributions made by the Mission Advisory Groups (MAG) throughout the preparation of the Reports for Mission Selection and accompanying addenda. The intellectual investment of the MAG members into the candidate Explorers on behalf of the science community is a fundamental and highly valued hallmark of the Earth Observation Envelope Programme.

Directly after the User Consultation Meeting ESAC met for its deliberations and I have today received from its chairman the main overarching recommendation, which I want to share with you:

**ESAC recommendation on ESA's EE-7 Candidate Missions following the Earth Explorer-7 Selection User Consultation Meeting, Graz, Austria 5&6 March 2013**

"ESA's Earth Sciences Advisory Committee (ESAC) was presented with three very strong candidates to evaluate for ESA's Earth Explorer-7 mission: Biomass, CoReH<sub>2</sub>O and PREMIER.

ESAC recommends that the Biomass mission should be selected for further development and eventual deployment. ESAC considers that Biomass breaks new ground in providing, for the first time from space, P-band radar measurements that are optimized to determine the amount of biomass and carbon stored in the world's forests. This information is very

poorly known in the tropics and in remote areas, and is essential for us to understand the role of forests in the Earth's carbon cycle and in climate change. Biomass uses several innovative measurement techniques, which, along with measurements on the ground, can be combined to determine forest biomass and carbon with greater accuracy than ever before. The measurements offer additional scope to map the elevation of the Earth's terrain under dense vegetation, to give information on sub-surface geology, and to estimate glacier and ice-sheet velocities. By monitoring changes in the Earth's forests, both natural and man-made, Biomass will make a valuable contribution to the United Nations REDD Programme, an international effort to reduce carbon emissions from deforestation and forest degradation in developing countries.

The unique measurements of Biomass make it a true Earth Explorer mission. ESAC also recognizes its potential to evolve into an operational system, to provide long term monitoring of one of Earth's most important natural resources, its forests. The Biomass mission will be another example of how pioneering developments in science and technology by ESA's Earth Observation Envelope Programme offer great potential to be exploited for the benefit of society.

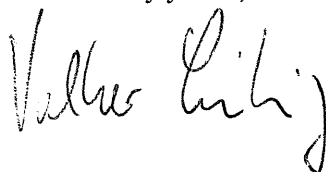
ESAC notes that the other candidate missions, CoReH<sub>2</sub>O and PREMIER, would offer considerable value for science and society if they could be developed further. ESAC will offer specific advice to ESA on how this potential might be realized."

Allow me to emphasise, that the above is the formal recommendation by ESAC to the Executive. The final decision on the selection of the Earth Explorer-7 mission will be taken by the Earth Observation Programme Board (PB-EO) and is scheduled for its forthcoming meeting in May 2013, on the basis of the recommendation made by ESAC. Until then there is no formal decision.

Let me thank you again for your tremendous effort and dedication, which have produced outstanding mission concepts and which evidence the value of our Earth Explorer process.

I shall keep you informed on the decision by the PB-EO.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Volker Liebig', written in a cursive style.

Prof. Volker Liebig  
Director of Earth Observation Programmes