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REVIEW OF THE MEPAG REPORT ON MARS SPECIAL REGIONS: A JOINT PUBLICATION OF THE NATIONAL ACADEMIES AND THE EUROPEAN SCIENCE FOUNDATION

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We present an overview of the recent joint report of the National Academies of Sciences, Engineering and Medicine and the European Science Foundation on the subject of Mars Special Regions. The joint committee of US and European scientists was tasked to review the current planetary protection requirements for Mars Special Regions and their proposed revision as outlined in the 2014 Special Regions report of the Mars Exploration Program Analysis Group (MEPAG). The joint committee concluded its work on August 2015 and presented its findings to the COSPAR planetary protection panel on September 2015. The paper includes an overview of the overall process and summarizes the joint committees findings on biological, geological and thermodynamical aspects relevant to the Mars Special Regions definition. The report also considered aspects of Human Exploration of Mars and what that signifies for the Mars Special regions concept and policy. We conclude with an update to the definition of Mars Special regions, based on the findings of the report and identification of several critical scientific questions regarding special regions that remain unanswered regarding Mars Special Regions.