

**THE RADARSAT CONSTELLATION MISSION:
MEETING THE GOVERNMENT OF CANADA'S NEEDS AND
REQUIREMENTS**

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Phase B – Preliminary Design – of the RADARSAT Constellation Mission (RCM) kicked off in December of 2008. The RCM will consist of three satellites (with the possibility for more) flying in a constellation. The first satellite is targeted for launch in the Spring of 2014 with the others to follow at 15-month intervals. The focus of the mission is on meeting Government of Canada User Department's needs and requirements in three Core Use Areas: Maritime Surveillance, Disaster Management, and Ecosystem Monitoring. During Phase A, a User Requirements Document (URD) was generated by the User and Science Team (U&ST) with representation from each of the stakeholder Government Departments. A Mission Requirements Document (MRD) was generated by the Canadian Space Agency (CSA) Mission Management Team in conjunction with industry derived from the URD. The MRD is the top-level document which describes the RCM objectives and requirements.

In this paper, we describe the overall RCM design and concept including baseline imaging modes and capabilities. The constellation concept is designed as a wide area monitoring system, offering medium resolution information on a daily basis. We then discuss the unique capabilities of the constellation particularly related to coverage and revisit as it pertains to meeting the needs of each of the three Core Use Area applications. Finally, we outline the approach and activities being undertaken in the development of a Data Utilization Plan to ensure that the Canadian user departments and agencies will be ready to use data from the RCM on Day 1 of the launch of the first satellite.