

INTERACTIVE WEBMAP-BASED SCIENCE-PLANNING FOR BEPICOLOMBO. J. P. McAuliffe¹, S. Martinez¹ and Iñaki Ortiz de Landaluce², ¹ISDEFE for The European Space Agency (ESA), European Space Astronomy Centre (ESAC), Camino bajo del Castillo, s/n Urbanización Villafranca del Castillo, Villanueva de la Cañada, E-28692 Madrid, Spain. ²Serco for The European Space Agency (ESA), European Space Astronomy Centre (ESAC), Camino bajo del Castillo, s/n Urbanización Villafranca del Castillo, Villanueva de la Cañada, E-28692 Madrid, Spain. Contact: jonathan.mcauliffe@esa.int

Introduction: For BepiColombo, ESA's Mission to Mercury, we plan to build a web-based, map-based interface to the Science Planning System. This interface will allow the mission's science teams to visually define targets for observations and interactively specify what operations will make up the given observation. This will be a radical departure from previous ESA mission planning methods. Such an interface will rely heavily on GIS technologies.

Details: This interface will provide footprint coverage of all existing archived data for Mercury, including a set of built-in basemaps. This will allow the science teams to analyse their planned observations and operational constraints with relevant contextual information from their own instrument, other BepiColombo instruments or from previous missions. The interface will allow users to import and export data in commonly used GIS formats, such that it can be visualized together with the latest planning information

(e.g. import custom basemaps) or analysed in other GIS software.

The interface will work with an *object-oriented concept of an observation* that will be a key characteristic of the overall BepiColombo science-planning concept. Observation templates or classes will be tracked right through the planning-execution-processing-archiving cycle to the final archived science products.

By using an interface that synthesizes all relevant available information, the science teams will have a better understanding of the operational environment; it will enhance their ability to plan efficiently, minimize or remove manual planning steps and maximize the science return of the mission. Interactive 3D visualization of the planned, scheduled and executed observations, simulation of the viewing conditions and interactive modification of the observation parameters are also being considered.

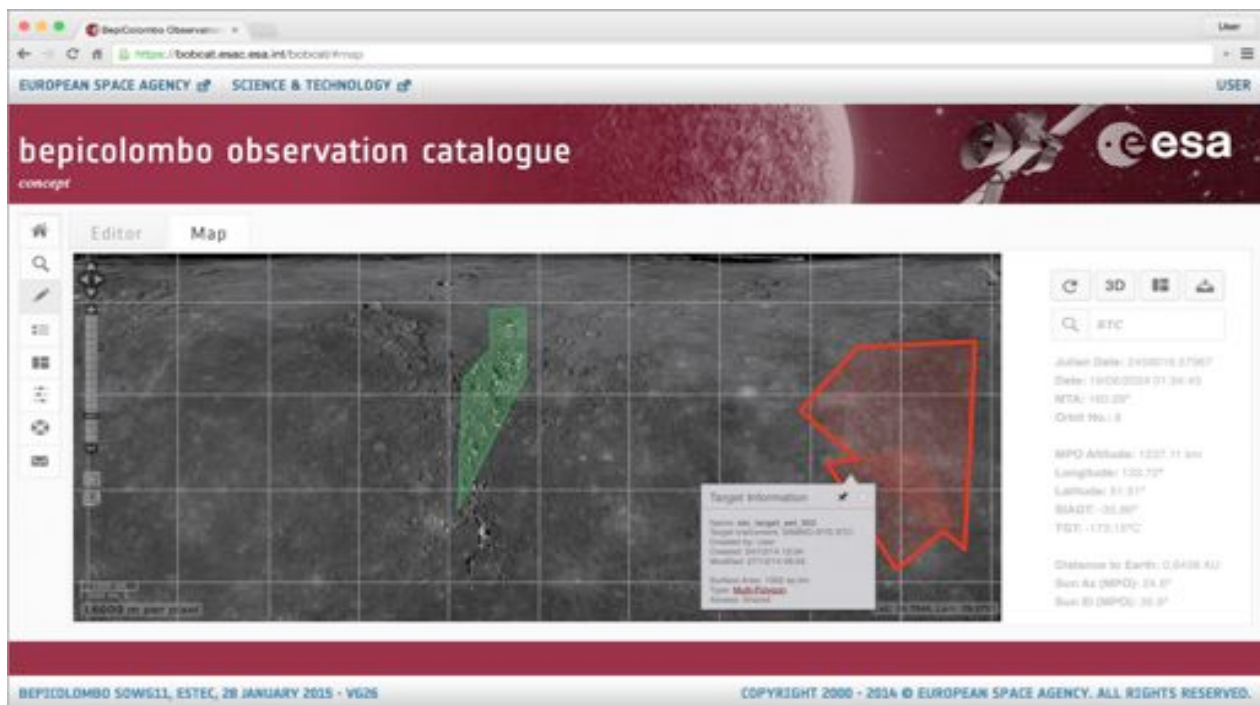


Figure 1: Mockup of the map interface of the BepiColombo Observation Catalogue. Users can interactively specify areas on the map and (1) define them as areas for observation or (2) query previously collected or planned data for that area.