

Science Objective Summary and **Science Weekly Debrief**

DOY 269: The spacecraft will re-fly Baseball Diamond Flyby 2 to complete the dataset needed to produce global color maps of the asteroid surface. MapCam will acquire full color sets in a 3x1 point-and-stare scan pattern every 18 degrees of Bennu rotation. The observations are designed to cover Bennu's polar diameter. OVIRS and OTES will ride along.

Science Weekly Debrief

For slides and the WebEx recording on ODOCS, click [here](#) then follow the path: Folders \ Documents and Drawings \ OSIRIS-REx Bennu Proximity Operations \ Science Status \ Science Weekly \ 2019-09-26.

Working group & instrument team updates

- [OVIRS bad pixel map update](#) – Amy Simon

The new onboard bad pixel maps are operating as expected. Corresponding new ground files have been added to the cal/val pipeline. These updates will apply to all data from 19 September onward. See the OVIRS slides on ODOCS for details.

- [IPWG](#) – Dani DellaGiustina

Two major products were recently delivered: the global basemap (now on ODOCS) and the global photometric models (now on SPOCflight). The corresponding manuscripts for these products (Bennett et al. and Golish et al., respectively) have been submitted for project-level review. N.B. The photometric models are not part of the OCAMS pipeline, but rather are available for users to apply on their own depending on their end goal. Different models are appropriate for different correction needs. The Golish et al. manuscript contains recommendations. For example, ROLO is preferred for low-phase data because it captures the opposition surge, and Minnaert may be better for mid-phase data.

- [AWG/particle science](#) – Carl Hergenrother

All Orbital C high-cadence particle monitoring data have now been run through the Catalina Sky Survey code. A “major” ejection event with 25 to 30 particles has been detected in images from 14 September. The event appears to have occurred between two images in a pair. Earlier data (e.g., from Orbital A) is being reexamined for objects that may have been missed.

Science productivity & deliverables updates

- [Publications status](#) – Cat Wolner

A [table of foundational references](#)—that is, references to consistently cite for key elements of the OSIRIS-REx mission (instruments, data processing, etc.) and Bennu science (pre-encounter and encounter)—is now available on the Science Team Wiki and linked from the publication guide. The latest version of the publication guide with this and other minor updates is available on ODOCS (Prox Ops \ Science Status \ Publication Information) and the Science Team Wiki (search for the Publications page).

See the “pubs” slides on ODOCS for a list of papers recently added to the publication plan and papers at or near journal submission. A recent OREX publication is Choi et al., [Successful Use of Microporous Polytetrafluoroethylene Flexible Thin Sheets in NASA’s OSIRIS-REx Mission](#), Proc. AIAA Propulsion and Energy Forum 2019.

- [Baseball Diamond Flyby 2 Redux](#) – Mike Nolan

Data from the re-fly of Baseball Diamond Flyby 2 will begin coming down this weekend. [Post-meeting update: The data are expected to be fully down by Wednesday 2 October.]

Upcoming meetings

The next Science Weekly meeting will take place Thursday 3 October.