

Supporting Information for

**Charon: A brief history of tides**

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**Additional Supporting Information (Files uploaded separately)**

Caption for Dataset S1

**Introduction**

The supporting information includes a workbook with two spreadsheets. The first spreadsheet lists the locations of mapped features, the orientation measured at each location, and a measurement confidence, along with some other information about the feature. We compared this data with the predictions from our tidal stress model. The second spreadsheet lists the parameter values associated with each interior structure, which are used as inputs to the tidal stress calculations. The equations we use to calculate stresses can be found in Jara-Orue and Vermeersen (2011) and in Appendix A of Rhoden et al. (2017). We have used the same variable names for easy reference.

Data Set S1. A workbook containing (1) identifying information, including location, morphologic type, orientation, and measurement confidence for mapped features on Charon that were used in this study and (2) parameter values that describe the tidal response of each interior structure model, which are inputs into the tidal stress calculations. Measurements of mapped features were made in ArcGIS. The longitude range is -180° to 180°, east positive, and 0° is aligned with the sub-Pluto point. The orientation is giving in degrees clockwise from north. Feature types were assigned by Robbins et al. (2019) and not modified as part of this study.