Importing Custom Data
This SBMT tutorial explains how to:

- Import a custom shape model.
- Import custom images.
- Import custom altimetry tracks.
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Adding a new custom shape model

- Users can import custom shape models of their choice (e.g., add a body that doesn’t exist in the SBMT or add a different model for an existing body).

- Custom shape models have some, but not all, of the functionality available for built-in bodies (e.g., the structures tab works, but spacecraft data are not available unless imported as custom data).
To add a custom shape model, click on "Body" → "Custom Shape Models" → "Import Shape Models...". This will open a dialog box (see next slide).
Click “New...” to add a new custom shape model.

Click “Edit...” to edit an existing custom shape model.

Click “Duplicate...” to duplicate an existing custom shape model.

Click “Remove” to remove an existing custom shape model.

Click “Close” to close the dialog box.
Clicking “New” opens this dialog.

Give the body a name (e.g., Janus).
Users can create a triaxial ellipsoid to represent a ellipsoidal body, such as Mercury. The default resolution of 360 works well in most cases.
Alternatively, users can import a 3D shape model in PDS, OBJ, VTK, or FIT formats. Use the “Browse...” button to navigate to the file to be imported, and use the “Format” dropdown menu to select the correct file format.
Click “OK” to finish.
Click “Close” to close the Import Shape Models dialog.
To see the newly added body, click on “Body” → “Custom Shape Models” → and then the name of the custom shape model (Janus, in this case.)
The body now appears in the rendering panel. The control panel has the main body tab, the structures tab, custom data tab, and regional DTMs tab.

Note: Custom models do not have standard plate colorings, but users can use the “Customize Plate Coloring...” option to add their own plate colorings.
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Adding custom images

- Users can import custom images for bodies that already exist in the SBMT (e.g., to visualize an image that the user has stretched or processed).
- Users can also import custom images to see images on bodies that the user imported as a custom shape model (see previous section of this tutorial).
- The process is the same in either case.
Go to the “Custom Data” tab. It has two parts: images (for importing images) and tracks (for importing altimetry tracks).
Select “Images” to import an image.
Click “New” to import a custom image. This will open a dialog box (next slide).
Click “Browse” and navigate to the image to be imported.
Give the image a name.
GENERIC_IMAGE is currently the only option. Users can import JPG or PNG files. Support for other file types may be forthcoming.
Users can choose to show the image using either a simple cylindrical projection or a perspective projection.

To use a simple cylindrical projection, ensure the image to be imported is in that projection. Then specify the latitude and longitude of two corners of the image, as requested.
To use a perspective projection, the user must provide a file with pointing information. The SBMT accepts two types of files that contain such information: sumfiles and infofiles. Users need to provide one of these, not both.

Users can export an info file for any image already in the SBMT. Please see the “Searching for Data” tutorial for details.
If the user chooses a perspective projection, the user can also specify an image rotation or flip, which in some cases may be needed in order for the image to display correctly on the body.

Leave these unchanged if unsure whether the image to be imported needs to be rotated or flipped.
Then click “OK”.
The image is listed in the control panel. Right-click and select “Map Image” to display the image on the body.

Note: The menu that appears when users right-clicks on a custom image contains many of the same options as the menu that appears when users right-click on an image built in to the SBMT. Please see the “Searching for Data” tutorial for details.
Clicking “edit” re-opens the dialog used to import the image. Users can make any needed changes, such as flipping or rotating an image so it displays correctly on the body.
Use “Delete from List” to remove the selected image from the list of imported images. Use “Remove All From View” to hide all images but keep them in the image list.
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Importing custom altimetry tracks

- Users can import custom altimetry tracks for bodies that already exist in the SBMT (e.g., to load a track that the user has processed in some way).

- Users can also import for custom bodies created using the “Import Custom Bodies...” feature.

- The process is the same in either case.
Go to the “Custom Data” tab and select “Tracks”.

Note: Here the body is represented by points instead of a surface. Visualizing the shape as points makes it easier to see the imported lidar track if there were to be a radial offset to the track that placed the track inside the body.
Click “Load Tracks” and navigate to the file to be imported. Use the dropdown “File Type” menu to specify the format of the file to be imported.
The track now appears in the file list and appears on the body.

Note: The menu that appears when users right-clicks on an imported altimetry track contains many of the same options as the menu that appears when users right-click on an altimetry track built in to the SBMT. Please see the “Searching for Data” tutorial for details.
These features are identical to the ones in the NLR or LIDAR tabs or Eros or Itokawa, respectively. Please see the “Searching for Data” tutorial for details.
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For more information, visit sbmt.jhuapl.edu.