Observing Streams & Rivers in Google Earth - Instructor Notes

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This assignment is best given after drainage patterns and fluvial erosion/deposition processes have been discussed in class (ideally, mountain building processes would have been covered as well but may not be necessary). It is not necessary to have covered Martian geology for this assignment (the questions are designed to be general enough that students unfamiliar with Mars may still answer them - they should come away with an exposure to the fluvial history of that planet).

The biggest hurdle I find with this type of assignment is the use of the Google Earth: some students have difficulty understanding what they are expected to do partly because they are unfamiliar with the application. The included instructions are useful for getting students started - but only if they read them carefully and are willing to take some time to explore the application before attempting to answer the questions. If possible, a short tutorial given in class before the assignment or a pre-cursor assignment that provides basic navigation skills in the application might prove useful.

The use of the .kmz files of placemarks may also require some explanation, especially if they must be shared via an online course management system / webpage / email: the files must be saved to the local computer and opened via Google Earth (students may need to 'right click to save as' to retrieve files from a webpage or course management system rather than just viewing the files). Explicit instructions for dealing with these files are recommended (and will probably be unique to each situation). Searching for placemarks via the "Fly to" box is also possible, but can lead students astray (the default search results seem to prefer cities/towns or businesses rather than geographic features - for example, a search for Mauna Loa brings up the town Maunaloa on the island of Molokai rather than the volcano; other searches may bring up local hotels rather than the geologic feature of interest).

The high resolution panoramas can be viewed directly in Google Earth, but this may be slow/cumbersome on older machines. These are probably best viewed directly on the GigaPan webpages referenced in the text (which require the Flash plugin). The pan viewer allows the user to zoom into the pan as far as the resolution of the camera as well as view features at a wider scale. (The online captions for these pans are deliberately vague so hopefully answers to the questions cannot simply be copied from the pan site).