

Sustaining Our Rural Catchments – Google Earth Project

A Google Earth Project is a customised interactive map that can be created and saved within Google Earth. Projects can be used to report back on fieldwork, to take the user on a journey or, as in this case, explain how soil erosion can be managed in different rural land uses.

The task

Working in groups of 3-4, you will plan and create a Google Earth Project map to explain how different rural land uses are affected by the movement of water and sediment and how these impacts can be reduced. To do this, you will use the browser-based version of [Google Earth](#).



▶ Google Earth <https://www.google.com/earth/versions/#earth-for-web>

Working together, your group will create a catchment map to use as the base map for your project. Then, individually, you will add a short paragraph to an info box on the group map explaining the impact of soil erosion on one rural land use and the management strategies used to help reduce the problems. You will also add images or videos to your info box.

The suggested land uses are:

1. Remnant forest
2. Grazing paddock (lots of grass)
3. Grazing paddock (little grass)
4. Cropping paddock with healthy growing crop
5. Cropping paddock with no crop and bare soil

Materials

- Access to computer/digital device
- Google account login details (username and password)
- **Worksheet 1.2b – Sustaining our Rural Catchments – Google Earth Project**
- **Worksheet 1.2c – Google Earth Project Planning Document**
- [The Inland Water Cycle Poster](#)
- [How to minimise soil erosion by water](#)
- Images or videos of rural land uses
- [Create a map or story in Google Earth Web](#) tutorial

This resource has been developed by Primary Industries Education Foundation Australia, Soil Science Australia and Soils For Life, supported through funding from the Australian Government's National Landcare Program.

Sustaining Our Rural Catchments

– Google Earth Project (cont.)

Method

1. Use **Worksheet 1.2c – Google Earth Project Planning Document** to plan the locations for the different land uses that will be included in the Project. The first location, the Remnant forest, is completed as an example. Each member of your group will complete the blank row in the planning document for **one** of the remaining four land uses. You will each choose a different land use listed 2–5 above.
2. Scan the QR codes or the links [The inland water cycle poster](#) and [How to minimise soil erosion by water](#) to answer questions 1 and 2 of **Worksheet 1.2c – Google Earth Project Planning Document** and to draft the paragraph to place in the info box text.

a.



» **The Inland Water Cycle poster**
[https://www.resources.qld.gov.au/
data/assets/pdf_file/0004/1407622/
inland-water-cycle-poster.pdf](https://www.resources.qld.gov.au/data/assets/pdf_file/0004/1407622/inland-water-cycle-poster.pdf)

b.



» **How to minimise soil erosion
by water** [https://www.fao.org/3/
ca2562en/ca2562en.pdf](https://www.fao.org/3/ca2562en/ca2562en.pdf)

3. Find photos or videos to add to the project.

Sustaining Our Rural Catchments

– Google Earth Project (cont.)

Method (cont.)

4. Once planning is complete, sign in to [Google Earth](#) using the link or scan the QR code at the beginning of this worksheet. Check that you know how to navigate:
 - **Zoom in** – mouse scroll wheel
 - **Zoom out** – mouse scroll wheel
 - **Pan** – left mouse button (click and hold)
 - **Tilt view** – hold Shift and the left mouse button, and move the mouse up and down to tilt.
 - **Rotate view** – hold Shift and the left mouse button, and move the mouse left and right to rotate.

5. Scan the QR code, or click on the [link](#) to work through the tutorial, either individually or in pairs. It summarises the main commands used when creating a Google Earth Project.

» **Create a map or story in Google Earth Web** <https://www.google.com/earth/outreach/learn/create-a-map-or-story-in-google-earth-web/>



6. To create the catchment map, go to the Google Earth Projects section and click on the **'New project'** button.
7. With your group, find a suitable catchment. Zoom into the Australian coastline to select a location. Choose a small coastal catchment with a creek or river surrounded by mountains (to make it easier to mark the catchment area) with some agricultural activities such as grazing or cropping (e.g. cleared areas).
8. Give your group project a title in the title field and a detailed description in the description field. The description might include information such as:
 - The authors of the project
 - The area of study
 - The source of any data used in the project
 - The date the project was created etc.

Sustaining Our Rural Catchments

– Google Earth Project (cont.)

Method (cont.)

9. Add the first feature to your map, the boundary of your catchment. Select the 'Draw line or shape' tool and click your way around the watershed (the area that separates catchments, usually elevated, such as a ridge line) until you have outlined the entire catchment (Figure 1).

You can work out where the higher ridge lines are around the creek or river by noting the altitude of where your cursor is positioned. The altitude in metres can be found in the bottom right-hand corner of the Google Earth screen. If you can't find a clear boundary, use your judgement to make the best guess.

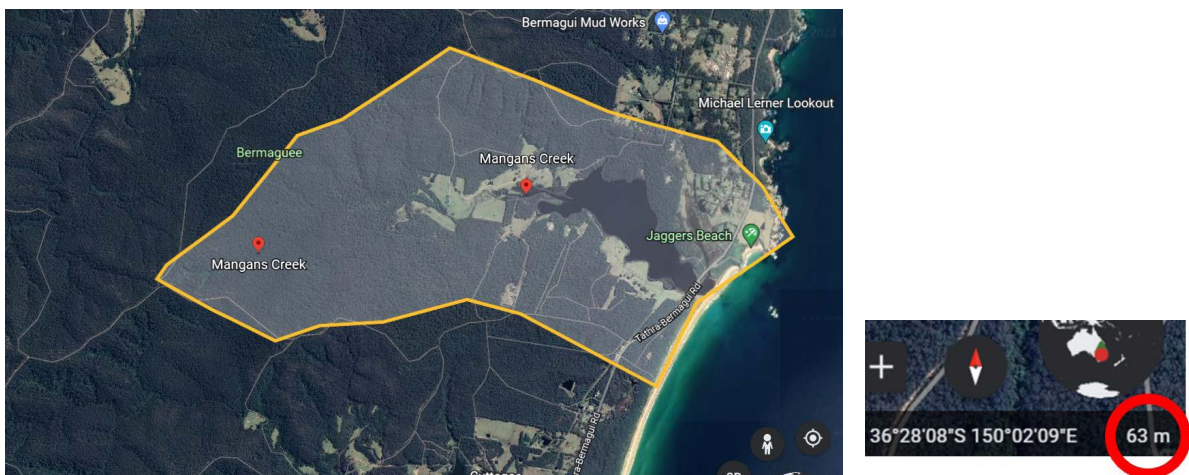


Figure 1. Mangans Creek catchment

10. Name this feature '**<your catchment> boundary**', e.g. 'Mangan's Creek catchment boundary'. The transparency (fill colour) of the polygon can be changed using the edit dialogue box.
11. As a group, create the first placemark on your project map (1. Remnant forest). Start at a high point in the catchment in a forested area and use the '**New feature**' button to place a placemark and rename it 'Remnant forest'. The Info box content cell in Column 6 of **Worksheet 1.2c – Google Earth Project Planning Document** is completed for *Remnant forest* as an example. Either copy the text example provided or write an alternative.

Sustaining Our Rural Catchments

– Google Earth Project (cont.)

Method (cont.)

12. Each group member adds their info box text and a suitable image for their chosen land use type to the group project map. (Be careful not to edit anyone else's info box content).
Images can be sourced online. Insert images saved on your device or via the image's URL, which can be found by right-clicking on the image and selecting '**Copy image address**', '**Copy image URL**' or similar, depending on your web browser.
13. Share the finished project with your teacher and other members of the group. The Share project icon can be found on the Project's main screen.
14. Present your catchment map to the class and explain the causes and impacts of soil erosion on the catchment's rural areas and the practices that help reduce these environmental impacts.