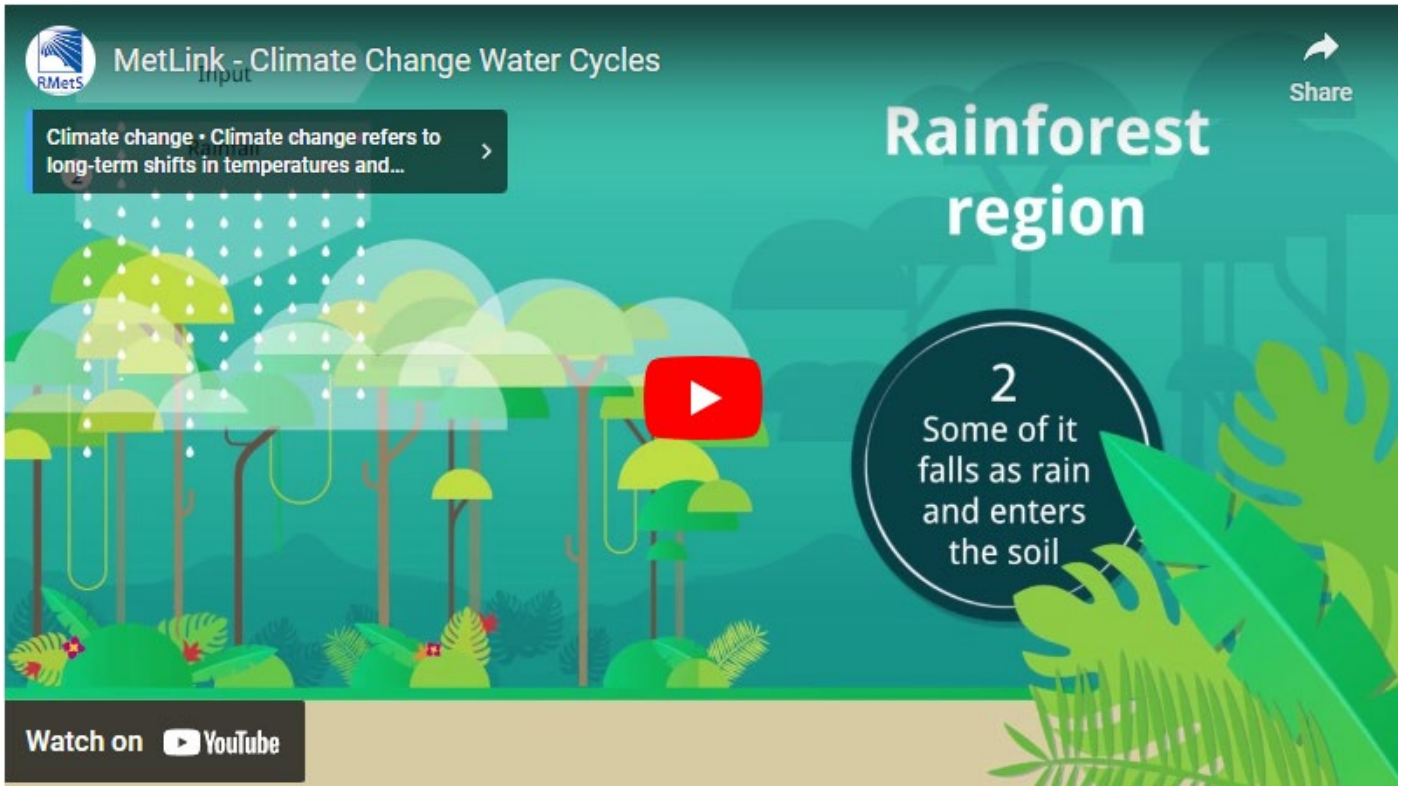
Rainforest Deforestation and the Carbon and Water Cycles

Watch this animation on YouTube (https://youtu.be/LBe4LTLOLvU)



Suggested learning activities:

Data and GIS exercise for A Level students

Explore leaf area, evapotranspiration and temperature data using various statistical techniques to explore the relationship between deforestation and weather on this resource on the RGS website.

Activity 1:
Ask students to write a voiceover for the film, demonstrating their understanding of the concepts involved.

Activity 2:
Complete this sentence based on the film:
When rainforests are deforested, places downwind are left with more/ less/ the same amount of rainfall and greater/ less/ the same amount of flood risk.

Activity 3:
Look at www.globalforestwatch.org/map and identify a Tropical region which has experienced deforestation in the last decade.
Look at earth.nullschool.net. What is the prevailing wind direction in that region?
Using www.google.com/maps, write a paragraph explaining how you think the water cycle has been affected by deforestation for a place downwind from the rainforest region you identified.

Activity 4:
Having watched the animation,
use https://www.globalforestwatch.org/map , http://earth.nullschool.net and https://www.google.com/maps to write a paragraph explaining how you think the water cycle has been affected by deforestation for a specific place downwind and/ or downriver from a rainforest region.

Activity 5:
Having watched the animation, read these articles from Nature and NASA (noting that this predates the Nature article), NASA (2019), Geography Review (p22 – 25) and Carbon Brief.
Summarise the impact of tropical deforestation on the carbon and water cycles.

More information about the water cycle and climate change and the water cycle and an excellent summary from Cool Geography

References

This news item from NASA relates to this animation, as does this Nature Communication from October 2020.