

Using your fieldwork and research experience at A Level describe the use you made of modern technology in data collection, recording and presentation and assess its value.

Introduction

- Our investigation looked at discharge on the R. Kym, Cambridgeshire.
- River is 40km in length and runs through rural areas and arable land.
- Hypothesis: discharge increases downstream on the R. Kym, based on the theory - Bradshaw's Model.
- Used modern technology throughout our investigation to see whether R. Kym displaced the typical characteristics of a river, helped us to arrive at our conclusion.

Data collection

- Internet to research Bradshaw's model to help us form our hypothesis. Valuable for our investigation as it allowed us to access the most up to date information rather than just using text books.
- Used Google maps to locate river and help us identify our 10 sampling sites. Good to use this modern technology as it confirms the data/information shown on the OS maps and allows us to efficiently plan our data collection so modern technology was very useful in this stage.
- Planned to use a stream flow meter to measure velocity however the pilot study showed that the stream flow meters did not work at the lower velocities found in the R. Kym so we did not use it for our actual investigation. Modern technology did not work as well as we had hoped here so we had to revert to using dog biscuits. However, we did use stopwatches on our phones to time it took for the biscuit to travel downstream. This allowed us to accurately calculate the velocity at each site and consequently calculate discharge.
- Digital cameras were used to take photos of each site so that we could use the information to help us analyse our data. This gives us a more accurate representation of each sites than if we had just drawn field sketches.

Data recording

- Before we went to the R. Kym we planned our data collection and data recording. Designed the data recording sheet on Microsoft Word so that we could organise our data logically and record our results accurately. It also meant that everyone in the group could have the same recording table for ease of use. Modern technology very useful here as it standardised our data recording and meant that data was recorded accurately strengthening the validity of the conclusion.

Data presentation

- Printed off a map of the R. Kym from Google Maps to locate our proportional shapes (which represented CSA). This gave a much clearer view of the area than using a traced copy of an OS map. It also saved us time when completing the data presentation and gave us an accurate representation of the area so that we could analyse how discharge varied downstream on the R. Kym.
- For our ranked choropleth (to show discharge) we used Paint. We wanted to use 10 shades to order the discharge data on our presentation. This would have been difficult to do by hand so we used Paint so that we could get 10 different shades of blue. This made it easier for us to interpret and analyse the data. Very efficient use of modern technology.

Conclusion

- Modern technology was integral to our investigation during the data collection, recording and presentation.
- Allowed us to accurately collect, record and present data, this made our conclusion more reliable.
- Allowed us to accept our hypothesis as analysis of the data demonstrated that there was a significant positive correlation (Spearman's Rank coefficient = +0.94) and reach a valid conclusion.

If you got a question on modern technologies that included the data analysis you could talk about how you used Excel to create your scatter graph and to calculate the Spearman's Rank coefficient.