Describe how you presented and analysed the results of your fieldwork and research into flood risk management in a named area

During my fieldwork and research, taking place in Taunton, Somerset in March 2015, I gathered primary data in the form of a questionnaire (asking people about their perceptions on flood management) and a bipolar river survey (where I observed the quality/number of flood defences around the River Tone). My research consisted of finding average costs of local housing and different defences, such as a river wall, whilst examining land use using ArcGIS. All of this was presented in a variety of ways.

Firstly, I presented my bipolar evaluation in the form of a star diagram. Whilst conducting the fieldwork, I had rated each flood defence, based on my own opinion, of their effectiveness, aesthetics, accessibility, safety and presumable cost from a scale of 1 to 5 (1 being extremely bad and 5 being very good). The defences included a weir, green corridor, channelization etc. I completed a star diagram by drawing five axes, each under a factor I observed, and labelled the axes from 1 to 5. I then drew on layers, representing each defence, according to the score I had given them for each factor. Each defence, I had measured seven, were drawn in a different colour to make comparisons easier. Although the star diagram did become slightly confusing (as seven different defences were documented onto one) if I were to repeat the investigation, I would produce at least two diagrams, each presenting three/four defences respectively. I analysed the diagrams by reading off which defence had the overall best score. I found that I had given the green corridor the best score, achieving four/ five ratings per axis, and that vegetation maintenance had received the lowest marks, forming a small box shape. The diagram also allowed me to calculate overall scores by totalling what each defence received per axis. I transferred overall scores to a table alongside a column which included an annotated photograph of each defence. To analyse this further, I calculated the average score of each defence. For example, I totalled the scores for effectiveness, aesthetics, accessibility, safety and cost and then divide by five for each defence, statistically telling me which defence and been scored the highest. This put into perspective my star diagram where the green corridor had the largest mean score, being the best ranked defence.

Furthermore, I presented my questionnaire in the form of a tally chart which I later converted to a bar graph. I had asked locals on Taunton high-street their views on flood risk management, e.g. do you think flood risk is being managed in Taunton? As individual responses were qualitative, I tallied up scores (after asking a sample size of 20) to get a numerical value, which I could plot on a graph. My bar chart consisted of a numerical y axis, going up to 20, and a qualitative x axis including responses, such as 'lives in Taunton', 'does not have problem with flooding'. Other questions I had asked involved the participant giving a rating (1-5) of what they felt Taunton was threatened by. This question, finding whether Taunton was well protected against floods, was documented in a table. I later processed the information in Microsoft excel and, using conditional formatting, categorised each rating by a colour. This allowed me to easily analyse data, finding that most people felt aspects such as transport and rural locations, rated 1-2 and coloured red/pink on excel, were most threatened from floods. From research, I had found that the recent Somerset flood (December 2014) had targeted rural areas, validating the responses of my questionnaire.

I presented my research using ArcGIS which allowed me to map flood defences, house prices and land use. This encouraged me to analyse flood risk management with regards to defences and housing. For example, I found that house price increased the further away you moved from the River Tone. I had used house price figures stated on Zoopla and, using a sample of 10 houses in the same area, calculated the mean, mode and median to be able to analyse average house price in the area. By doing so, I found that average price for a three bed property was £144950, showing prices were reasonably expensive. Adding layers to my ArcGIS map I was able to also include areas which had been recently flooded. Although this involved analysing a large area of Somerset, it nonetheless helped put into perspective the risk of flooding in Taunton, having a population of 102299 (2002 census). Moreover, I analysed how close flood defences were from services. For example, my mapping showed that the river wall and embankments were placed behind the supermarket Morrison's, protecting them flood risk. This suggested effective management as Morrison's provides food and services to locals.