**Flood Risk Assessment Answer Sheet – Heijplaat Rotterdam**

**Name:**

**Student Number:**

*Q1: Take a look at the flood extents for different return periods. Which part of the Heijplaat seems to be most at risk? And why?*

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

*Q2: Which two land-use classes constitute the most flood damage for a 1/100 flood event? Which percentage of the total damage is that?*

|  |
| --- |
|  |
|  |
|  |
|  |

*Q3 Create a figure that shows the distribution of losses for a 1/100 flood event. You can either save the dataframe to a csv file (damagebin\_total.to\_csv(file\_path)) to create a figure in Excel, or further improve the figure within the Jupyter Notebook to train your Python skills. Think about font weight, font size, labelling, scaling of y-axis etc. You can find further documentation on creating a figure in Python using pandas and matplotlib in the pandas documentation:* [*https://pandas.pydata.org/pandas-docs/stable/user\_guide/visualization.html*](https://pandas.pydata.org/pandas-docs/stable/user_guide/visualization.html)

**INSERT FIGURE**

*Q4: Create a figure with the Exceedance Probability Loss (EPL) curve for the current and future situation. Use the knowledge that you learned from creating the previous figure.*

**INSERT FIGURE**

*Q5: At which return period will around 25 million euro of flood damage occur? Also explain/show how you estimated it.*

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

*Q6: How much will climate change increase the flood risk of the Heijplaat?*

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

*Q7: Create a figure with the old and new vulnerability curves for houses*

**INSERT FIGURE**

*Q8: How much will wetproofing of houses reduce the flood risk of the Heijplaat?*

|  |
| --- |
|  |
|  |
|  |
|  |

*Q9: Is it worthwhile to wetproof houses in Heijplaat given the current flood hazard? At what costs per house would it become worthwhile?*

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

|  |
| --- |
| *Q10: Given the future flood risk, is it worthwhile to invest in wetproofing then? Briefly elaborate.* |
|  |
|  |
|  |
|  |
|  |