DISTANCE ANALYSIS
• Distance functions allow you to determine the lowest cost path between two points.
FUNCTIONS

EUCLIDIAN DISTANCE

• This function creates a surface where each cell indicates the value of the shortest distance between the center of the cell and the location of the nearest object.

• Similar to using a ruler to measure the distance between two points on a paper, this function measures the distance between cells from the center of each cell in the raster to the center of a given source cell.
FUNCTIONS

EUCLIDIAN ALLOCATION

• Creates a grid in which the value of each cell has the value of the nearest point. This value does not report distance, but accrued cost values.

EUCLIDIAN DIRECTION

• Indicates for each cell of the created surface the direction to the nearest point. This value is expressed in degrees (0 to 360º)
SURFACE OF COST

- A cost surface represents a factor, or set of factors, that affects the movement along a given area. For example, slope can be considered a cost factor for road construction.

- However, slope values do not alone represent cost. For this to reflect the cost, we have to transform the slope values into a scale of cost values.

- If you want to include more files such as cost or impedances to move in the territory, you can use a map algebra – For more information see the multicriteria analysis link.
COST DISTANCE

- This function generates the distance surface where each cell will contain a value that represents the travel cost along the raster to the destination location.

- This function generates the back-link surface that will give the direction of least cost to travel along the raster.
COST PATH

• Calculation of lowest cost path between source and destination.