**Version 2 Experiment 1**

I fixed the mistake of the helicopter travel time by changing the amount of time required to travel between the evacuation site and the FOL to 1.25 hours. This means that if a helicopter is waiting at the evacuation site it takes 0.25 hours to land and load evacuees, 1.25 hours to travel to the FOL, 0.25 hours to land and unload the evacuees, and another 1.25 hours to return to the evacuation site for a total of 3 hours like in the paper. Other than that I also ensured that the helicopter arrival times correspond to when they arrive at the evacuation site, and the not the FOL, as their current default location is the FOL. The experiment follow the exact same parameters as version 1 experiment 1.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 100 Trials Each | Expected Number of Lives Saved (95% CI) | | | | | |
| Ship Arrival Time (h) | 1 Helo | | 3 Helos | | 6 Helos | |
| 0 | 180.35 | ± 0.87 | 207.44 | ± 1.0339 | 218.42 | ± 1.1088 |
| 12 | 175.08 | ± 0.928 | 200.65 | ± 1.178 | 210.1 | ± 0.982 |
| 24 | 165.75 | ± 0.825 | 192.54 | ± 0.9624 | 201.59 | ± 1.1368 |
| 36 | 158.4 | ± 0.6897 | 183.8 | ± 1.072 | 193.98 | ± 0.894 |
| 48 | 149.83 | ± 0.804 | 177.39 | ± 0.9268 | 187.73 | ± 0.8319 |
| 60 | 142.27 | ± 0.7608 | 171.44 | ± 0.9378 | 179.88 | ± 0.9723 |
| 72 | 136.87 | ± 0.7478 | 165.32 | ± 0.9322 | 180.35 | ± 0.8003 |
| 84 | 126.16 | ± 0.734 | 164.41 | ± 0.865 | 179.41 | ± 0.9924 |
| 96 | 125.38 | ± 0.6597 | 164.49 | ± 0.7682 | 179.18 | ± 0.8538 |
| 108 | 125.73 | ± 0.7674 | 163.59 | ± 0.9172 | 179.05 | ± 1.0514 |
| 120 | 125.66 | ± 0.7856 | 165.37 | ± 0.821 | 179.17 | ± 0.8915 |
| 132 | 125.47 | ± 0.719 | 163.23 | ± 0.8617 | 179.23 | ± 0.90005 |
| 144 | 125.31 | ± 0.7683 | 165.54 | ± 0.7862 | 179.94 | ± 0.952 |
| 156 | 125.53 | ± 0.7493 | 165.59 | ± 0.7645 | 179.86 | ± 0.8541 |
| 168 | 126.36 | ± 0.7045 | 163.26 | ± 0.7922 | 179.72 | ± 0.9663 |
| No Arrival | 125.62 | ± 0.7134 | 164.48 | ± 0.8252 | 180.11 | ± 0.8805 |

Table # 1: Results of experiment 1 for version 2 of the model

A table with numbers and numbers

Description automatically generated

Table #2: Experiment results from the paper [1]

In the results of experiment 1 for version 2 of the model, the model saved more lives in every scenario. What’s promising though is that the times where the number of lives saved regardless of the ship’s arrival time, converges at the same times as the results from the paper for one, three, and six helos. This makes me think that the ship is working correctly. Now because the number of lives saved when the ship never arrives are consistently higher in the DEVS model’s results I think the inconsistency must be with the helicopters.