

Mars Censere Test Notebook

Richard Offer et al

This is a RStudio Test Notebook that is used to see how the simulation is running prior to committing.

It requires a database that has been already been generated.

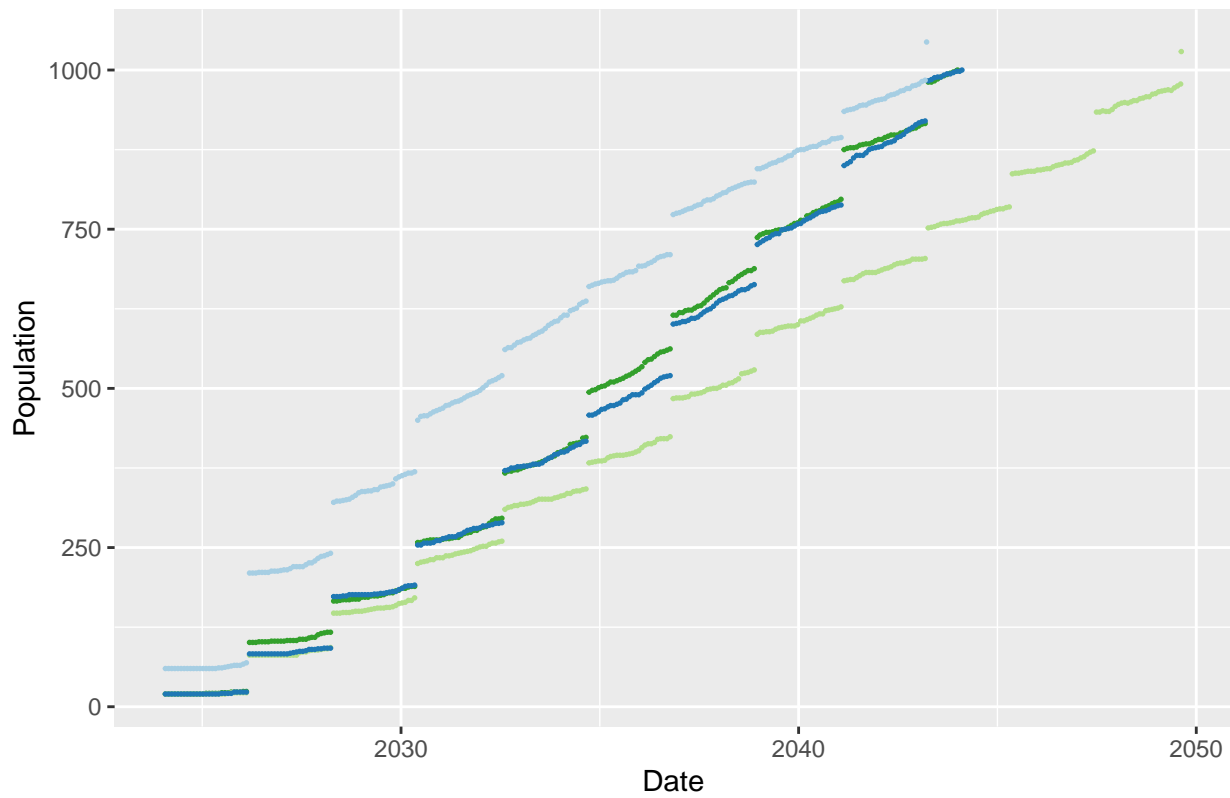
Loaded Database Details

Value	Details
Path	/Users/richard/db-21.db
File Size	4 MBytes
Last Modified	2019-12-10 18:56:13
# Simulations	4

ID	DateLanded	Completed	#Sols	Pop.	Args
1	2024-01-01	2043-12-31	7110	1000	astronaut_age_range=32,45 astronaut_gender_ratio=50,50 astronauts_per_ship=60,60 gap_between_children=380,1000 initial_child_delay=350,700 initial_mission_lands=2024-01-01 00:00:00.000+00:00 limit=population limit_count=1000 martian_gender_ratio=50,50 orientation=90,6,4 ships_per_mission=1,1
2	2024-01-01	2049-08-16	9110	1029	astronaut_age_range=32,45 astronaut_gender_ratio=50,50 astronaut_life_expectancy=72,7 gap_between_children=380,1000 initial_child_delay=350,700 initial_mission_lands=2024-01-01 00:00:00.000+00:00 limit=population limit_count=1000 martian_gender_ratio=50,50 martian_life_expectancy=72,7 orientation=90,6,4 settlers_per_ship=40,60 ships_per_mission=1,1
3	2024-01-01	2044-02-09	7149	1000	astronaut_age_range=32,45 astronaut_gender_ratio=50,50 astronaut_life_expectancy=72,7 gap_between_children=380,1000 initial_child_delay=350,700 initial_mission_lands=2024-01-01 00:00:00.000+00:00 limit=population limit_count=1000 martian_gender_ratio=50,50 martian_life_expectancy=72,7 orientation=90,6,4 settlers_per_ship=20,20 ships_per_mission=1,4
5	2024-01-01	2043-03-21	6833	1044	astronaut_age_range=32,45 astronaut_gender_ratio=50,50 astronaut_life_expectancy=72,7 first_child_delay=350,700 gap_between_siblings=380,1000 initial_mission_lands=2024-01-01 00:00:00.000+00:00 limit=population limit_count=1000 martian_gender_ratio=50,50 martian_life_expectancy=72,7 orientation=90,6,4 settlers_per_initial_ship=20,20 settlers_per_ship=20,20 ships_per_initial_mission=3,3 ships_per_mission=1,4

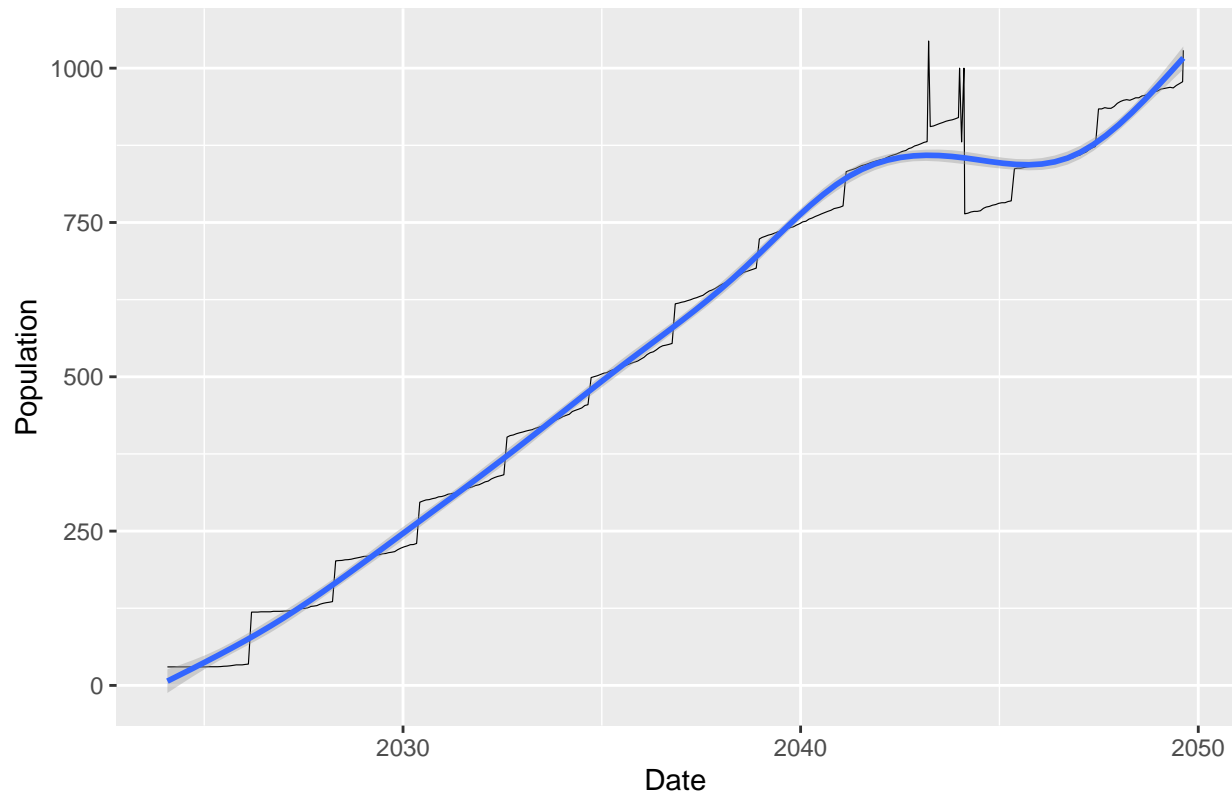
Database Overview

Simulation of Martian Population Growth



Any unevenness at the target population limit is due to the simulations with the highest population count completing their target earlier, and obviously if the simulation with the highest population is removed, then the average will drop. Hence the short term spike and drops.

Mean & Smoothed Mean of Population Growth Across All Simulations



As a fraction in population, you should still see the impact of new missions landing, the sudden influx of adults depresses the fraction of population that are children.

