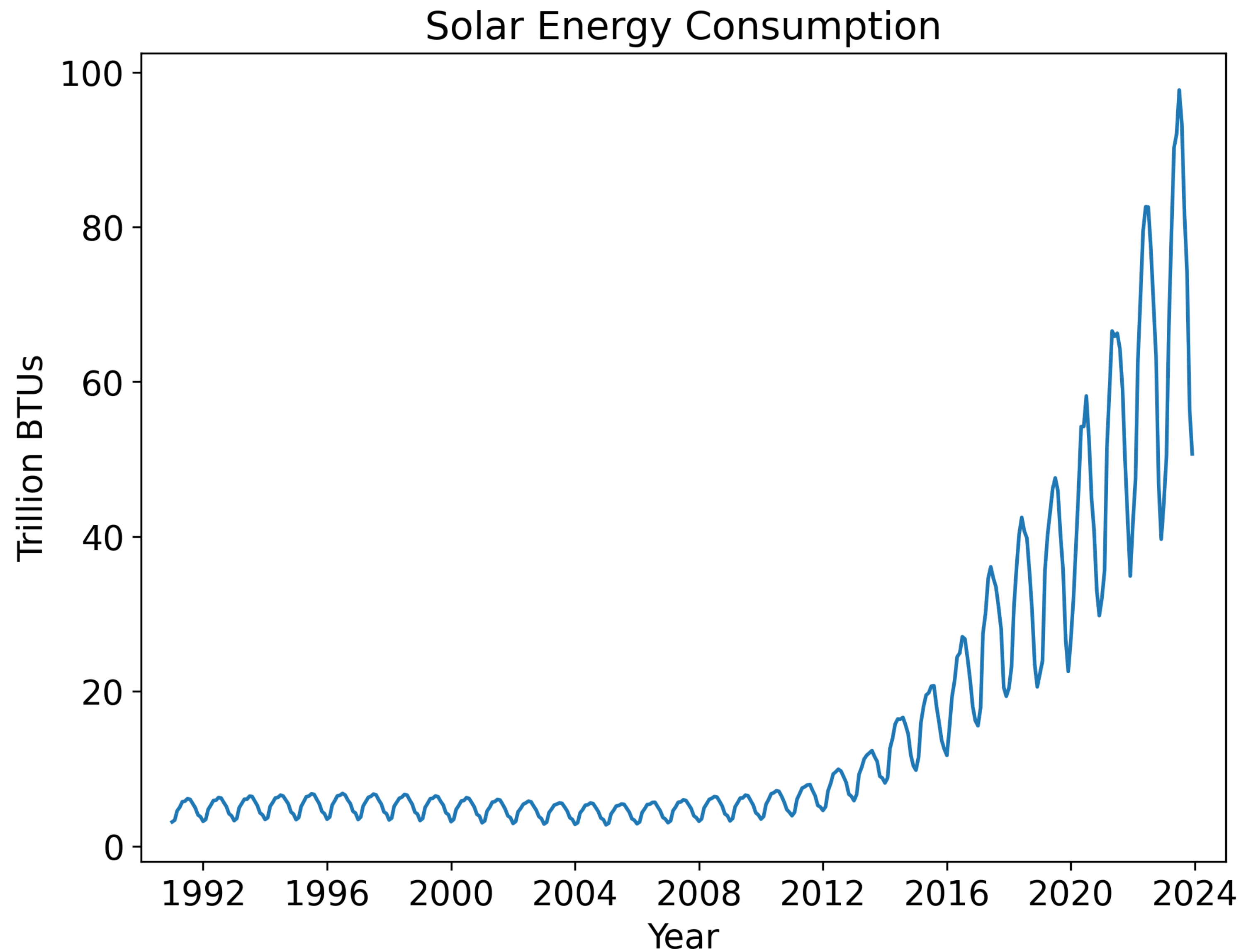


Model Forecast for U.S. Monthly Solar Energy Consumption

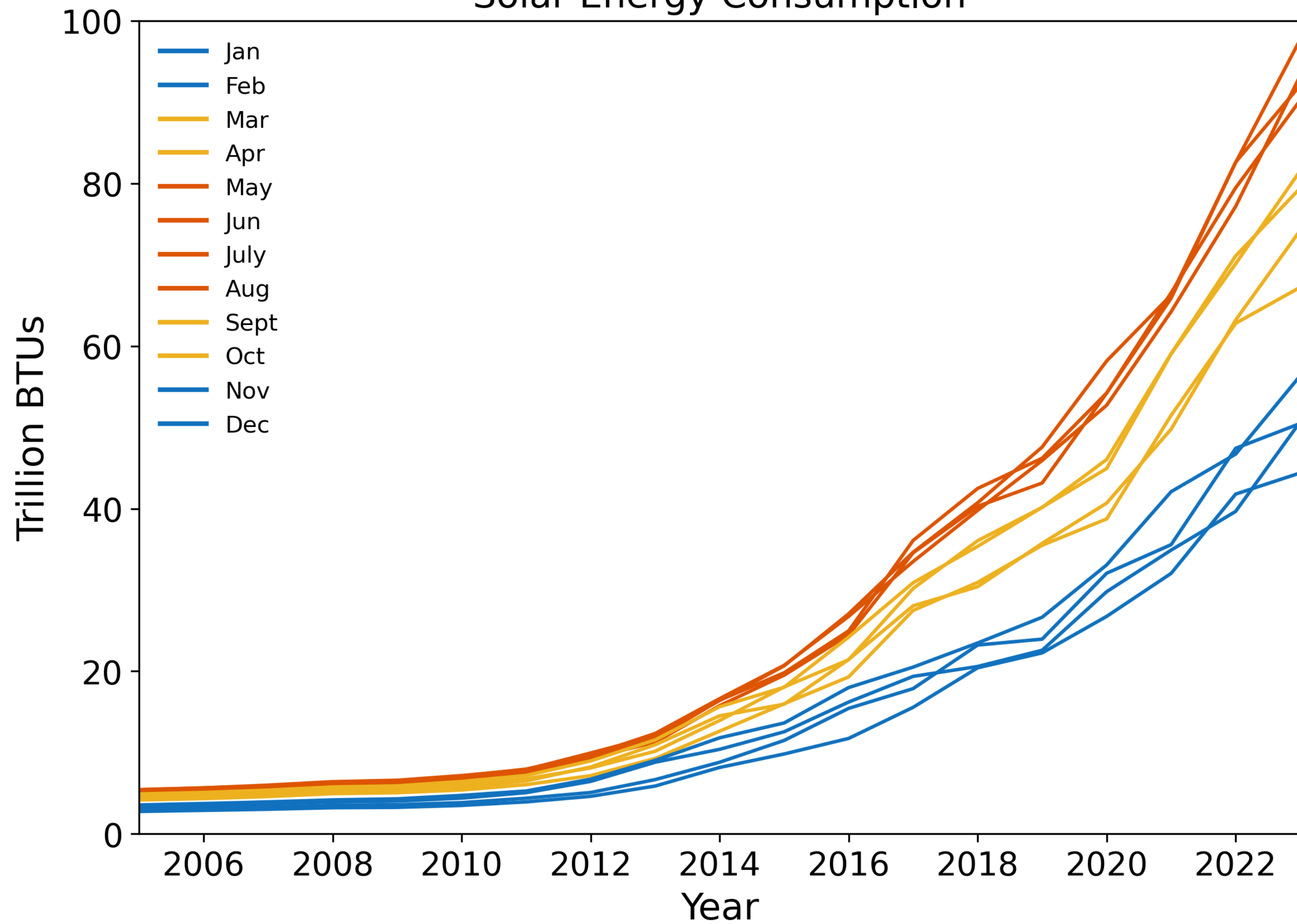
Alyssa J. McKanna, Ph.D.
July 2025

Dataset Source: U.S. Energy Information Administration
Downloaded from Kaggle



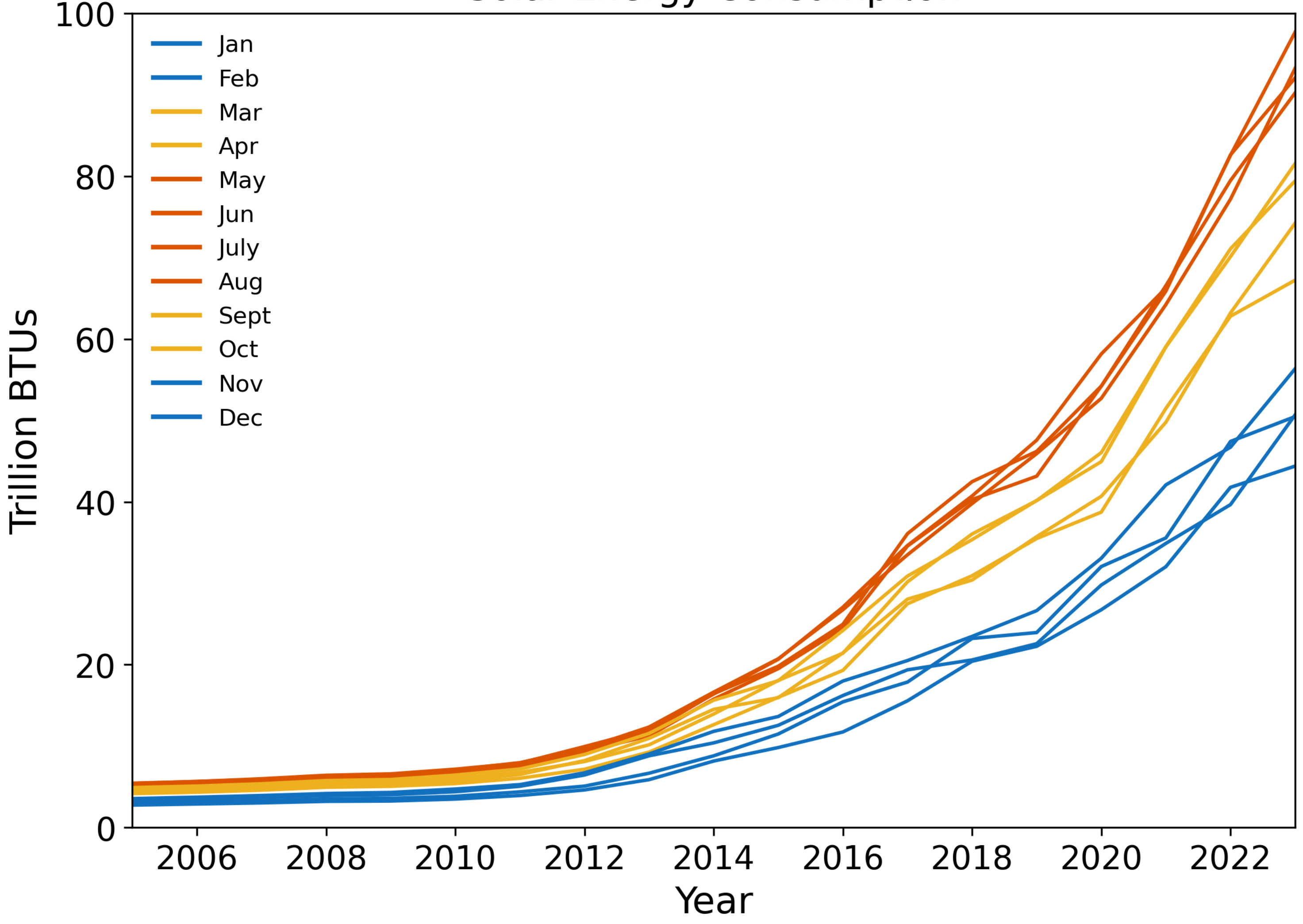
Solar energy consumption varies seasonally due to seasonal weather patterns that affect solar energy production

Solar Energy Consumption

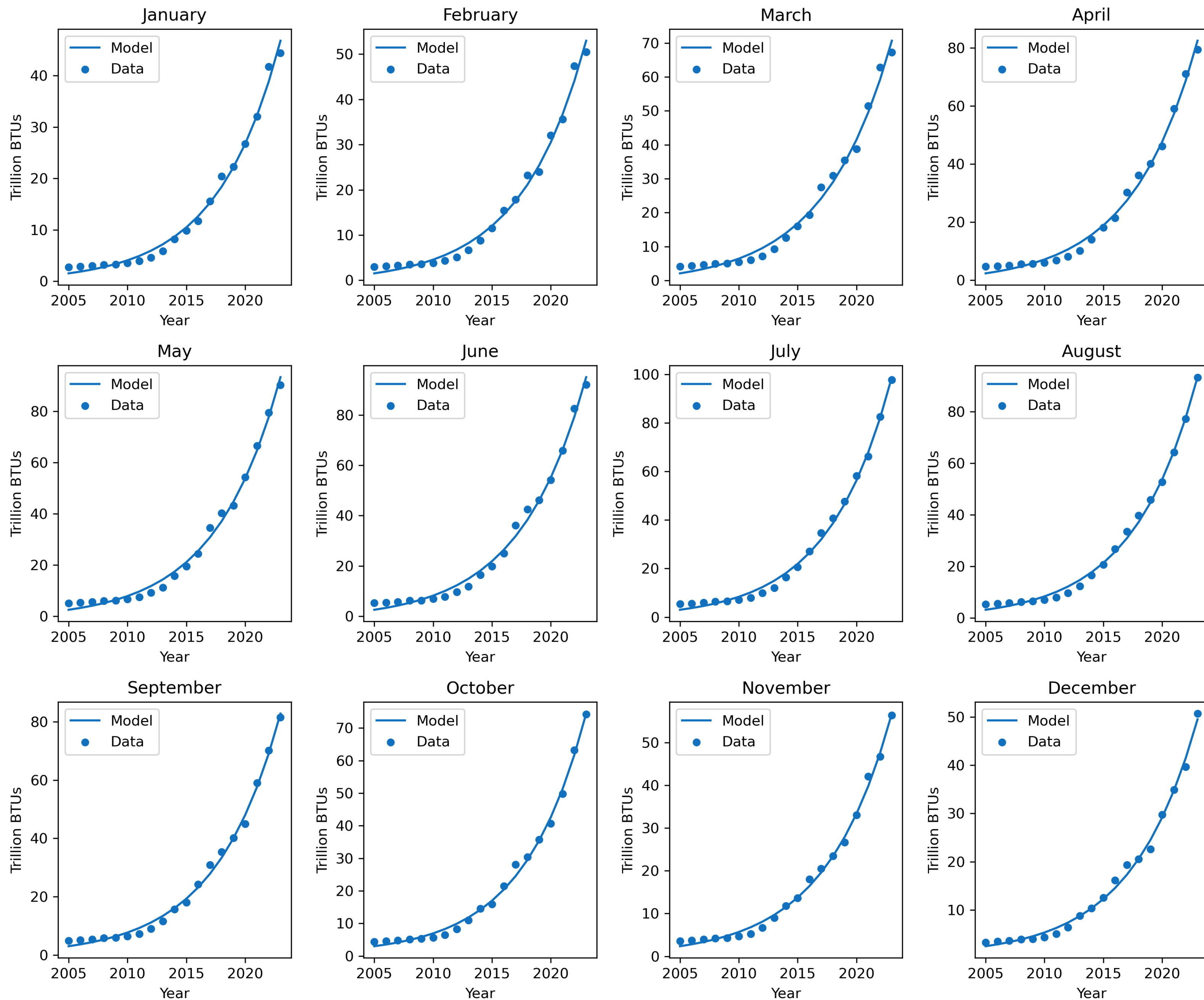


Solar energy consumption
is highest in the sunny
summer months and lowest
during the winter months

Solar Energy Consumption

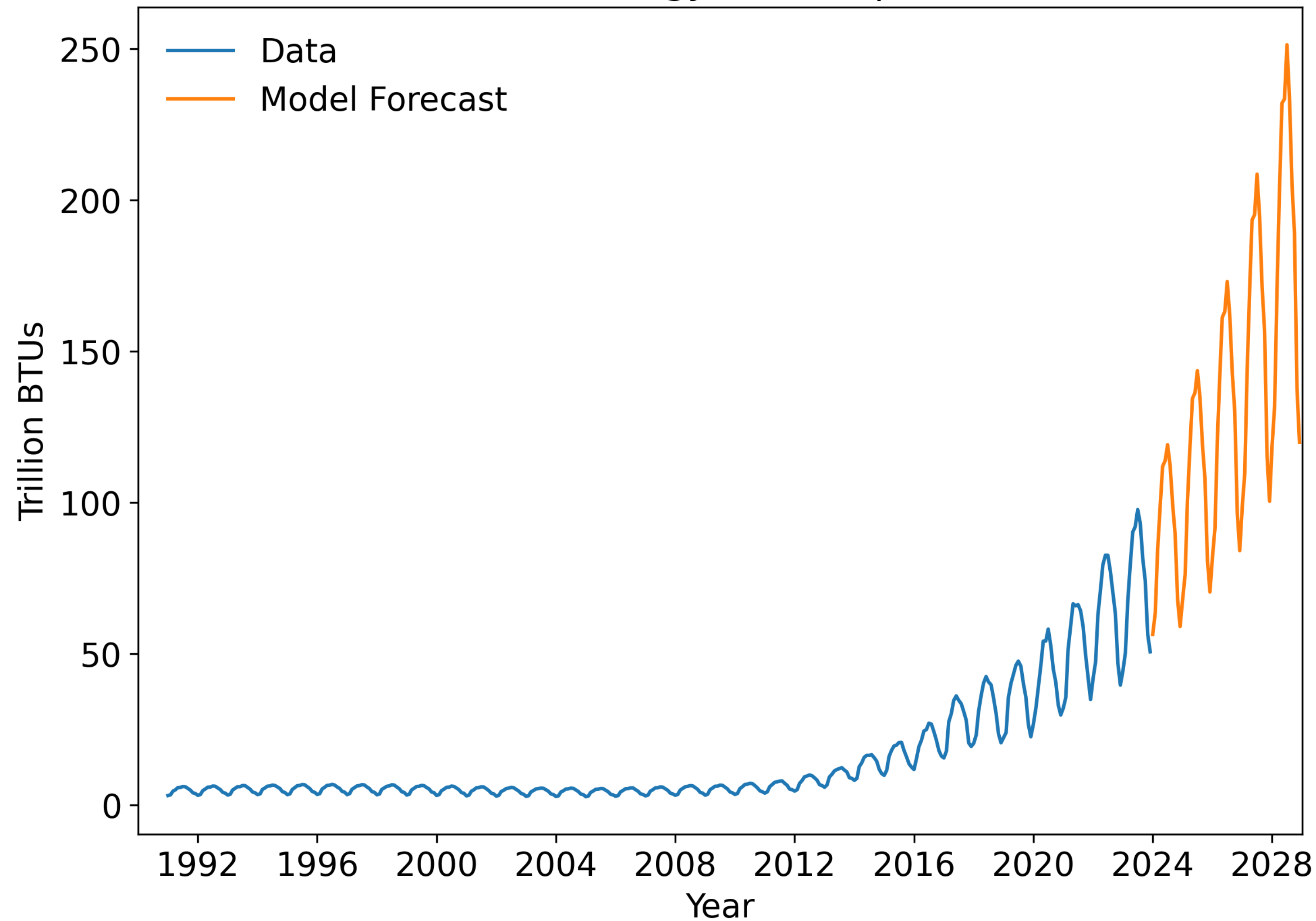


Since 2005, consumption has increased exponentially



Based on historical data
from 2005 to 2023, I
developed exponential
models for each month

Solar Energy Consumption



I then used these models
to forecast expected
monthly solar energy
consumption for 2024 to
2029