Key factors driving climate change include greenhouse gas emissions from human activities such as burning fossil fuels, deforestation, industrial processes, and agriculture. Other factors include changes in land use, aerosols, and natural climate variability.

Innovative solutions to mitigate climate change effects include transitioning to renewable energy sources like solar and wind power, improving energy efficiency in industries and buildings, implementing carbon capture and storage technologies, promoting sustainable land management practices, investing in electric vehicles and public transportation, and supporting policies that incentivize emissions reduction and carbon pricing. Additionally, there's ongoing research into geoengineering techniques like solar radiation management and carbon dioxide removal to directly manipulate the Earth's climate system.