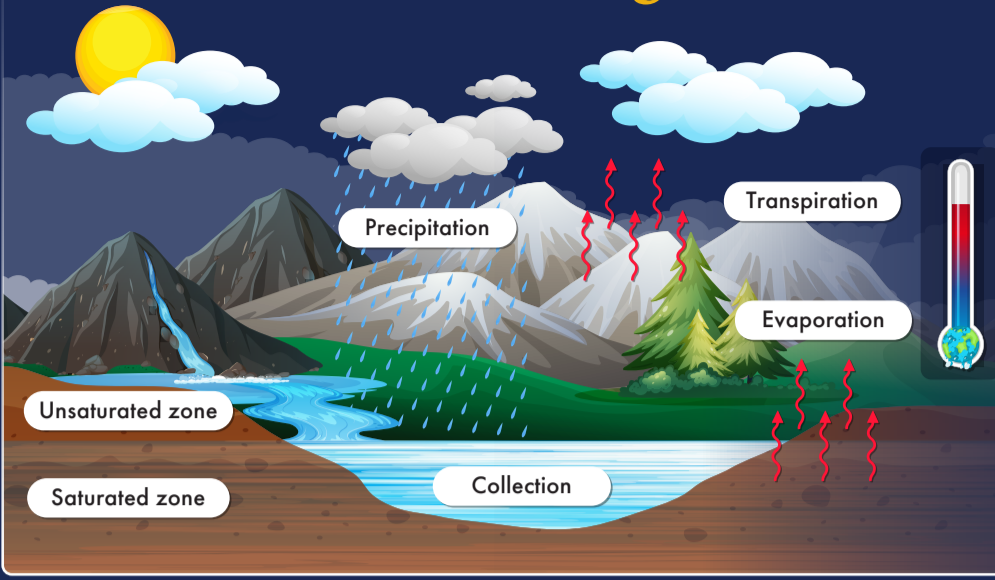


# Impact of Climate Change on Hydrological Processes and Water Resources: Insights, Challenges, and Strategies for Resilience



Changes in temperature, precipitation, and the frequency and intensity of extreme weather events associated with climate change have a significant impact on the Earth's water resources

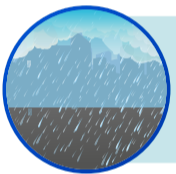


Understanding the impact of climate change on hydrological processes is necessary for effective water resource management and the development of adaptation strategies



This ASCE Special Collection explores how climate change and other factors affect hydrological processes and water resources

## Which factors must be considered when predicting hydrological processes?



Changing precipitation type and pattern



Changes in water quality

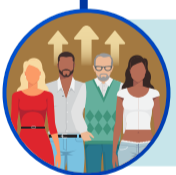


Changing watershed responses



Changes in snow and glacier melt runoff

## Which factors impact water resources?



Growing population and urbanization



Socioeconomic factors



Changing land use



Technological changes

## How to build resilience?



Forecasting extreme compound events that cause multiple hazards



Designing climate resilient hydro-infrastructure



Risk management of climate-related hazards



Improving predictions with hydrologic and data driven models

Insights on the effect climate change has on hydrology can contribute to:

- ✓ Sustainable water management
- ✓ Strengthening infrastructure

Accounting for the effects of climate change is crucial for water resource management, flood control, environmental protection, and infrastructure planning