Climate change influences the formation, track, strength, and impact of hurricanes, making them more powerful and more damaging.

**Connection to climate change**

- **HOTTER TEMPS**
  - Warm water fuels storm
  - More evaporation adds moisture to atmosphere
  - Melting land ice & warmer waters lead to higher sea level

- **SHIFTING WEATHER**
  - Persistent weather can lead to slow moving storms
  - Expanding tropical circulation pattern pushes storms poleward

- **POWERFUL STORMS**
  - Higher winds
  - More rain
  - Slower moving
  - Rapid intensification
  - Worsening storm surges

**Already observed changes**

- The most damaging U.S. hurricanes are now 3x more frequent than 100 years ago.

- Share of Cat 3+ hurricanes in Atlantic has doubled since 1980.

- Majority of studied storm events found more severe or more likely to occur.

- Tropical cyclones worldwide moving 10% slower since mid-20thC, giving an area more time for heavy rain/wind.

- Tropical cyclones’ locations of peak intensity moving poleward over last 30 years.

**Anticipated future changes**

- Frequency of Cat 4 & 5 storms expected to increase.

- Tropical cyclones expected to become increasingly intense with warming and continue shifting poleward.

**Impacts to society**

- Hurricanes can result in extensive infrastructure and property damage, and cause uncontrolled toxic releases from major pollution sources.

- Communities with lower property values are likely to suffer from more severe damage and have less capacity to recover from the impacts.

**COSTS**

- Hurricane Harvey alone cost $130 billion in damages.

- Billion-dollar tropical cyclone events in the U.S. have cost over $1 trillion in damages since 1980, with an average of $19.4 billion per event and resulting in at least 6,593 deaths.