

# **Climate Changes: Gradual &** **Sudden**

## Climate can change

**Climates for places on Earth can change.**

**The change can be sudden or gradual (slowly).**

## Climate can change

**Examples:**

**Gradual change:**

**What is Michigan today was tropical.. 300 million years ago!**

**Why? This land was near the equator**

## Climate can change

**Examples:**

**Sudden change:**

**In 1815, Mount  
Tambora (a volcano)  
erupted and the ash  
and dust thrown into  
the atmosphere  
caused cooling of all  
climates for several  
years**

## Sudden changes

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- 1. Large  
Volcanic  
Eruptions**
- 2. Meteorite,  
comet strikes**

## Sudden changes

**Both can cause large amounts of dust, rock, ash that can block sunlight and lower Earth temperatures**

**Volcanoes can also put more CO<sub>2</sub> causing heat to be trapped and warm the Earth more.**

## Gradual changes

**1. Climate can change as land masses move across latitudes. These changes are extremely slow, taking from tens of thousands of years to millions of years**

## Gradual changes

**2. Global cycles. The Earth, naturally, goes from periods of Ice Ages to warm Earth. These changes take from just thousands of years to tens of thousands of years**