









# GEOGRAPHICAL REFERENCE SYSTEM



Most common units:



# Decimal degrees



Carolina Hall is 35.911202°N, -79.049924°W



# Degrees-Minutes-Seconds







conversion:

▶ 1 degree = 60 minutes (')

▶ 1 minute = 60 seconds (')

**Which is more  
machine-  
readable?**

# GEOGRAPHICAL REFERENCE SYSTEM

- ▶ Most common units:

- ▶ Decimal degrees

- ▶ Carolina Hall is  $35.911202^{\circ}\text{N}$ ,  $-79.049924^{\circ}\text{W}$

- ▶ Degrees-Minutes-Seconds

- ▶  $35^{\circ}54'40''\text{N}$   $79^{\circ}02'59''\text{W}$

- ▶ Conversions:

- ▶ 1 degree = 60 minutes (')

- ▶ 1 minute = 60 seconds (")

**Which is more  
machine-  
readable?**

# CARTESIAN REFERENCE SYSTEMS

- ▶ Cartesian reference systems, also referred to as “projected reference systems”
  - ▶ Location referenced relative to two perpendicular axes (X,Y)
  - ▶ Measurements are in distance along each axis from the origin (0,0)
  - ▶ **Most common units:**
    - ▶ English: inches, feet
    - ▶ Metric: centimeters, meters, kilometers

