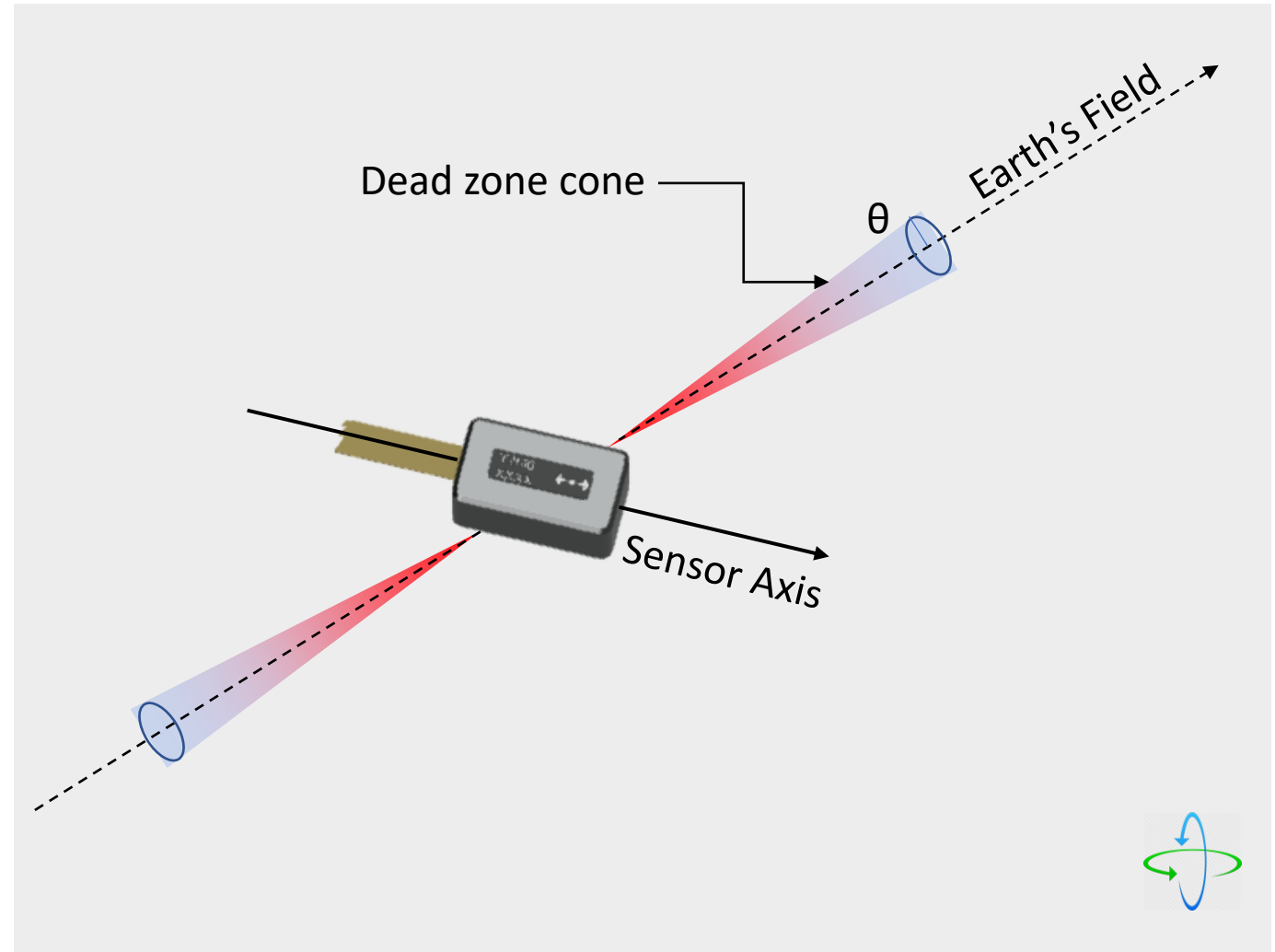


## QTFM Gen-2 Dead Zone

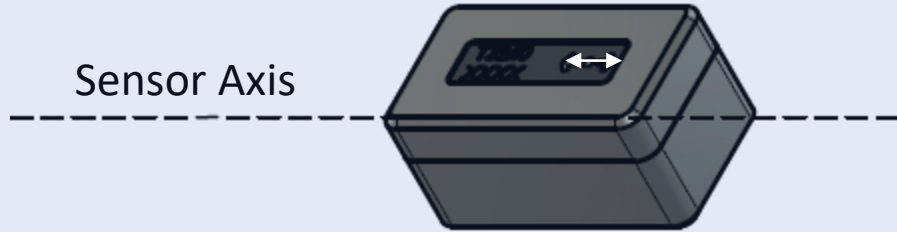
The QTFM Gen-2 becomes non-operational or enters a "dead zone" when the black arrow-marked sensor axis on the sensor head is aligned within a 7° cone in the direction of the earth's magnetic field.

Any data collected during this time will be deemed invalid and automatically flagged as such. However, as soon as the sensor head is oriented away of the dead zone, the sensor will become operational again.

The QTFM Gen-2 dead zone is the smallest of its kind in the industry, with only a single axial dead zone.

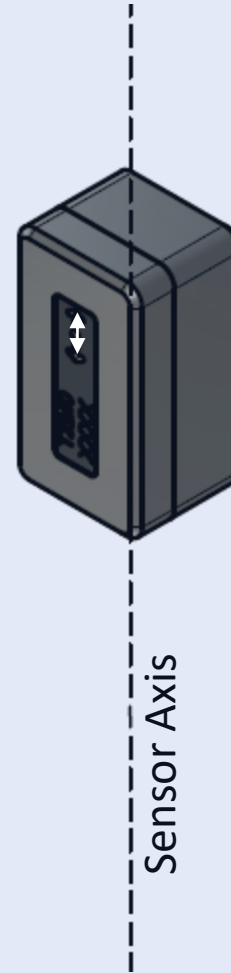


Not in a dead zone



Ideal case: Sensor axis  $\perp$  Earth's field

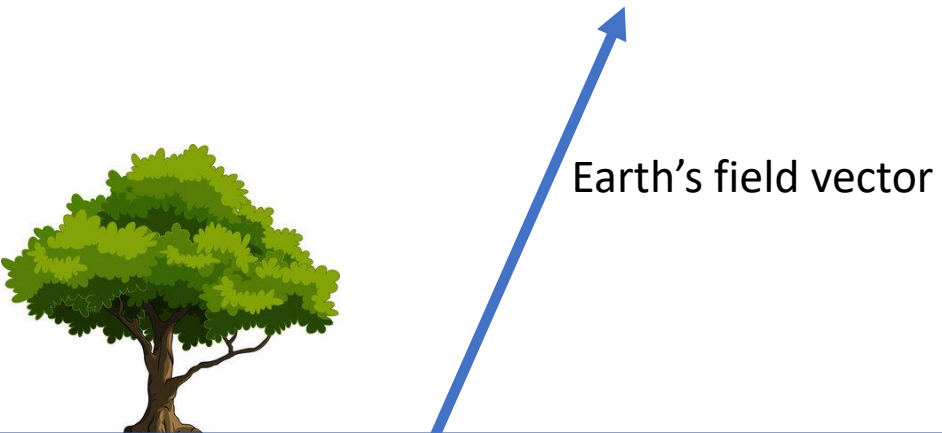
Dead zone. Not operational



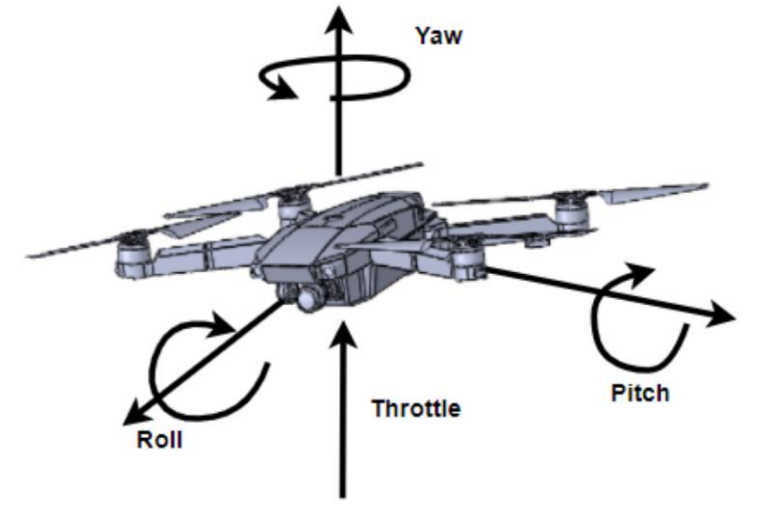
# Avoiding Dead Zone – Away from the Equator

## Recommended sensor head orientation away from the equator

In regions away from the equator (such as USA, Europe), the earth's magnetic field is roughly perpendicular to the ground. Therefore, it is recommended to mount the sensor head with sensor axis parallel to the ground for 360° yaw maneuverability



GROUND



Sensor Axis



# Avoiding Dead Zone – Near Equator

## Recommended sensor head orientation near equator

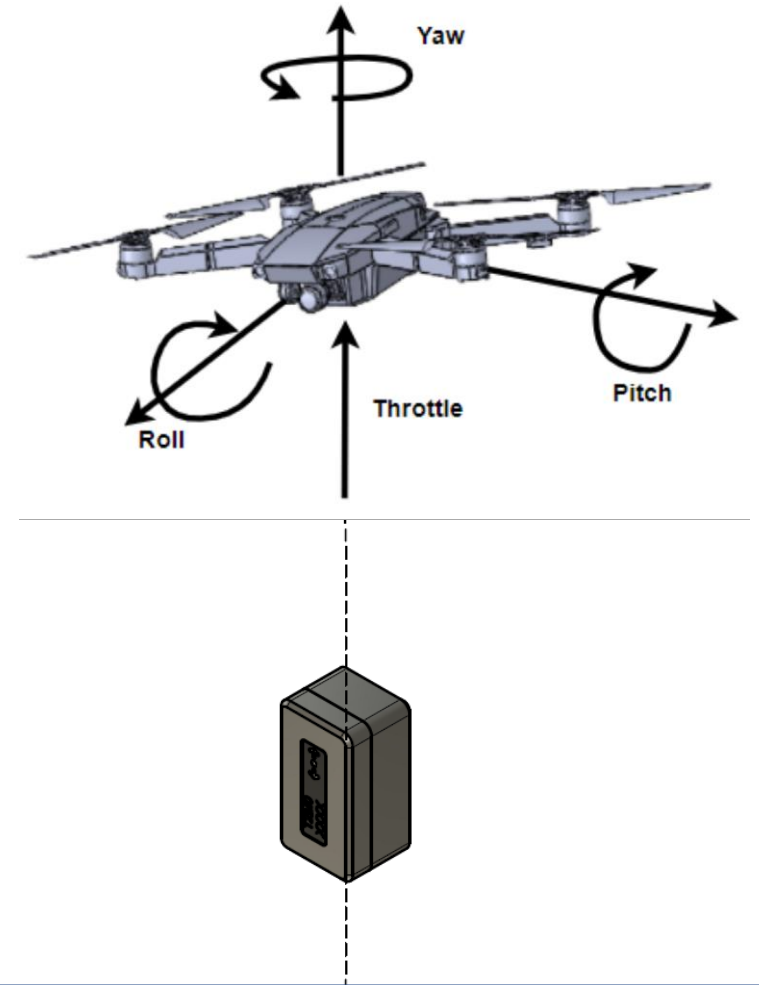
Near equator, the earth's magnetic field is roughly parallel to the ground. Therefore, it is recommended to mount the sensor head with sensor axis perpendicular to the ground for 360° yaw maneuverability



Earth's field vector



GROUND





## Declination Angle Map

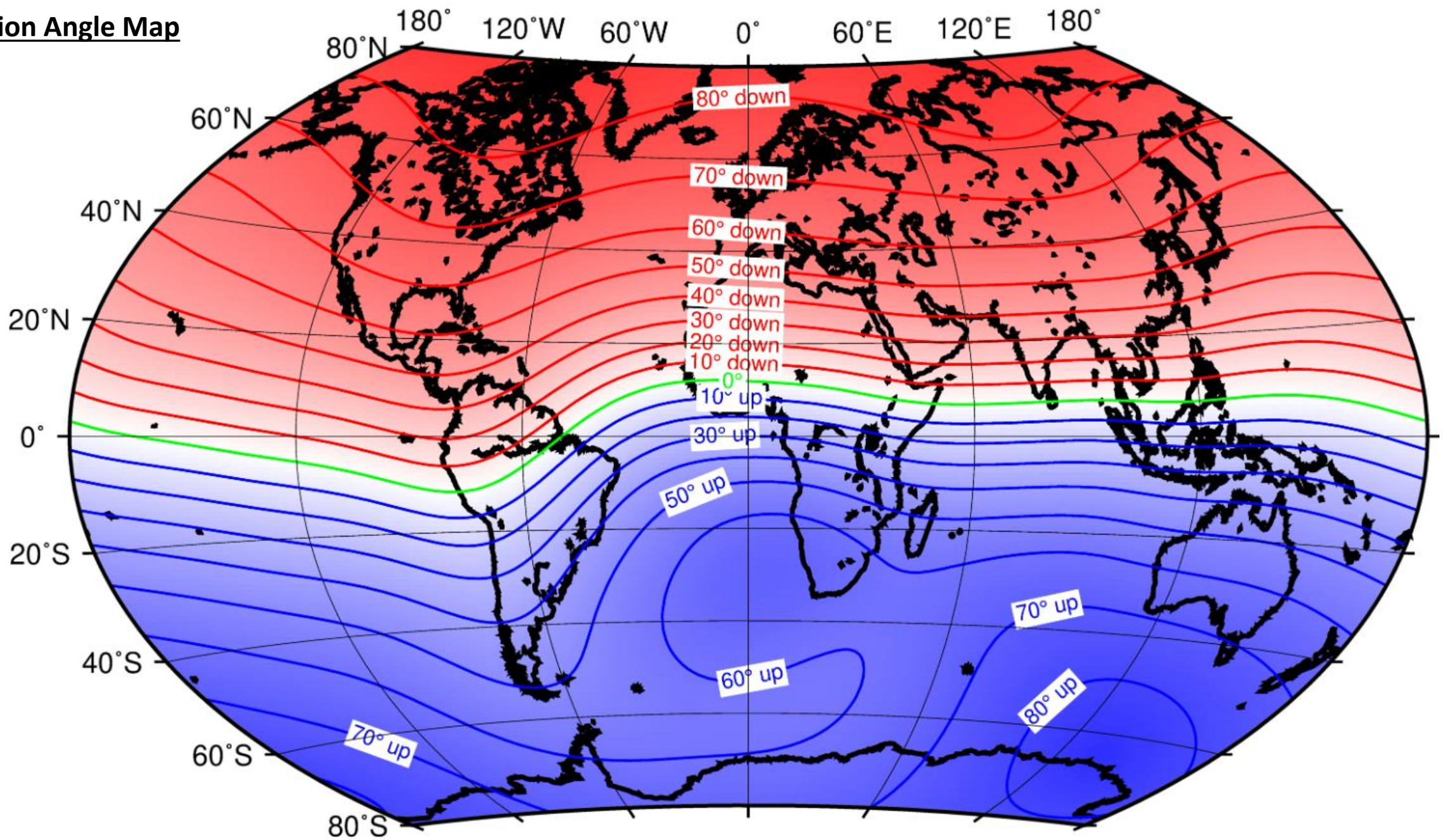


Figure 4: Map of inclination (angle in degrees up or down that magnetic field vector is from the horizontal) at 2020.0



# Declination Field Strength Map

