

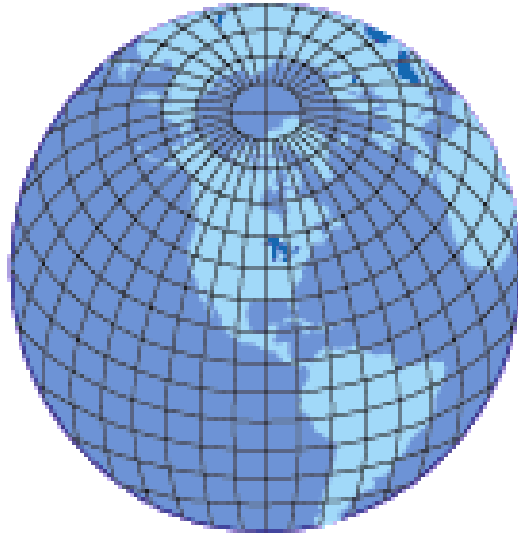
Slide 1:

Where on Earth are you?



<http://www.fourmilab.ch/earthview/vlatlon.html>

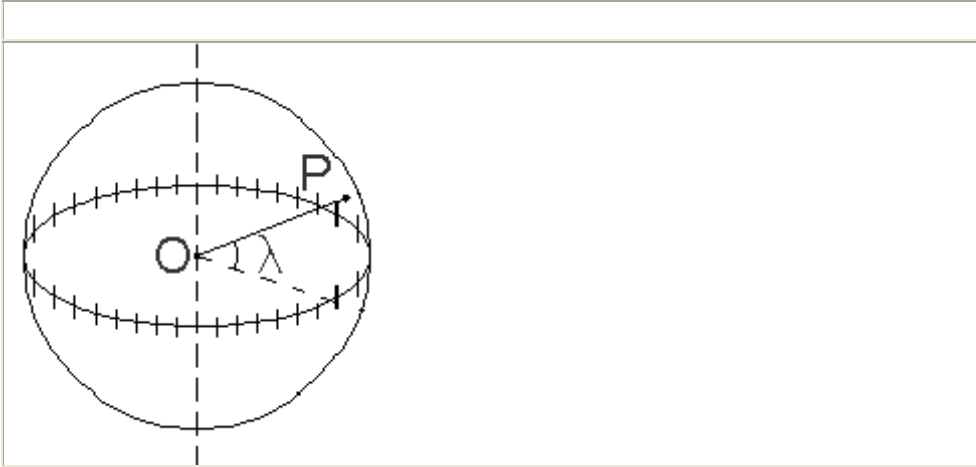
Slide 2



<http://www.mcwdn.org/MAPS&GLOBES/Latitude.html>

Slide 3:

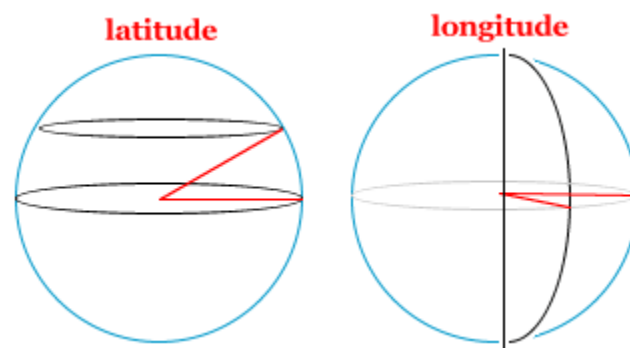
Where are the latitude and longitude angles?



This diagram is included in a discussion of latitude and longitude at the following web site.

<http://www-istp.gsfc.nasa.gov/stargaze/Slatlong.htm>

Slide 4



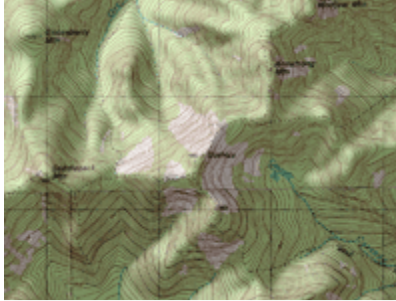
<http://cwx.prenhall.com/bookbind/pubbooks/walker2/chapter3/essay2/deluxe-content.html>

Latitude and longitude angles are also found at web sites like:

<http://www.tiscali.co.uk/reference/encyclopaedia/hutchinson/m0001905.html>

Slide 5:

Paper or Plastic?



Slide 6::

The constellation of GPS satellites

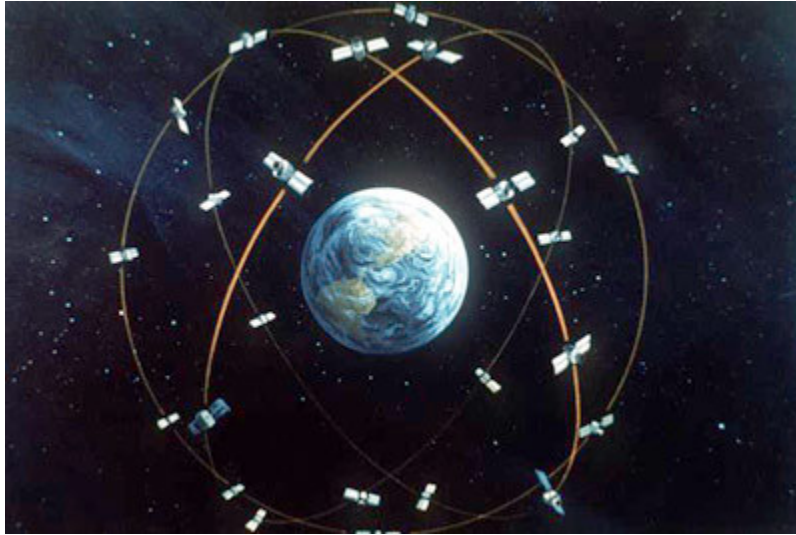


Photo courtesy [U.S. Department of Defense](#)

Slide 7:

On-line tutorials are available.

<http://www.trimble.com/gps/index.html>

The URL for the Magellan website includes a pdf manual.

<http://www.magellangps.com/en/>

Slide 8:

The Navigation Screens Loop

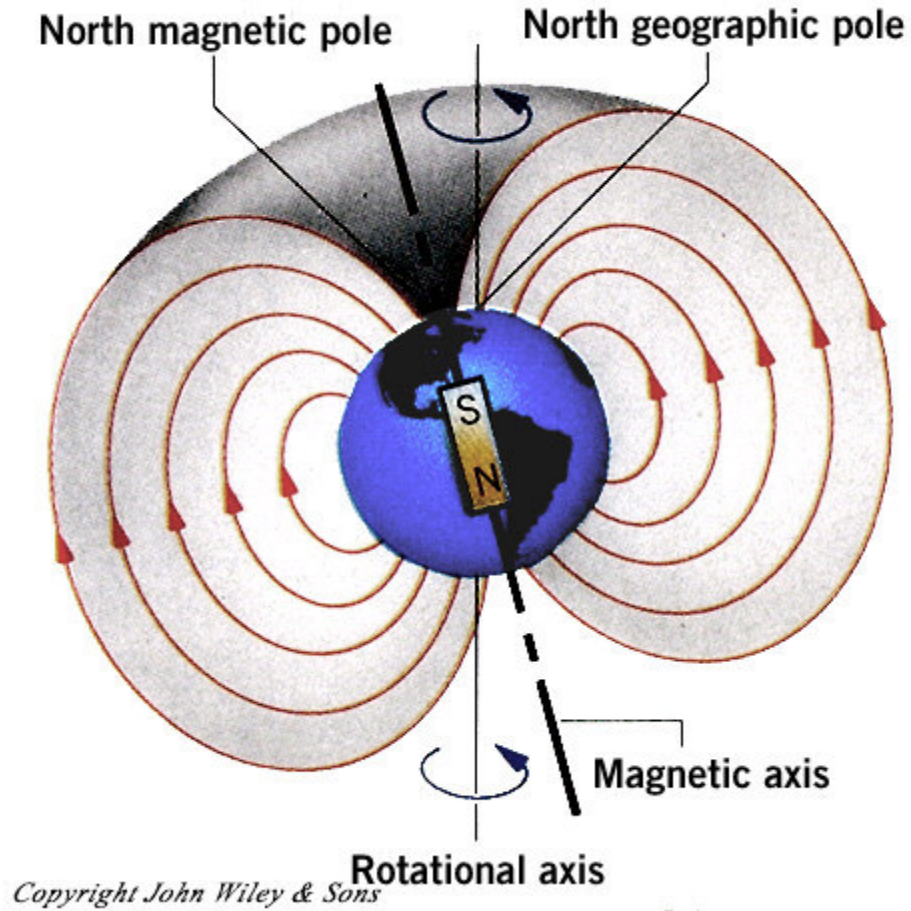
Map > < Compass > < Location > < Satellite Status > < Map

Use NAV to go >

Use ESC to go <

Slide 9:

Magnetic Misconceptions and Oversimplifications



<http://www.physics.brocku.ca/courses/1p93/images/f21005.jpg>

Slide 10:



http://media.popularmechanics.com/images/tb_compass-lg.jpg

Slide 11:

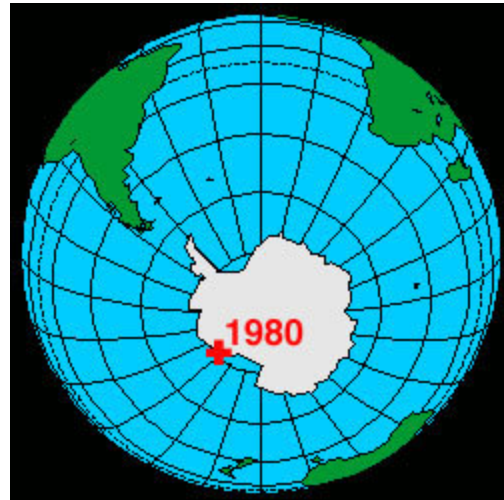
Where IS Earth's Magnetic North Pole?

North Magnetic Pole (actually the south pole of the Earth's magnetic field)



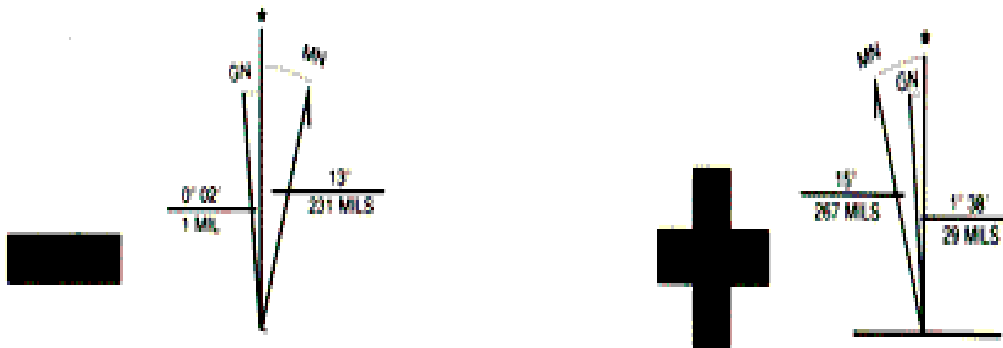
[Connect me to the Canadian Geological Survey home page](#) for more information about the North Magnetic pole.

South Magnetic Pole (the north pole of the Earth's magnetic field)



Slide 13:

East and West (Negative and Positive) Magnetic Declination



<http://erg.usgs.gov/isb/pubs/factsheets/fs03501.html>

You can calculate your magnetic declination at:

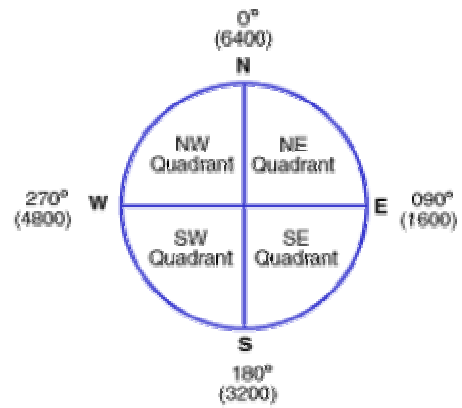
<http://www.ngdc.noaa.gov/seg/geomag/jsp/Declination.jsp>

Many web sites provide a lot of information about magnetic declination.

http://www.geocities.com/magnetic_declination/#DECLINATION

Slide 14:

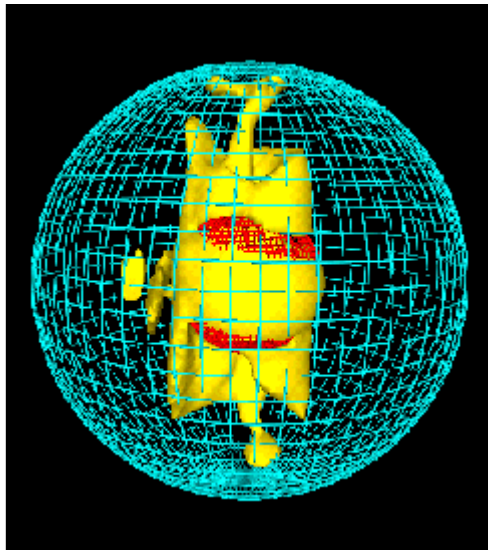
Compass Bearings



NE = 45° E of N, or N45°E
SW = 45° W of S, or S45°W

Slide 15:

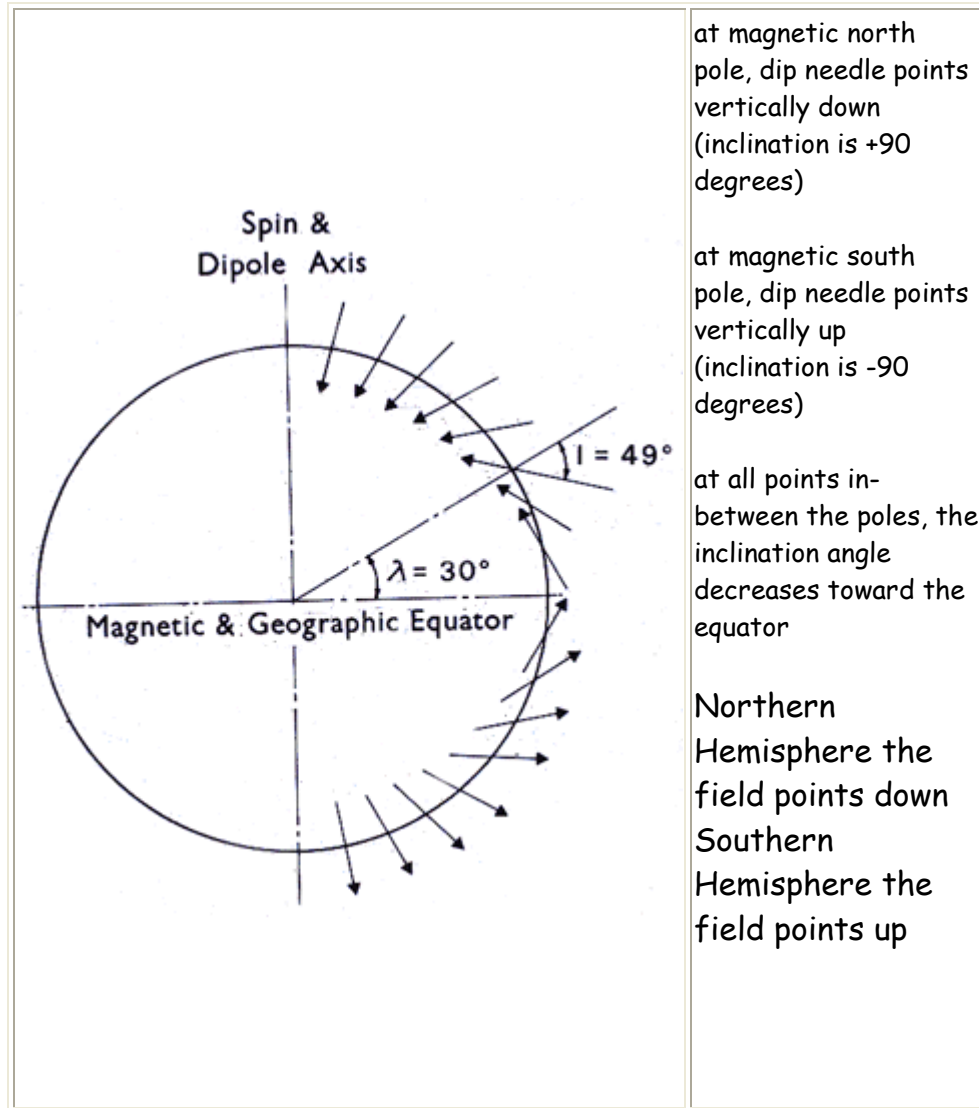
Earth's Geodynamo



<http://www.es.ucsc.edu/~glatz/geodynamo.html>

Slide 16:

Magnetic Inclination



http://www.geo.umn.edu/courses/1001/1001_moskowitz/Lectures/LO17.geomagnetism.html

The following is an animation that I hope that we can use.

http://www.windows.ucar.edu/tour/link=/earth/Magnetosphere/earth_magnetic_field.html

Slide 17:

The USGS Map/GPS Connection.

<http://education.usgs.gov/>

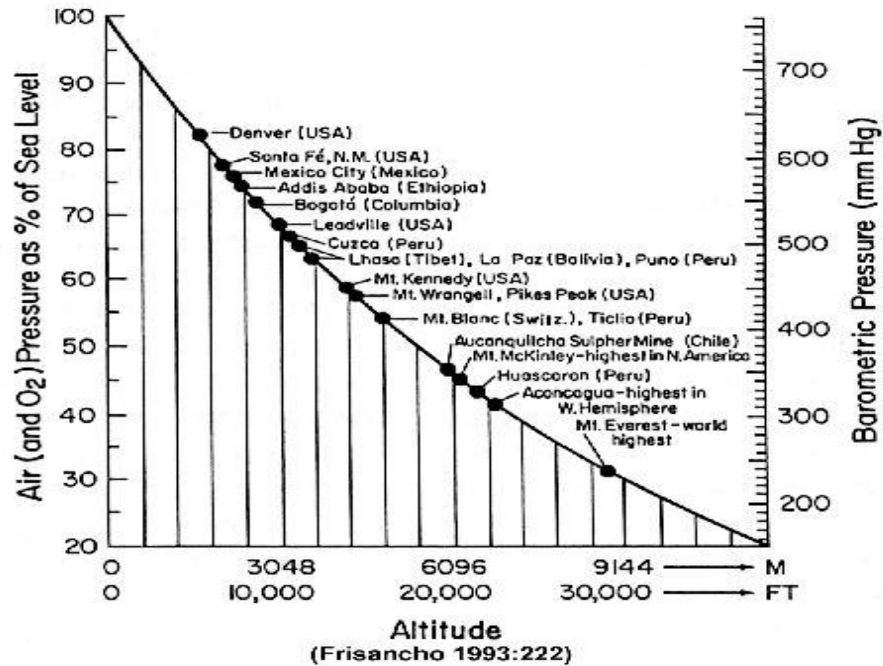
Custom topographic maps can be obtained.

<http://www.maps-gps-info.com/custom-topo-maps.html>

Slide 18:

The Barometer/USGS Map/GPS Connection

Altitude and Barometric Pressure



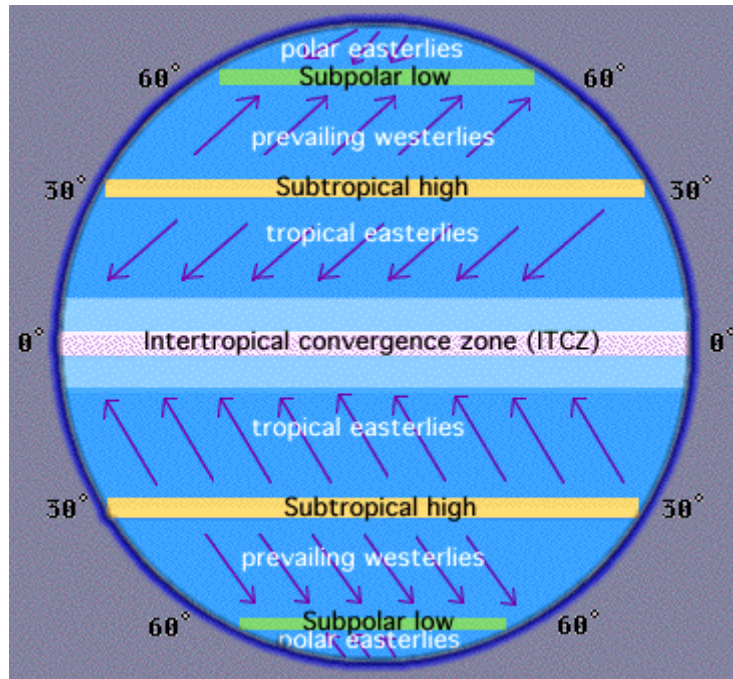
<http://www.as.ua.edu/ant/bindon/ant475/altitude/sld006.htm>

A web site explains how to calculate changes in elevation.

<http://wwwnfinity.com/~exile/howhigh.htm>

Slide 21

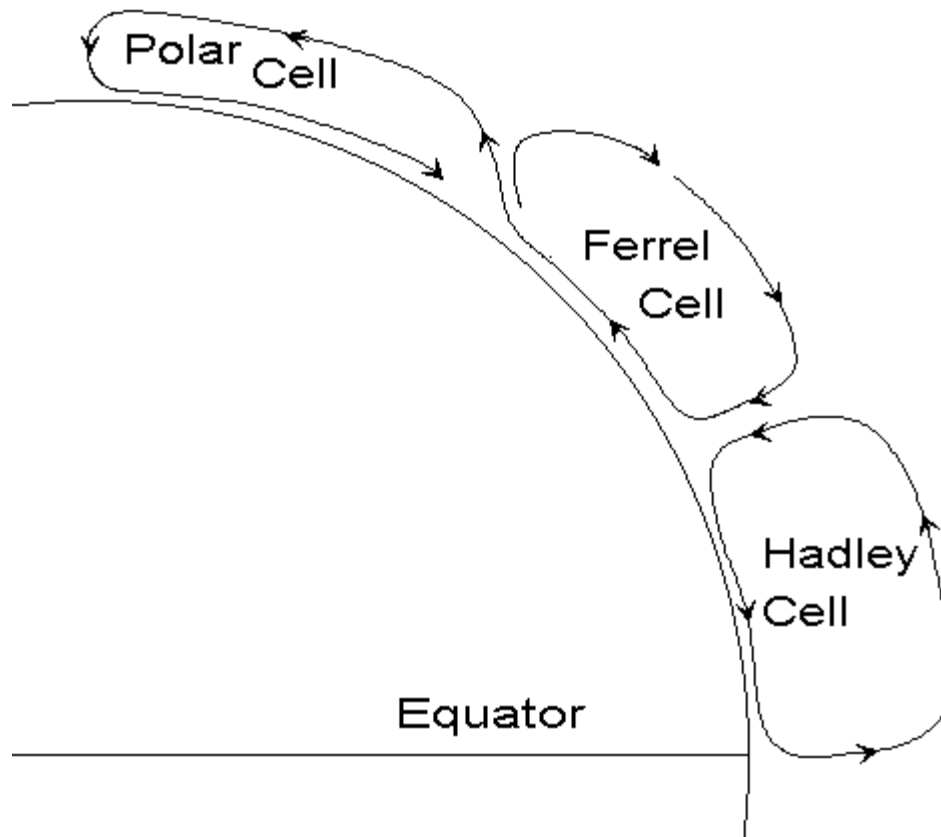
Equinox Global Winds



[http://ww2010.atmos.uiuc.edu/\(Gh\)/wwhlpr/hurricane_globalwinds.xml](http://ww2010.atmos.uiuc.edu/(Gh)/wwhlpr/hurricane_globalwinds.xml)

Slide 22:

Equinox Convection Cells



<http://facweb.bhc.edu/academics/science/harwoodr/Geog101/study/globwind.htm>

Slide 23:

The Mapping / Massachusetts Framework Connection

The Historical and Social Context for Science and Technology/Engineering:
An example of a topic for cited in Appendix V, (page 119):

Major theories that changes humans' view of their place in the world, e.g., the Copernican revolution and Darwin's Theory of Evolution.

One Guiding Philosophy of the Mathematic Framework (pages 5 and 6) states

"Mathematics is not a collection of separate strands or standards. Rather, it is an integrated field of study. Students develop a perspective of the mathematics field as an integrated whole by understanding connections within and outside of the discipline. It is important for teachers to demonstrate the significance and relevance of the subject by encouraging students to explore the connections that exist within mathematics, with other disciplines, and between mathematics and students' own experiences."

World History I, WHI.33, (page 55 of the History and Social Science Framework): Summarize how the Scientific Revolution and the scientific method led to new theories of the universe and describe the accomplishments of the leading figures of the Scientific Revolution including Bacon, Copernicus, Descartes, Galileo, Kepler, and Newton.

Slide 24:

WARNING

No one should venture out in any area where being lost would present a danger with only a GPS. It is essential to carry spare batteries, a compass and a map and to have the knowledge of how to use them. This message is so important that those who read this should pass it on to others, now that GPS receivers are becoming more and more popular.

<http://www.dbartlett.com/>