Need to re-do all
these with corrected
(1995 → 2014) commute
times. K 16/4/2014

Google earth

miles 1
km 1

Imagery Date 31/10/2005.

Printed 10/4/2014

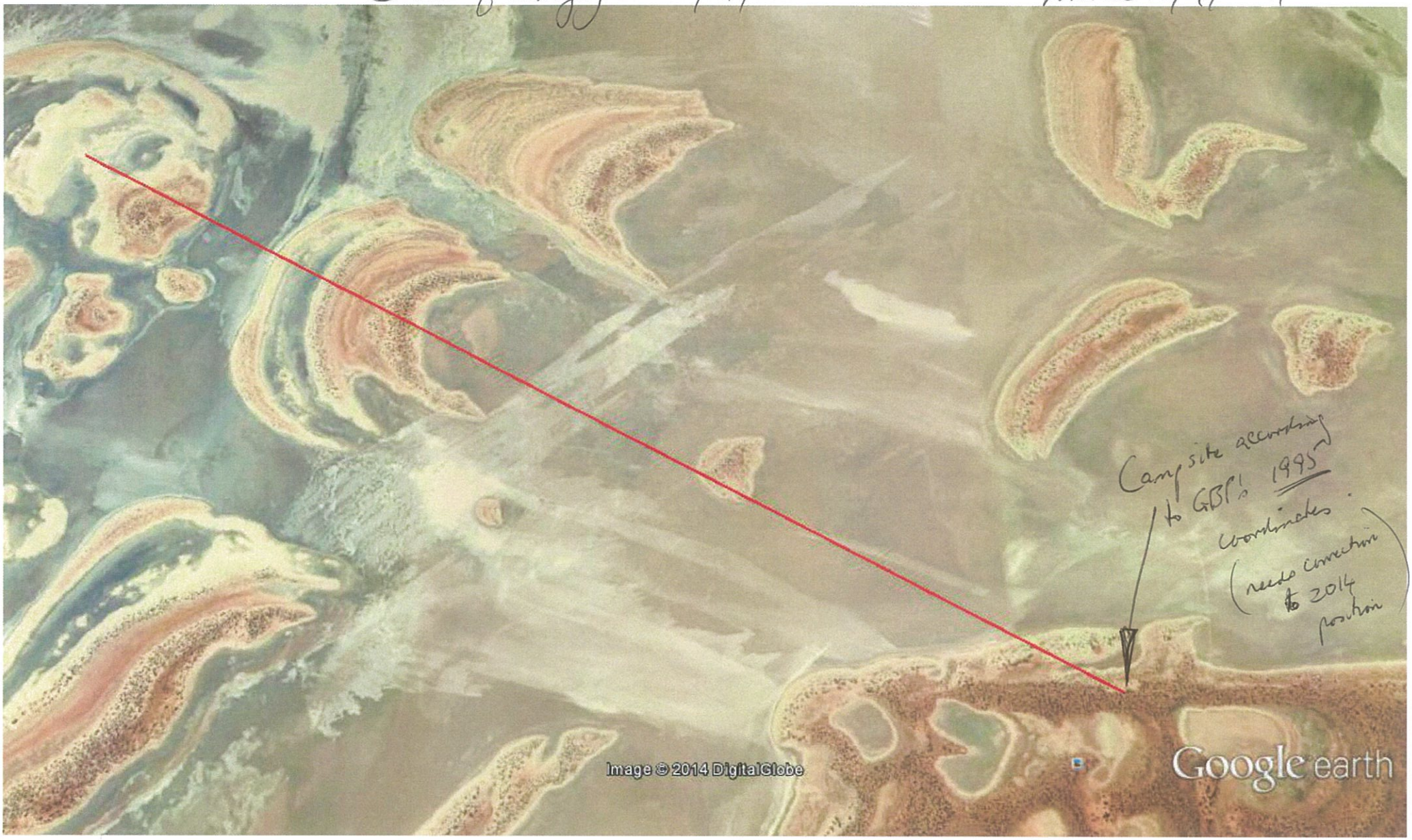
Google earth

miles 5
km 8

Imagery Date 31/10/2005. Printed 10/4/2014.

Date of Imagery: 20/9/2005.

Printed 16/4/2014



Google earth

miles 2

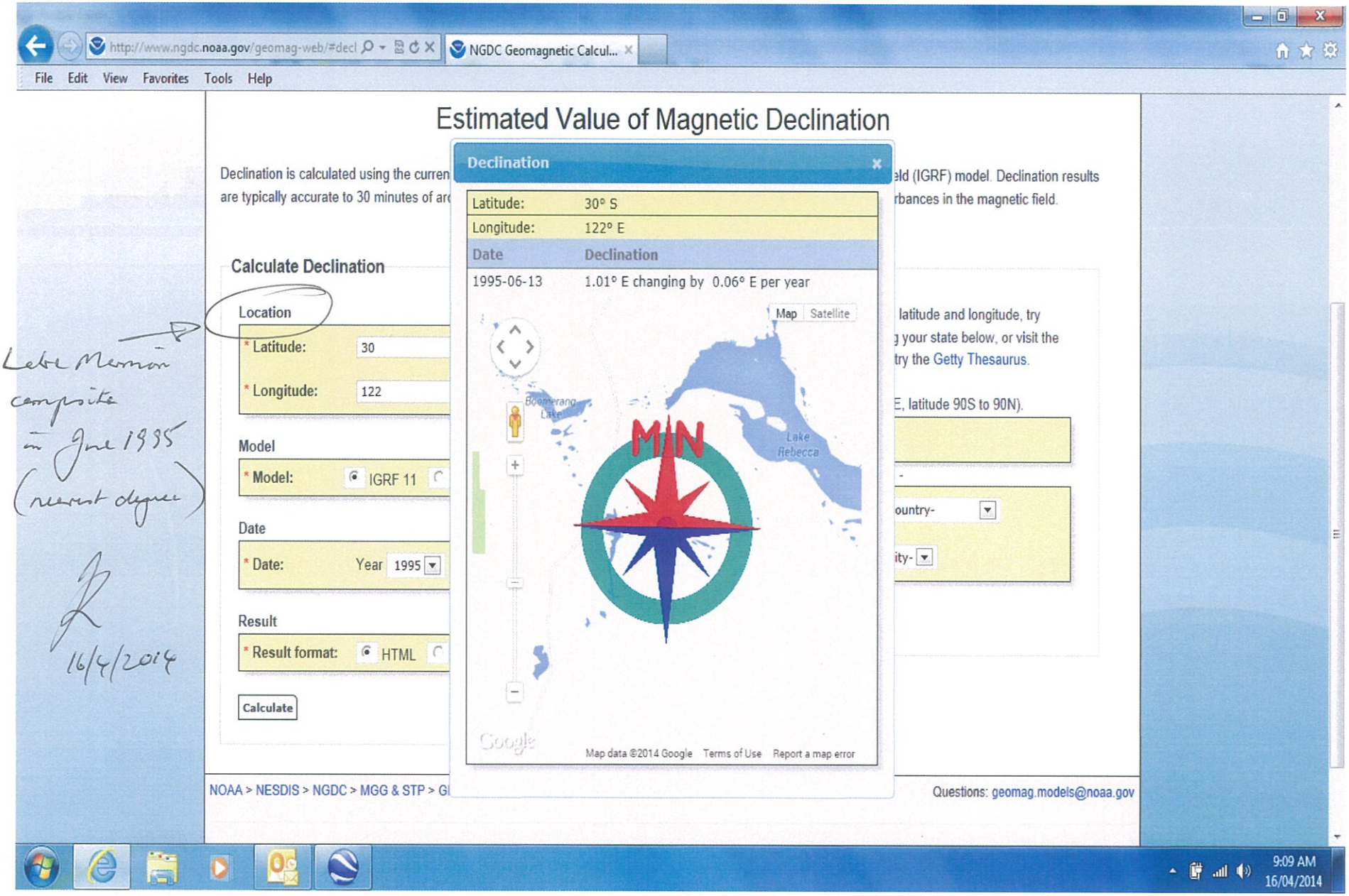
km 4

This red line is at an angle of 300 degrees (and is 7.5 km long)

A "True", not magnetic.

16/4/2014

Printed 16/4/2014.



Lake Mermaid composite in June 1995 (nearest degree)

16/4/2014

Printed 16/4/2014

Magnetic declination

From Wikipedia, the free encyclopedia

"Magnetic North" redirects here. For other uses, see Magnetic North (disambiguation).

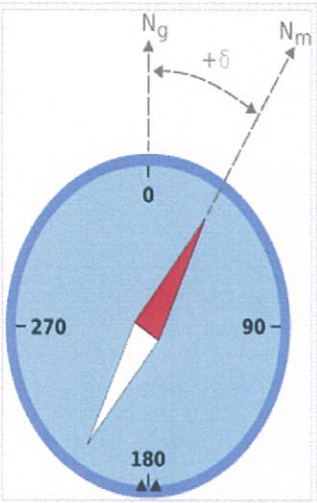
Magnetic declination or **magnetic variation** is the angle on the horizontal plane between magnetic north (the direction in which the north end of a compass needle points, corresponding to the direction of the Earth's magnetic field lines) and true north (the direction along a meridian towards the geographic North Pole). This angle varies depending on one's position on the Earth's surface, and over time.

Somewhat more formally, Bowditch defines variation as "the angle between the magnetic and geographic meridians at any place, expressed in degrees and minutes east or west to indicate the direction of magnetic north from true north. The angle between magnetic and grid meridians is called grid magnetic angle, grid variation, or grivation."[1]

By convention the declination is positive when magnetic north is east of true north, and negative when it is to the west. *Isogonic lines* are lines on the Earth's surface along which the declination has the same constant value, and lines along which the declination is zero are called *agonic lines*. The lowercase Greek letter δ (delta) is frequently used as the symbol for magnetic declination.

The term **magnetic deviation** is sometimes used loosely to mean the same as magnetic declination, but more correctly it refers to the error in a compass reading induced by nearby metallic objects, such as on board a ship or aircraft.

Magnetic declination should not be confused with **magnetic inclination**, also known as magnetic dip, which is the angle that the Earth's magnetic field lines make with the horizontal plane (i.e. upwards or downwards).



Example of magnetic declination showing a compass needle with a "positive" (or "easterly") variation from geographic north. N_g is geographic or true north, N_m is magnetic north, and δ is magnetic declination

Contents [hide]

1 Change of declination over time and space
2 Determining declination
2.1 Direct measurement
2.2 Determination from maps and models
3 Using the declination

Imagery Date 20/9/2005. Printed 16/4/2014

Google earth miles 2 km 4

Magnetic declination from this location in 1995 was 1.01° E (see attached)
Therefore 300° magnetic was 299° true.

16/4/2014

Date of Imagery 20/8/2005 Printed 16/4/2014

Google earth

miles 4
km 7

29°47'46"S, 121°29'13"E as at 16/4/2014

But these coordinates were recorded in June 1995.

16/4/2014.

See page 23 of GBP's field notebook (6/95).

Imagery Date = 26/10/2005

Printed 16/4/2014

Google earth

feet 1000

meters 400

121° 32' 54"
29° 47' 00"
(Andy Chapman coords of compass)

29° 47' 01"
121° 33' 06"
as at 16/4/2014. But these coordinates were recorded in June 1995.

16/4/2014

Imagery Date : 26/10/2005 Printed 16/4/2014

Google earth

miles 3
km 5

Imagery Date : 26/10/2005

Printed 16/4/2014

Google earth

feet 1000
meters 500

121° 32'54" E
29°47'00" S

(Cindy Chapman's coordinates of campsite)

as at 16/4/2014. But these coordinates were recorded in June 1995.