

Geog 1000

Lecture 18

Exam Review

Link to lectures:

<http://scholar.ulethbridge.ca/chasmer/classes/>

Today's Lecture

1. Assignment 2 → Discuss
2. Exam review

Assignment 2

Question 1:

The magnetic pole was in Canada's far north around 1831 (1 mark).

In 1994, they noticed that the movement of the magnetic pole was accelerating (1 mark),

from around 10 kms(1 mark) per year

to it's current 55-60 kms per year (1 mark).

It is expected to reach Siberia by around 2040 (1 mark).

Assignment 2

Question 2:

The Earth has a molten core, which creates an invisible magnetic field (1 mark).

The field protects the Earth from particles that come from the sun and outer space (1 mark).

Without the magnetic field, the atmosphere, as we know it, would disappear (1 mark)

because there wouldn't be the protective layer of the magnetosphere protecting it from harmful cosmic and solar radiation (1 mark).

Mars and the Moon don't have an atmosphere because they don't have a magnetic field (4 marks). Mantle of both is very small.

Assignment 2

Question 3:

Earth's magnetic field may have resulted in changes in cloud cover (2 mark)

- Decreased magnetic intensity (2 marks)*
- Increased cosmic and solar rays (radiation) (2 mark)*
- increased cosmic/solar particles ('trails') (1 mark)*
- increased cloud condensation nuclei (1 mark)*
- water vapour condenses around the CCN (1 mark)*
- formation of cloud (1 mark)*
- increased albedo (1 mark)*
- Drop in air temperature (1 mark)*
- Climatic change / cooling (1 mark)*
- Possible influence on population dynamics, etc. (2 marks)*

Assignment 2

Question 3:

NOTE: This is a theory. No evidence that this cloud feedback is actually occurring, and despite decreases in magnetic intensity over past 15 + years, we have had hottest years on record (2002, 2003, 2004, 2005, 2006, 2007, 2009, 2010, 2012, 2013) since 1901 (globally). 9 of last 10 years hottest on record.

