

ESS 431 PRINCIPLES OF GLACIOLOGY
ESS 505 THE CRYOSPHERE

Lecture 12 – Paleoclimate and Ice Ages II: Theories of the Ice Age Cycles

Due Wednesday, November 15 2017, at start of class

<http://www.sciencecourseware.org/eec/globalwarming/tutorials/milankovitch/>

Imbrie, J., 1993. On the structure and origin of major glaciation cycles. *Paleoceanography* 8, (Pages Reduced).

1. Name the three cyclic variations in the Earth's orbit around the sun, and the periodicity of each.
2. Glacier cycles are best explained by changes in insulation (forced by orbital variability) in what region?
3. List the five complications that seem to imply Eccentricity is not the dominant control on 100kyr cycles.
4. What are the end member models for the 100kyr glacial cycles?
5. In what ways do changes in ice sheet size feed back into the ocean and atmosphere systems (potentially driving 100kyr oscillations).