Name: _____

Remote Sensing of the Environment
GEOG/GEOL 4093/5093
Spring Semester 2008

Lab Exercise #8: 03/18/2008
Due: 04/01/2008
Remote Sensing with EOS Satellites

In this lab you will develop a strategy for a remote sensing study of the Earth's energy balance. First, take a look at the components of the energy balance: **http://asd-www.larc.nasa.gov/erbe/components2.gif**

Each NASA Distributed Active Archive Center (DAAC) specializes in different types of data or applications. The DAACs and their respective applications may be found at: **http://nasadaacs.eos.nasa.gov**

1. Which NASA Distributed Active Archive Center would you use to access data regarding the Earth radiation budget? Note the full name and abbreviation, as well as other categories of Earth system data stored there. (5)

2. Imagine you are conducting a study of the overall energy budget for the entire globe starting in 2001 and lasting through 2006, using NASA Earth Observing System (EOS) satellites. What major **platforms** have and will be operational for the entire period of your study (5)? Describe the important characteristics of these satellites (e.g. orbit, swath, etc.). Information about EOS can be found at the following URLs: **http://eospso.gsfc.nasa.gov/** and **http://earth.nasa.gov/**

3. Based on your responses to the previous question, which **sensors** would best fit your study and which components of the surface energy balance will be determined by each (10)? Be specific about the wavelengths that each sensor detects and how these will help address each component of the energy balance as defined by the energy budget figure (**http://asd-www.larc.nasa.gov/erbe/components2.gif**).

4. Make a timeline of your proposed plan to study the Earth's energy balance from space from 2001 through 2006 (5). Note the length of record for each dataset during your study period. You may need more space than provided.

5. Is this an adequate period to investigate global warming? Why or why not (5)