Time Required: 60 minutes (lecture only); 100+ minutes with NASA activity

Keywords:
- Carbon dioxide
- Climate change
- Ocean acidification

Learning Objectives:
- Students will be able to describe the main components of the global carbon cycle.
- Students will be able to describe what a feedback loop is and give an example.

Background Information: See companion PowerPoint and videos

Vocabulary: Extract as necessary from PowerPoint and videos

Lesson Procedure:
1. Handout printed diagrams to each student.
2. Present lesson with videos (60 minutes)
   Intro PowerPoint
3. Added time for questions and discussion (15 minutes)

Discussion Questions: As needed/appropriate. Also see references.

References: Videos within PowerPoint give a good starting place in terms of background info for instructor

NASA has developed further discussion questions and potential activities on this topic. They can be found at:

http://oceancolor.gsfc.nasa.gov/SeaWiFS/TEACHERS/

See in particular the Living Ocean Teacher's Guide.

This lesson plan is developed as part of a GK-12 project funded by the National Science Foundation under grant no. DGE-0840804. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.