

# Ocean Iron Fertilization and International Governance of Climate Geoengineering

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16<sup>th</sup> IWLC, Stetson University College of Law  
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# “Geoengineering”

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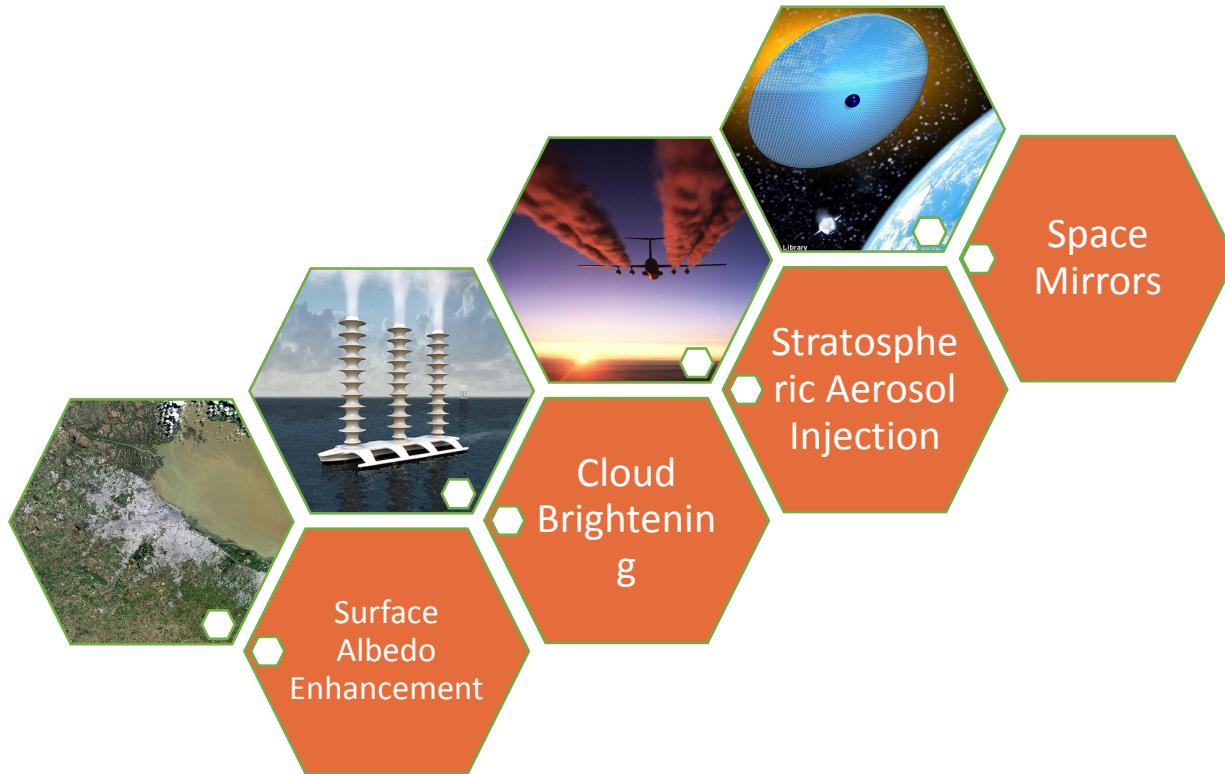
Options involving large-scale engineering of the environment in order to combat or counteract the effects of changes in atmospheric chemistry.

U.S. National Academy of Sciences

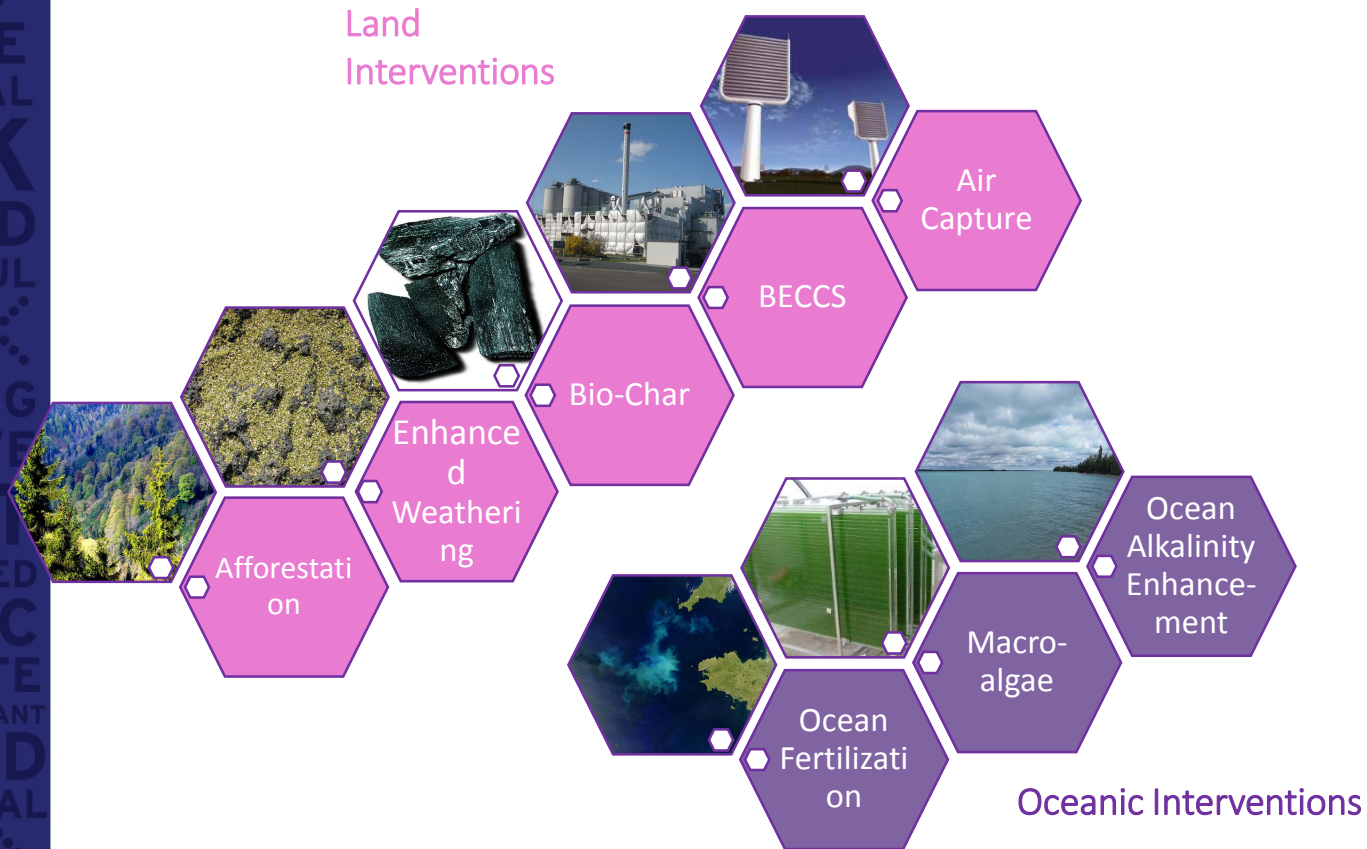


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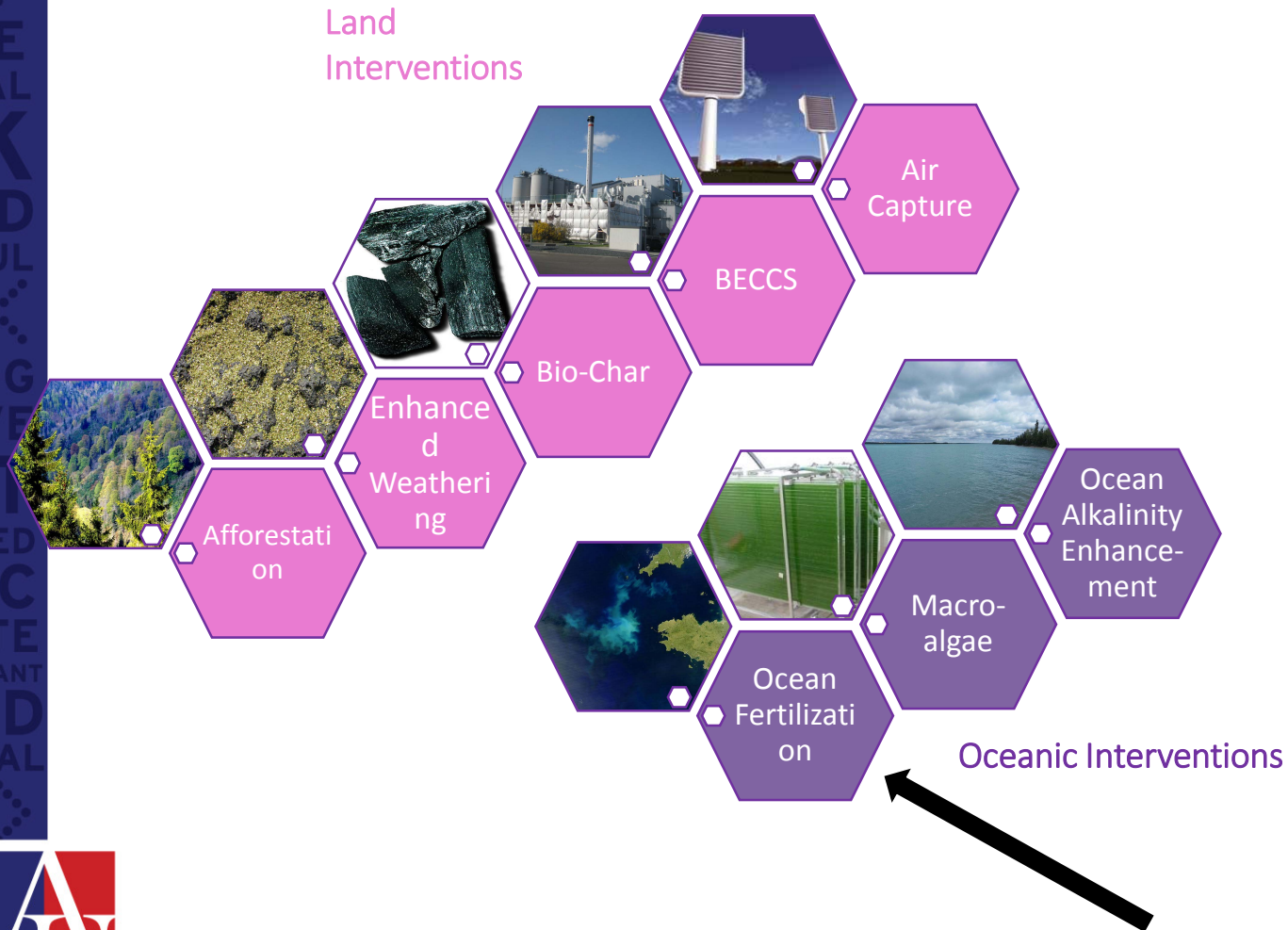
# Solar Radiation Management Approaches



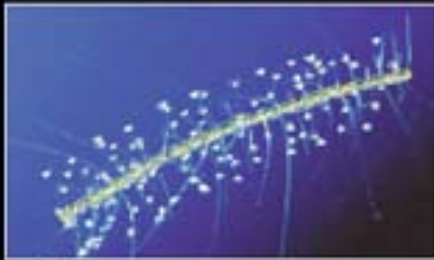
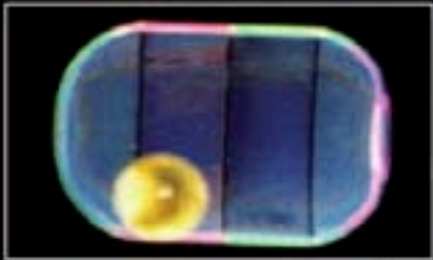
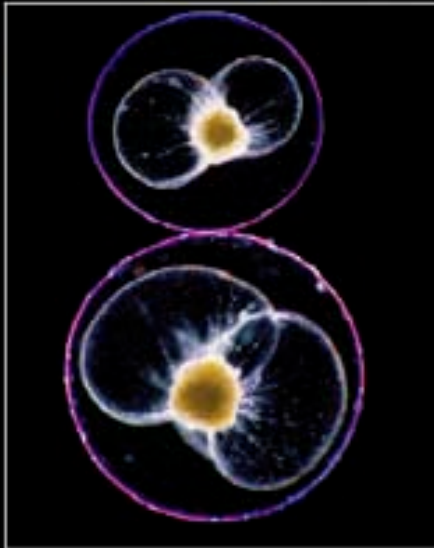
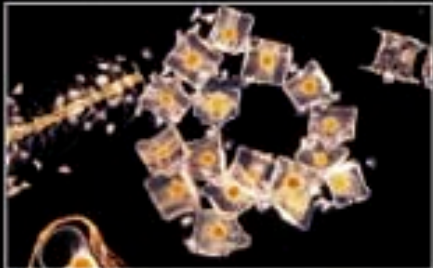
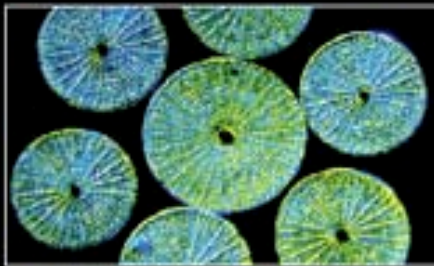
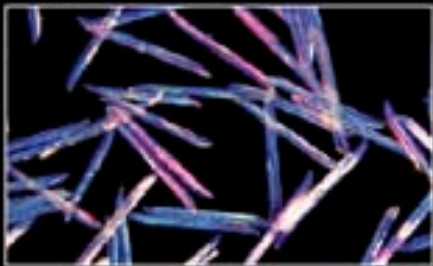
# Carbon Dioxide Removal Options



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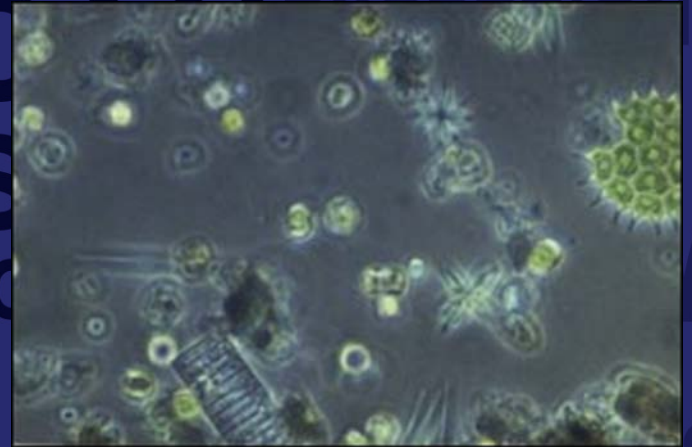


3D  
PHYTOPLANKTON



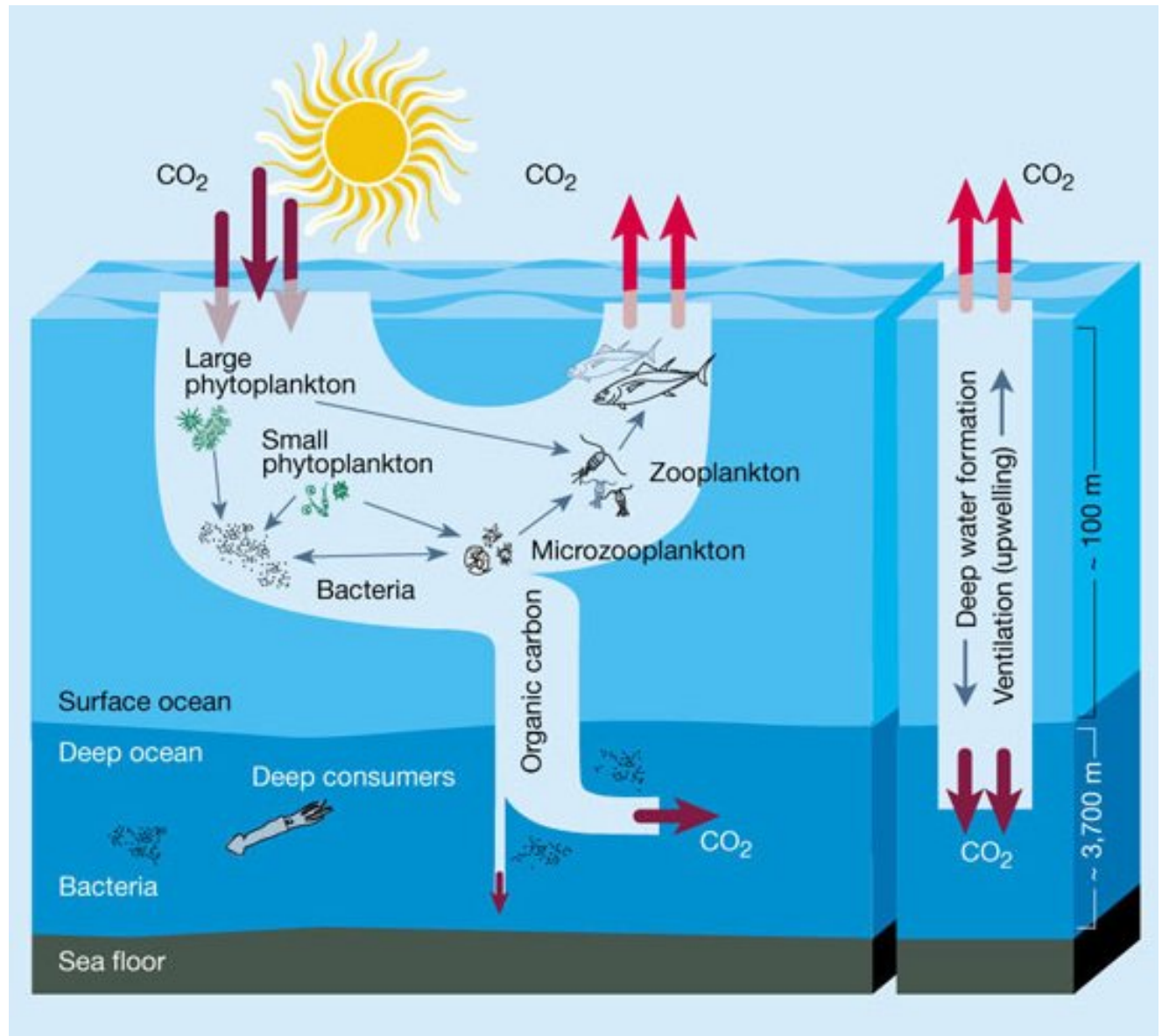
[www.imagequest3d.com](http://www.imagequest3d.com)

# Phytoplankton



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# The Ocean and the "Biological Pump"



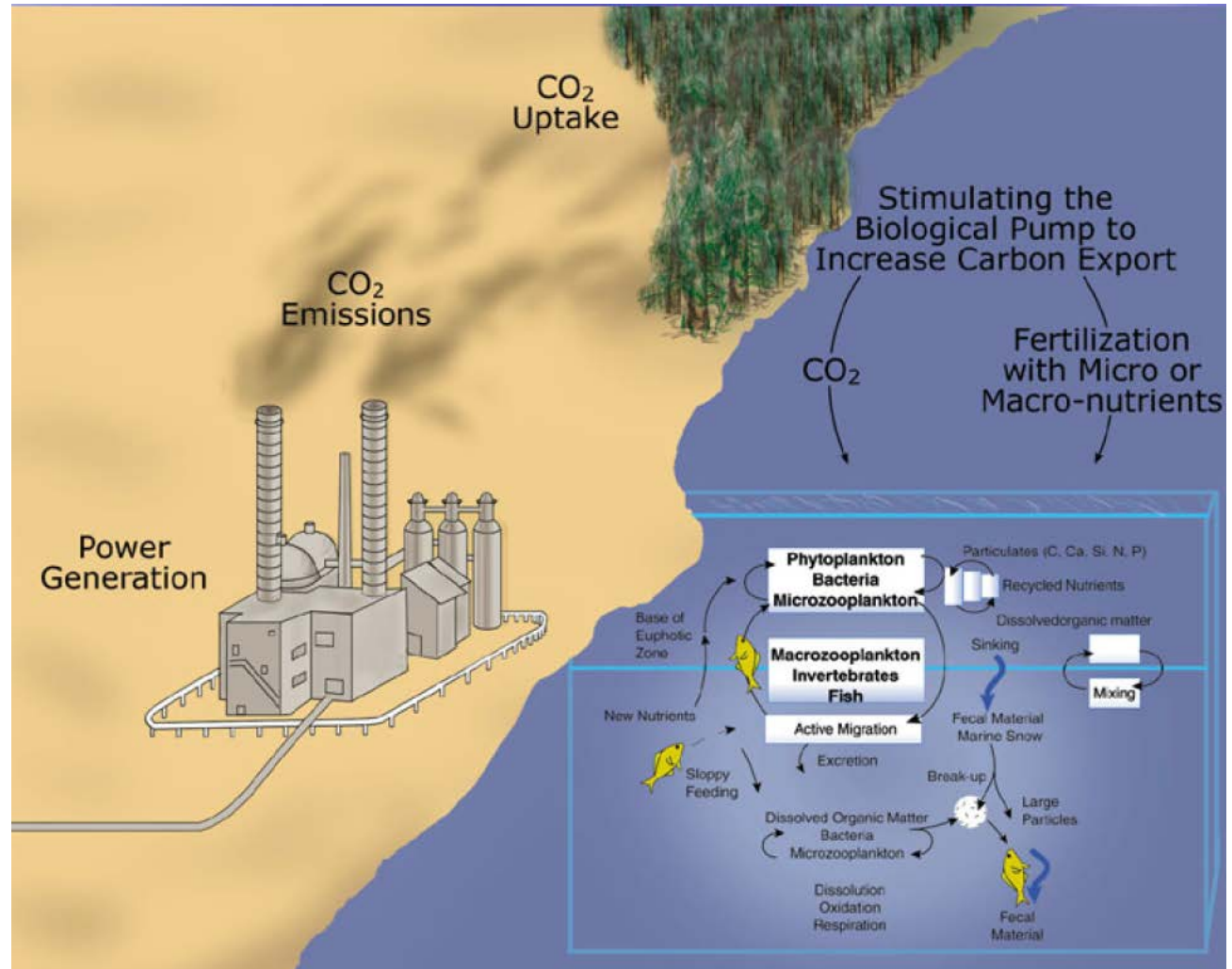
# Southern Ocean

DIVERSE  
CONNECTED  
PROFESSIONAL  
KNOW  
CREATIVE  
EXCEPTIONAL  
WONK  
ENGAGED  
RESOURCEFUL  
WELCOMING  
INNOVATIVE  
SMART  
ACCOMPLISHED  
DYNAMIC  
PASSIONATE  
STIMULATING VIBRANT  
FOCUSED  
INSPIRATIONAL  
SUSTAINABLE  
COLLABORATIVE  
ACTIVE  
BALANCED

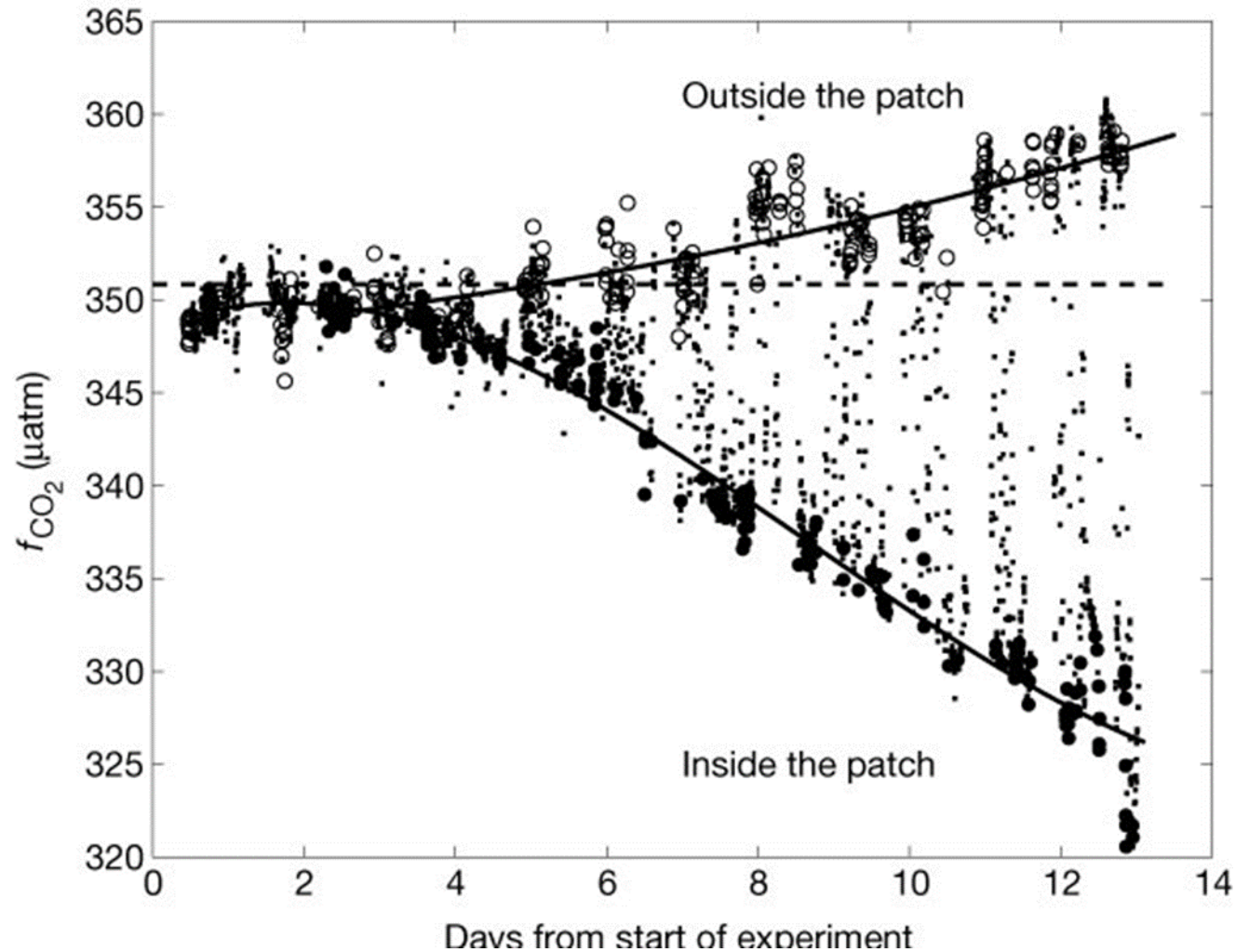




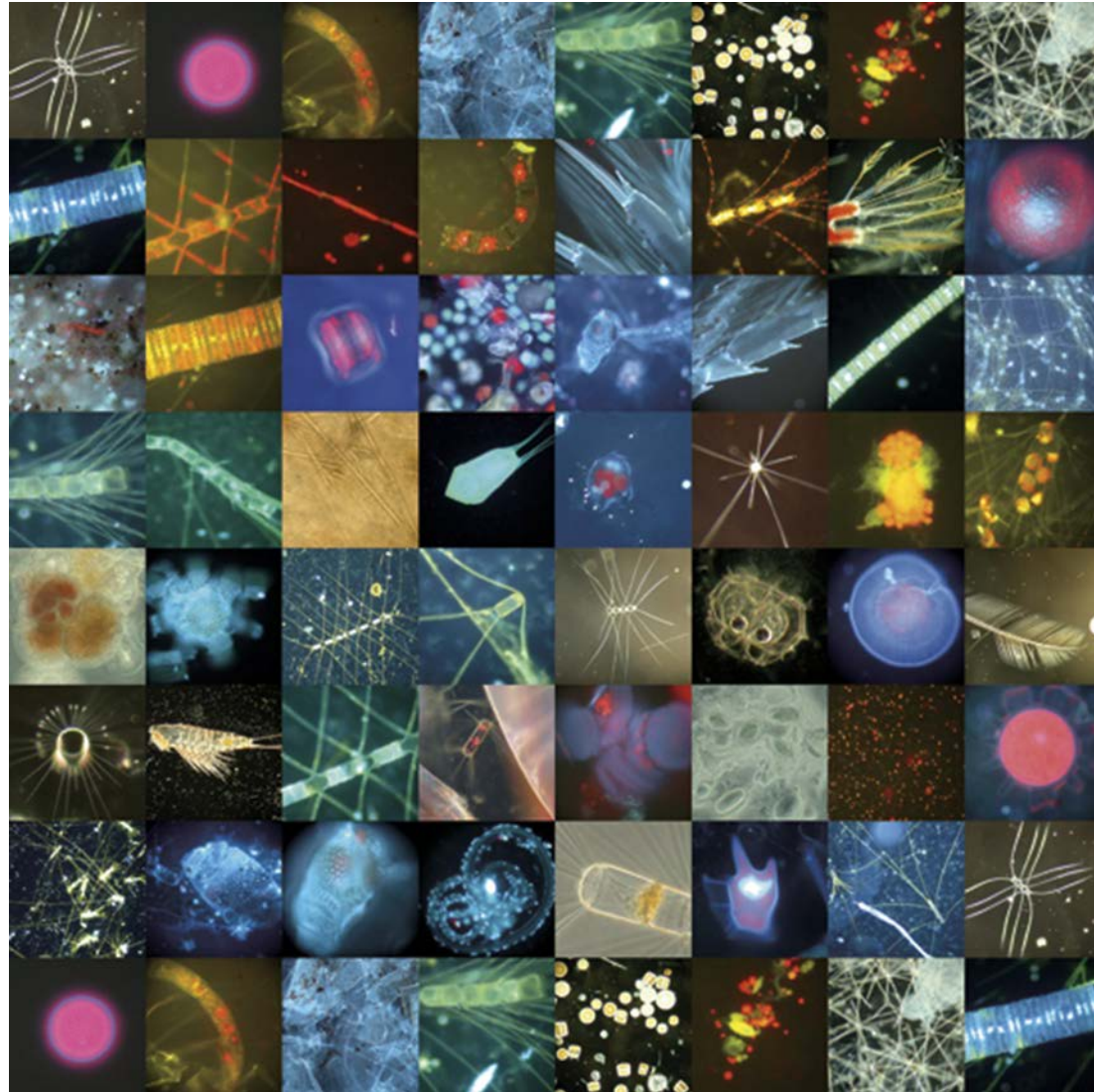
# Ocean Iron Fertilization: Geoengineering



# Correlation of Algae Concentration and CO<sub>2</sub> Concentrations



# Planktonic Collage: What Plankton Species Might Ocean Iron Fertilization Favor?



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# London Dumping Convention

## RESOLUTION LC-LP.1(2008) ON THE REGULATION OF OCEAN FERTILIZATION

3. AGREE that in order to provide for legitimate scientific research, such research should be regarded as placement of matter for a purpose other than the mere disposal thereof under Article III.1(b)(ii) of the London Convention and Article 1.4.2.2 of the London Protocol;
4. AGREE that scientific research proposals should be assessed on a case-by-case basis using an assessment framework to be developed by the Scientific Groups under the London Convention and Protocol . . .
8. AGREE that, given the present state of knowledge, ocean fertilization activities other than legitimate scientific research should not be allowed. To this end, such other activities should be considered as contrary to the aims of the Convention and Protocol and not currently qualify for any exemption from the definition of dumping in Article III.1(b) of the Convention and Article 1.4.2 of the Protocol; [emphasis added]



# London Dumping Convention

## ASSESSMENT FRAMEWORK FOR SCIENTIFIC RESEARCH INVOLVING OCEAN FERTILIZATION (2010)

- **Elements of environmental assessment:**
  - **Problem formulation**
  - **Site selection and description**
  - **Exposure assessment**
  - **Effects assessment**
  - **Risk Characterization**
  - **Risk Management**
  - **Decision Making**
  - **Results of Monitoring**



# CBD, 9<sup>TH</sup> COP (2008)

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## **IX/33. Marine and coastal biodiversity**

**3. Taking into account the role of the International Maritime Organization, requests the Executive Secretary to seek the views of Parties and other Governments, and, in consultation with the International Maritime Organization, other relevant organizations, and indigenous and local communities, to compile and synthesize available scientific information on potential impacts of direct human-induced ocean fertilization on marine biodiversity and make such information available for consideration at a future meeting of the Subsidiary Body on Scientific, Technical and Technological Advice prior to the tenth meeting of the Conference of the Parties**



# CBD, 10<sup>TH</sup> COP (2010)

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## X/33. Biodiversity and climate change

(w) Ensure . . . in the absence of science based, global, transparent and effective control and regulatory mechanisms for geo-engineering, and in accordance with the precautionary approach and Article 14 of the Convention, that no climate-related geo-engineering activities that may affect biodiversity take place, until there is an adequate scientific basis on which to justify such activities and appropriate consideration of the associated risks for the environment and biodiversity and associated social, economic and cultural impacts, with the exception of small scale scientific research studies that would be conducted in a controlled setting in accordance with Article 3 of the Convention, and only if they are justified by the need to gather specific scientific data and are subject to a thorough prior assessment of the potential impacts on the environment; [emphasis added]



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BALANCED

**Thank you!**  
**[jiwlp@berkeley.edu](mailto:jiwlp@berkeley.edu)**

