

Appendix I: Changing Planet Study Group Workshop

Causes	Consequences	Solutions
Are humans changing the climate?	What is at risk? (or Why should we care?)	What can/should we do?
Has the climate changed? - evidence from different time scales - different spatial scales What are the proximate causes? - natural and human forcings - 'human fingerprints' What are the underlying causes? - social, economic, demographic, tech. values, culture What are the main GHGs and what are their sources? - Fossil energy, land use, other - developed and developing countries - By economic sector	What are the biophysical effects of climate change (and CO₂)? - Ice sheets, glaciers, arctic sea ice, permafrost, snow cover - Sea level, ocean acidity - Water cycle - Climate variability, weather extremes - Carbon cycle - Biome & species distributions - Biodiversity What are the consequences for people? - Food security - Access to water - Human health - Poverty - Livelihoods, economic development What are the risks (probability x consequence)? - How do people perceive, understand risk? - How do they respond to risk? How will consequences differ for different groups of people? - developed, emerging, and	What are the response options? - mitigation - adaptation - carbon capture - geoengineering Can we avoid 'dangerous' climate change? - What will it take? - Is it too late? Who is responsible for taking action? What are the mechanisms for effecting change? - Regulation - Technology standards - Market incentives - Support for R&D - Raise awareness, education What are the pros and cons of different responses/mechanisms? - Economic benefit-cost analysis - Social impacts - Environmental impacts - Equity considerations

	developing countries - poor, marginalized populations - rural and urban - island, coastal, mountain, floodplain, interior and other populations - Who is most vulnerable?	International negotiations and agreements National level politics and action
Active learning: - accessing, manipulating, interpreting climate and other data - Campus or municipal GHG inventory - Ecological and carbon footprint calculators	Active learning: - Assessment of local resources/systems that are vulnerable to climate stresses (CCVI) - Analyze data showing changes in species distributions	Active learning: - Projects that contribute to DEP adaptation planning process - Simulation of UN COP - Analyze, develop recommendations for campus Climate Change Action Plan - Field trips: renewable energy resources, 'sustainable communities'
Data/information sources:	Data/information sources:	Data/information sources:
Myths:	Myths:	Myths: