

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ
КАФЕДРА ІНОЗЕМНИХ МОВ
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ ЦЕНТР**

**МАТЕРІАЛИ
VIII МІЖВУЗІВСЬКОЇ НАУКОВО-ПРАКТИЧНОЇ
КОНФЕРЕНЦІЇ
ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО ЦЕНТРУ
КАФЕДРИ ІНОЗЕМНИХ МОВ**

“TO LIVE IN A SAFER WORLD”

(Суми, 28 березня 2014 року)

The eighth scientific practical student`s, postgraduate`s and teacher`s
LSNC conference

CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT

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The threat of global climate change poses an unprecedented challenge to humanity. Although climate change is potentially important, it is crucial to recognize also that (especially for the developing countries), there are a number of other priorities that affect human welfare more immediately – such as hunger and malnutrition, poverty, health, and pressing local environmental issues. In this context, predictions about climate change, its impacts, and the costs of mitigation are important for the policy – making dimension, because climate change issues reside within broader questions about sustainable development. One major objective of human development is sustainability, and the pursuit of greater precision in climate prediction can help with progress toward this goal.

The state of the environment is a major worldwide concern today. Pollution is perceived as an especially serious threat in industrialized countries, where the quality of life had hitherto been measured mainly in terms of growth in material output. Meanwhile, environmental degradation has become a significant impediment to economic development and the alleviation of poverty in the developing world. In this context, sustainable development (SD) is an overarching objective for human society that has emerged at the end of the twentieth century. The interaction between SD and global climate change is especially important, in view of the wide – ranging impacts that the latter is likely to have. Furthermore, the UNFCCC has recognized this relationship explicitly in Article 2, which states that the stabilization of greenhouse gas concentration «should be achieved within a time – frame sufficient to enable economic development to proceed in sustainable manner»

What is the science of climate change? The primary source of energy that drives the global climate is the radiation from the Sun. Incident solar energy is absorbed by Earth's surface, and re-distributed by atmospheric and oceanic circulation. In turn, infrared

radiation is re-emitted from the Earth into space, to maintain a zero average net energy balance between the top of the atmosphere and outer space. To maintain its long- thermal equilibrium, the Earth must re-radiate back to space, on average, the same amount of energy that is adsorbed. It does so by emitting longwave infrared radiation. The amount of longwave radiation emitted by a warm surface depends on its temperature and how absorbing it is. If the Earth had a perfectly absorbing surface, it would re-emit the required 235 Wm^{-2} of thermal radiation at a rather low temperature of about -19°C . This is much colder than the conditions that actually exist near the Earth's surface – where the global mean temperature is about -15°C . This apparent discrepancy arises from the natural greenhouse effect: because the Earth is not a perfect absorber, it must be about 34°C warmer than it would otherwise be, to re-emit the net 235 Wm^{-2} of radiation into space.

ACID RAIN. PROBLEMS AND SOLUTIONS

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Acid rain refers to a relatively new phenomenon, a form of precipitation that is acidic in nature. The result of human-induced emissions, acid rain has grave effects on the planet's flora and fauna and different ecosystems. The precipitation occurs when exhaust emissions of sulfur and nitrogen compounds react in the atmosphere.

Acid rain refers to precipitation, both wet and dry, that is acidic in nature. Precipitation like sleet, rain, snow or dry acidic components that have a pH of less than 4.0 is termed as acid rain. This phenomenon is the result of industrial and vehicular emissions of sulfur dioxide and nitrogen oxides reacting in the Earth's atmosphere.

Acid rain is associated with atmospheric pollution. Today, a myriad of highly deleterious environmental effects are being researched upon. The occurrence results in a precipitous pH value of around 4.0. Every subsequent decrease in the pH value is indicative of a greater acidic composition. Acid rain with pH readings well