

Negative effects of climate change in turkey

Introduction

Global climate change, the industrial revolution of the then mankind atmosphere to release the carbon dioxide, methane, ozone and nitrogen oxides as gases are very quickly heat the earth by the greenhouse effect that occurred as a result of the increase is a result of an increase above normal. The accumulation of carbon dioxide and other greenhouse gas levels in the atmosphere have reached has increased rapidly since the industrial revolution. Primarily to an increase in fossil fuel use, greenhouse gas concentrations in the atmosphere which leads to deforestation and other human activities; population growth with economic growth has accelerated further this process. Nowadays, we use a faster pace than the planet can renew itself natural resources. The level of greenhouse gases in the atmosphere, it could accept nature's 1,000 times faster growing and has reached three times the impact to our planet since 1961. Mankind's negative impact can renew itself faster than 25% of the world's resources without effect.

World effects of global warming caused by changes in the climate system of the highest peaks, ocean depths, is felt throughout much of the world from the equator to the poles. The polar ice caps are melting, sea level is rising and soil losses are experienced in coastal areas. Sea level due to melting of glaciers Increasing the temperature rose from 10 to 20centimeters. Arctic sea ice last year during the summer and fall several 10 has already thinned by up to 40percent. It is expected to remain in Arctic sea ice in summer up to 2050year. Increasing the number of severe hurricanes, coral reefs are bleaching, biodiversity is rapidly declining. Since 1974, 31% of terrestrial species, 28% live in freshwater, a 27% decrease was observed in species in the sea.

turkey, as the most drought from climate change to take place in the Mediterranean Basin will be affected in terms of more frequent and intensified among countries. The temperature increase of 2degrees in the Mediterranean Basin are expected to average 20-50years. This increase in unpredictable weather events for Turkey, the decline in rainfall, heat waves, the decline in tourism revenues, yield losses in crops that require regular watering, biodiversity loss, forest fires increase and due to the decrease in precipitation groundwater, wetlands and losses in water storage stands.

A water-stressed country status to Turkey's future in 2030, most of the Central Anatolia region will be affected, the Mediterranean, Aegean and Marmara regions are estimated. In Turkey, while in 1963, 140 experienced about floods, more than 160 floods occurred in 2010. Around 200 average as a result of flood disasters every year, an annual average of \$100million in property loss occurred. Thus, the financial losses caused by floods in Turkey in 1995, approached rapidly increasing losses caused by the earthquake in recent years. In Turkey, the number of storms that occur due to high winds there is a significant increase.

This year, for many years the number of storm watching under 50, the figure was closer to 250 in 2010year. So we do not know everywhere it began to take on a destructive past two years, the meteorological hoses. Only the number of casualties caused by the storm with lightning seen in Turkey in recent years has exceeded 400

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people. 12% of forest fires in Turkey also causes lightning. Every 10 degrees in average temperature increase in the number of lightning will cause an increase of approximately 20%.

Likewise a few degrees increase in temperature will increase the fold in forest fires. Destroying the forest fires in Turkey, about 450 hectares of forest per year and an increase is observed in the number of forest fires since 2007. Between the increasingly diverse weather events you need to add frost and hail for the agricultural sector. These weather events are no longer counted among the major disasters that cause high economic losses. "Above open a factory" as frost and hail qualify for crop production in the agricultural sector accounted for the highest risk. In Turkey, between 1940-2010. Considering the number of days with hail hail occurred since the second half of 1960 has increased to over 200 from 50.

Hail sometimes, life and property losses leading to disaster reaches the size, sometimes causing floods causing secondary disasters. Temperature decreases rapidly with increasing frequency avalanche of snow, but increasing incidence. In recent years, Turkey also seen an increase in the number of avalanche formation. The ratio of the number of avalanche in Turkey hydro-meteorological disasters in 1967-1987 period for 3% while this ratio 1998-2008 period to 8% output. Each 1°C temperature rise in the mountain ski slopes, snow cover and therefore drawn up to 150 meters.

Among the effects of climate change, drought can be regarded as the most dangerous and the most difficult to cope with disasters. In agricultural products, reduction of pasture and forest products; increase in fire; decrease in water level; increases in livestock and wild animals Climate Change Risk Management mortality rate in Turkey; The damage observed in wildlife and fish species are among the direct impact of drought on the environment. For example, according to the climatic conditions in the 1990s, the water amount was 3.070 cubic meters per person per year in Turkey.

With an increasing population, when considering the global climate change we will have a more arid climate due in 2050, an amount of water per person per year in Turkey is expected to fall to 700 cubic meters. In other words, our changing climate and growing population of our country in 2050 may be one of the water-poor countries.

Flood and (wet) mass movements, as it has developed in conjunction with meteorological, hydrological origin brings with it many severe weather events in the disaster. Extreme temperatures (heat waves) due to an increase in the number of observed starting climatological disasters such as drought and forest fires originated in the mid-1990s. Increasing the likelihood of more drought of the previous year every year and accordingly, beginning in the 1990s the increase in global temperatures poses significant threats to life on excessive weather is hot in summer and freezing cold in the winter due to high pressure centers.¹ In addition, hot and dry in the summer heat waves, leading to huge losses by triggering forest fires.² Reduced availability of water also can be accessed all over the world, is a major threat to semi-arid countries that depend on agricultural production carried out by rain and rain.³ It also causes aggravation of irrigation water requirement increased water stress due to global climate change worldwide.⁴

The most fertile lands, and also around the lower altitude plains excessive rains and floods have long-lasting effects are seen very often due to the presence of delta.⁵ The heat generated as a result of increased air temperature (thermal) constitute a potentially life-threatening livestock productivity by reducing stress and pregnancy rates in animal products.⁶

Climate change in dry areas, causing the salinization and desertification of agricultural land to. Half of the increase is causing an increase in drought in pasture land degradation in drylands have a major impact on direct and indirect animal deaths. In this way, various sources of disasters associated with climate There is also evidence that increases in frequency worldwide.⁶

According to "ACA" in the region it is expected to increase in severe weather events.⁷ Furthermore, the reduction of rainfall in southern Europe, including Turkey, leading to a significant impact on agriculture and water resources is reported to be serious effects, such as droughts will become more frequent. In particular, after 2080 years of drought and heavy rains are expected to be seen more often.

The report also, the heat wave of the 21st century emerge more frequently and more intensively and are therefore expected to increase heat-related deaths. On the other hand, may help reduce the number of deaths that occurred in the winter time shortened winter. However, especially those at highest risk of dying of climate change on flood frequency of extreme weather events in Turkey is expected to increase the severity and duration influence.

Current weather conditions in terms of the reduction of the impact of global climate change more water sources in Turkey, heatwaves, droughts and floods on agriculture, with the increase manifests itself as a decrease in productivity.⁸ Increasing temperatures with reduced rainfall in some areas has led to severe drought and water shortages. In some areas water and soil loss due to wind is important erosion.⁹ The decline in groundwater levels lead to long-distance migration. The need for increasing the level of water in the Mediterranean coastal base is significant is the water rides and sea water are mixed to many coastal aquifers.¹⁰

Changes in plant growth in weather conditions, the spatial and temporal distribution of the plant leads to significant differences. Even just a small change in temperature can significantly affect agricultural yields and all transportation sectors. Don and frost events are the most important natural disasters negatively affecting crop production. Temperatures falling below the critical value of the plant, making it

difficult to sustain their lives, especially cause damage to fruit and vegetables. As a result of the freezing of the water in the plant is not possible continuation of plant physiology. For these reasons, frost in the agricultural sector, is particularly damaging to many plant species.

Water resources, rapid population growth, land use and contamination of the wrong as well as the negative effects of global climate change are also under. Turkey water, and energy, is extremely important in terms of both agricultural. Irrigation and energy for our country as a large number of water bodies and are currently being built. Such water bodies can demonstrate appropriate activities and performance objectives, but the absence of drought, so it is possible to decrease the amount of rainfall is expected to land. The vast majority of Turkey is under the influence of semi-arid climatic conditions. Arid and semi-arid areas in Turkey amount to 51million hectares. So, 37.3% of Turkey's semi-arid climate prevails. Therefore, as water resources, as well as general changes that may occur in the amount of rainfall and the distribution Does that depend on rainfall because of dry farming can seriously feel the effects. Humanity is filled with historic droughts. Semiarid area of drought in Turkey, normal and known formed always in the past by atmospheric system and the future (the frequency with global climate change, in terms of the size of the area where the intensity and effects) increase will continue to create more danger.

In fact, spatial and temporal distribution of precipitation in Turkey is always irregular. Water resources of our cities can not meet the needs of the rapidly growing population and industry. Conventional irrigation systems are used in agricultural production incorrectly majority of the water. Drinking, is falling steadily due to increased industrial use and irrigation water quality and other environmental contaminants. In addition to the global climate change all Turkey, the severity of drought are felt much more and will continue to feel. In other words, with increasing drought, including the use of the city and the river beyond the country's borders, many international, national and sharing and management of local water resources to further Today drought, Turkey is extremely important in terms of showing the extent of the dangers facing the future.

World Meteorological Organization (WMO), according to the survey which was conducted among 87 member countries result, it was determined that the 74 drought-affected countries, including Turkey also found. Again, from 87 countries in 59 (69%) are experiencing water scarcity problems. Asian continent to the west of the country, including Turkey and the Middle East and Africa, is one of the areas most sensitive to increasing water scarcity problem.¹¹

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Conflict of interest

The author declares no conflict of interest.

References

1. Munich Re. *Topics Geo natural catastrophes analyses, assessments, positions*. Germany: Munich Reinsurance Company Rep; 2011. 58 p.
2. Miles L. Implications of the REDD negotiations for forest restoration OGM 2003: Turkey National Forestry Program; 2010.
3. Pulwarty R. Climate and water in the West: Science, information and decision-making. *Water Resources (update)*. 2003;124:4–12.

4. Tahmisciođlu, MS, Karaca O, Özdemir AD, et al. *Possible Effect of the Global Climate Change on Water Resources and Floods in Turkey*. International Conference on Climate Change and The Middle East Past, Present and Future; 2006. p. 227–234.
5. Lehner B, Doll P, Alcamo J, et al. Estimating the impact of global change on flood and drought risks in Europe: A continental, integrated analysis. *Climatic Change*. 2006;75(3):273–299.
6. Tebaldi C, Hayhoe K, Arblaster JM, et al. Going to the extremes; An intercomparison of model-simulated historical and future changes in extreme events. *Climatic Change*. 2006;79(3):185–211.
7. AÇA. *The effects of the changing climate in Europe: Indicator based assessment, European Environment Agency (AÇA) Report, 2/2004*. Kopenhagen, Denmark; 2004.
8. ÇŞB. *Turkey's Second National Communication on Climate Change of Turkey Ministry of Environment and Urban Planning (ÇSB)*. Ankara, Turkey. (in Turkish); 2012
9. Altın M, Orak A, Neyişçi T, et al. Erosion, Nature and Environment TEMA Press (in Turkish); 2006.
10. Öztürk B. Writing sea. İlke Bookstore, pp. 378. (in Turkish); 2011.
11. Özgüler H. Global climate change and its potential impacts on our water resources, *Bulletin of Turkey General Directorate of State Hydraulic Worksp*; 2002. p. 491–492.