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The air pollution caused by wildland fires and the effects on health**Jaime Senabre**^{1,2}¹SINIF, Spain²University of Alicante, Spain

Wildland fires are a source of polluting emissions into the atmosphere whose main origin is anthropogenic, as is amply demonstrated by causality studies and statistics. Air pollution by such disturbance is due to combustion of forest biomass that mainly generates CO₂ and H₂O, and other inorganic and organic gases, and particles. During fires, and by the action of fire, the ordinary characteristics of both the fuel and the oxidizer are modified, being able to change state and suffering different reactions at the molecular level. The composition and molecular structure of the combustion gases, the concentration or dose received and the exposure time act as modulators of the possible effects on the health of the exposed persons. The harmful substances of a forest fire penetrate the body, mainly through the respiratory tract and the skin. According to recent research, in Spain it is estimated that there are about 17% of the population living less than 5 km from a source that emits carcinogenic substances. There are areas of the country which has been detected excess mortality from leukemia and certain cancers, such as those related to the digestive, respiratory, prostate, breast, ovarian and gallbladder. These findings have been related to cities or municipalities with high industrial activity. There seems to be little doubt about the association of the effects of industrial pollution and the development of certain types of cancer. In our study, we evaluated the relationship between the areas of Spain with the most industrial pollution and the areas with the highest prevalence of wildland fires, in order to determine if forest fires may be contributing: First, to an impoverishment of the quality of the air we breathe; second, an increase in vulnerability and a greater risk to the health of people.

Biography

Jaime Senabre is a Psychologist and Environmental Consultant. He has completed his Doctoral studies in the Department of Personality, Evaluation and Psychological Treatment of the UNED. He was Chief of Brigade in a Forest Fire Service with more than 20 years of experience. He collaborates with several companies and institutions in the area of training in psychology in emergencies and human resources. He is a Professor at the University of Valencia, Director and President of the International Scientific-Professional Committee of the National Symposium on Forest Fires (SINIF). He has published articles on forest fires, stress, psychosocial risks and emotional trauma, mainly in relation to emergency services and natural disasters. Currently, he is assigned to the Research Group on Climate and Territorial Planning at University of Alicante, where he researches on the social perception of forest fire risk and behavior in the event of possible disasters.

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