

DEVELOPMENT OF A FUEL MODEL FOR *CISTUS SPP.* IN GREECE

Miltiadis Athanasiou¹, Gavriil Xanthopoulos², Martinis Aristotelis³, Foukis Theodoros³,
Gaitani Stavroula³

¹ “Environmental Impact Assessment Studies”

8 Thoma Paleologou st., 13673 Acharnes, Greece, e-mail: info@m-athanasiou.gr

²Hellenic Agricultural Organization “DEMETER”, Institute of Mediterranean Forest
Ecosystems

Terma Alkmanos, 11528, Athens, Greece, e-mail: gxnrtc@fria.gr

³Technological Educational Institution of Ionian Islands, Department of Environmental
Technologies

Marietas Giannopoulou-Minotou, Panagoula, 29100, Zakynthos, email: amartinis@teiion.gr

Abstract

This paper presents the development of a fuel model for areas covered by *Cistus spp.* in Greece. This fuel model is intended to be used as input for fire behavior prediction systems such as BehavePlus, FARSITE, etc.. Thirty plots, 1 m² each, were sampled destructively in phryganic areas dominated by *Cistus* species, namely *Cistus creticus*, *Cistus parviflorus*, and *Cistus salvifolius*, on Zakynthos island, for obtaining the necessary fuel data. The fuel model, consisting of average values of specific vegetation parameters, is based, in addition to the field measurements, on pre-existing published parameter values for *Cistus salvifolius*. The *Cistus* fuel model, in regard to total dry biomass, lies between two pre-existing fuel models for Greece, namely the fuel models for phryganic vegetation of *Sarcopoterium spinosum* and for *Phlomis fruticosa*. The next step for adopting it, is to test its performance by comparing fire behavior prediction through modeling with fire behavior observations.

Keywords: Fuel model, *Cistus creticus*, *Cistus parviflorus*, *Cistus salvifolius*