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VREMENSKI USLOVI PRE I ZA VREME MAJSKE POPLAVE 2014. GODINE NA TERITORIJI SRBIJE

WEATHER CONDITIONS BEFORE AND DURING THE MAY 2014 FLOODS IN THE TERRITORY OF SERBIA

REZIME

U radu su prikazane karakteristike kiša koje su prethodile poplavi iz maja 2014. godine i predstavljaju glavni uzrok njene pojave, kao i kiša koje su padale za vreme poplave i nakon nje do kraja meseca maja. Analizirane su ukupne pale kiše u kišnim epizodama iz aprila i maja 2014. godine, maksimalni intenziteti katastrofalne majske kiše, kao i mesečne, odnosno dvomesečne sume padavina u istom periodu. Kvantitativne karakteristike značajnih kišnih epizoda, visina kiše za različita trajanja kiše i mesečne sume padavina za april i maj predstavljene su u vidu karata izohijeta za celu teritoriju Republike Srbije. Određena je statistička značajnost ukupnih suma padavina prilagođavanjem Pirson III i Log Pirson III zakona raspodele istorijskom nizu podataka sa glavnih meteoroloških stanica (GMS) Republičkog hidrometeorološkog zavoda Srbije, za period od kada stanica radi do zaključno sa 2014. godinom. Pri oceni statističke značajnosti ostvarenih maksimalnih intenziteta korišćeni su rezultati obrada iz monografije *Intenziteti jakih kiša u Srbiji*, autora S. Prohaske, V. Bartoš Divac, sa saradnicima, Beograd, 2014. Statistička značajnost je iskazana u vidu povratnog perioda (u godinama) ostvarene karakteristike kiše u 2014. godini.

Ključne reči: jake kiše, kišne epizode, poplava iz maja 2014, intenziteti kiša, mesečne sume padavina, trajanje kiše, karte izohijeta, statistička značajnost.

SUMMARY

In this work are shown the characteristics of rainfall that preceded the May 2014 flood and represent the main cause of its occurrence, as well as the characteristics of the rain that fell during the flood and after it until the end of May. We analyzed a total rainfall in the rainfall events of April and May 2014, the maximum intensities of catastrophic rainfall in May, as well as monthly and two-month rainfall sums during the same period. The quantitative characteristics of significant rainfall events, the rainfall height for different rainfall durations and monthly rainfall sums for April and May are presented as maps of isolines for the entire territory of the Republic of Serbia. We determined the statistical significance of the total precipitation sums by adjusting the Pearson III and Log Pearson III distribution law to the historic data series from the main meteorological stations (MMSs) of Republic Hydrometeorological Service of Serbia, for the period from when the station begun to work to the end of 2014 (that year included). In assessing the statistical significance of achieved maximum intensities, the processing results from the Monograph Heavy rainfall intensities in Serbia, by S. Prohaska, V. Bartos Divac et al., Belgrade, 2014 were used. The statistical significance is expressed in terms of the return period (in years) of the achieved rainfall characteristics in 2014.

Keywords: heavy rainfall, rainfall events, the May 2014 flood, rainfall intensities, rainfall monthly sum, rainfall duration, maps of isolines, statistical significance

UVOD

Dugotrajne kiše sa obimnim padavinama, koje su padale na teritoriji Republike Srbije u periodu april-maj 2014. godine, prouzrokovale su pojavu katastrofalne polave na većini naših reka. U martu se, posle relativno toplog zimskog perioda sa malom količinom padavina, pojačao uticaj ciklonske aktivnosti, pa je količina padavina u tom mesecu bile na nivou višegodišnjeg proseka. Ciklonska cirkulacija, koja je iznad teritorije Srbije dominirala od početka aprila do kraja maja, uslovila je česta naoblačenja s velikom količinom padavina. Iako značajne, aprilske padavine su, usled dugotrajnog sušnog perioda, uglavnom uticale samo na povećanje vlažnosti i zasićenja sliva vlagom.

INTRODUCTION

The long-lasting rains that fell on the territory of the Republic of Serbia in the period April–May 2014 caused the occurrence of the catastrophic floods on most of our rivers. In March, after a relatively warm winter period with a small amounts of rainfall, increased the influence of the cyclonic activity, and the amount of precipitation in that month was at the multi-year average. The cyclonic circulation that dominated above the territory of Serbia from early April to late May caused frequent cloudiness with a large amount of rainfall. Although significant, the April precipitation due to long-lasting drought period mostly had influence only to an increase in humidity and moisture satura-

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