

# ***Regional Archive of past Drought Impacts***



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# IMPACT DATA

COUNTRY	TIME PERIOD
<b>Slovenia</b>	1962 - 2007
<b>Greece</b>	1990 - 2009
<b>FYROM</b>	2001 - 2009
<b>Albania</b>	1920 - 2003
<b>Bulgaria</b>	1989 - 2009
<b>Croatia</b>	2000 - 2010
<b>Hungary</b>	1990 - 2009
<b>Montenegro</b>	2000 - 2009
<b>Serbia</b>	2000 - 2008

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# Archive of drought periods Database formation

<b>Country</b>	<b>Location</b>	<b>Source</b>	<b>Date</b>	<b>Abstract</b>
<b>Slovenia</b>	All Slovenia	Agrometeorological bulletin	March 2002	Spring droughts signals; fire danger
<b>Slovenia</b>	All Slovenia	Agrometeorological bulletin	July 2003	Damage due to drought estimate 125000000 €; recorded on 60% of agricultural areas
<b>Slovenia</b>	Prekmurje, Štajerska	Agrometeorological bulletin	May 2007	Yield reduced by 50%
<b>Greece</b>	All Greece	Ta Nea	17/4/2009	100.000 pools may increase drought impacts in urban and touristic areas
<b>Greece</b>	Trikala	<a href="http://www.trikalaneews.gr">www.trikalaneews.gr</a>	10/7/2009	Signed contracts in the prefecture of Trikala for projects dealing with drought
<b>Greece</b>	Trikala	<a href="http://www.trikalacity.gr">www.trikalacity.gr</a>	12/12/2009	Drought threatens regions of prefecture
<b>F.Y.R.O.M</b>	Pretor	Utrinski vesnik	29/5/2009	Water shortage problem influence tourism
<b>F.Y.R.O.M</b>	All territory	Vreme	16/6/2009	Problems in using the capacities of irrigation systems
<b>F.Y.R.O.M</b>	Skopje municipalities	Vest	8/7/2009	Dried wells for city's green areas

# Archive of drought periods Database formation

<b>Country</b>	<b>Location</b>	<b>Source</b>	<b>Date</b>	<b>Abstract</b>
<b>Albania</b>	Tirana	Eco movement	19/1/2007	Drought. Electricity interruption, fauna of water get up to the shore.
<b>Albania</b>	Tirana	Eco movement in Albania	28 August 2007	Emergency. Evacuate 90 household because of the fire in entire Albania.
<b>Albania</b>	Tirana	Gazeta Panorama	30/10/2007	Drought. 33% of average production from Fierza HPP
<b>Bulgaria</b>	Whole country	Koleva, Alexandrov (2008);	1992	Dry year upon climate records and different drought criteria
<b>Bulgaria</b>	Whole country	Raev et al., 2003	1993	Economical losses of wheat yield production 72.3 mln \$ and of 102.2 mln of maize production
<b>Croatia</b>	Korčula island	Newspaper articles	Spring 2001	2 to 5 litre rain in 50 days
<b>Croatia</b>	NW Croatia, Dalmatia,	Newspaper articles	Summer 2001	Drought threatening agriculture, water supply
<b>Croatia</b>	Imotski region	Newspaper articles	Autumn 2001	Drought threatening agriculture, water supply, Blue lake dried

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<b>Country</b>	<b>Location</b>	<b>Source</b>	<b>Date</b>	<b>Abstract</b>
<b>Hungary</b>	Hungary	MTI	06.10.1990	Preferential bank loans for drought victims
<b>Hungary</b>	Lake Velence	MTI	30.05.1991	Restrictions on water use by the Lake Velence
<b>Hungary</b>	Hungary	MTI	11.06.1993	Measures have been taken by the government to prevent and mitigate the drought damage
<b>Montenegro</b>	Montenegro	Media	1/7/2000	Agriculture, Water/Energy, Fire, Social, Environment, Economical
<b>Montenegro</b>	Bar, Budva, Kotor,	Media	1/9/2003	Water, Social
<b>Montenegro</b>	Pljevlja	Media	20/8/2008	Agriculture
<b>Serbia</b>	Serbia	www.vreme.com	30/11/2000	Extreme warm year
<b>Serbia</b>	Vojvodina region	Agroekonomika	25/12/2003	Drought had catastrophic impact on crops
<b>Serbia</b>	Srbija	Večernje novosti - newspaper	19/8/2008	Only 3% of irrigated land, drought hits Serbia

# Archive of drought periods

## Main points

- **Slovenia:** The collected data are mainly for the impacts caused by agricultural drought. Infrastructure problems and inability to adjust to drought conditions during the vegetation season. Northeast of Slovenia is a drought-prone region due to intense production of maize.
- **Greece:** Lack of understanding the need for holistic water resources management strategies. Present problems should be confronted with long-range time horizon commitments of an effective water resources planning and management scheme. Recently a Greek Drought Master plan was announced.
- **F.Y.R.O.M.:** Mostly agricultural drought. The monitoring and data management regarding drought issue needs improvement in observation systems and in data management systems.



# Archive of drought periods

## Main points

- **Albania:** The main impacts of drought belong to the agricultural field. Energy crises because of drought & lack of precipitation. Shortages of drinking water in Tirana and other cities
- **Hungary:** The drought has an important influence not only in the agriculture but also in animal husbandry. Drought frequency seems to be increased
- **Serbia:** Mostly agricultural impacts. Not much existing info on economic aspects of drought and valuation of damage



# Archive of drought periods

## Main points

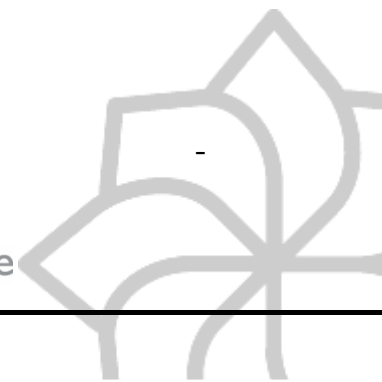
- **Bulgaria:** The existing information on drought occurrence in Bulgaria is complex with enough detail. There is not an easy access to the materials concerning drought impacts and media coverage is low, management practices are lagging.
- **Croatia:** requirements for better monitoring of agricultural and hydrological drought are noted. There are not available data of drought impacts in a quantitative way. The Adriatic coast seems more vulnerable to drought.
- **Montenegro:** lack or sparse data of drought indicators, impacts or damages. Overall insufficient data availability





# Synoptic table on mitigation practices applied in drought periods

SEE countries	Mitigation Practices in agricultural sector	Mitigation Practices in hydrological sector	Drought management	Drought Master plan
<b>Slovenia</b>	Irrigation Tillage Retention of snow Establishment of the windbreak	Drainage systems Reservoirs, etc	No	No
<b>Greece</b>	No irrigation possible in drought periods	Reservoirs, etc Improvement of the existing maintenance procedures, conservation, groundwater use, and emergency water hauling by ships Public information campaign on water conservation, rationing water	Crisis management	Announcement of master plan 2008
<b>FYROM</b>	No irrigation causes losses	No irrigation causes losses	Establishment of Drought Crisis Committee. Simulation exercise "Drought-2007" Second National communication on Climate Change (SNC, 2008)	-



SEE countries	Mitigation Practices in agricultural sector	Mitigation Practices in hydrological sector	Drought management	Drought Master plan
<b>Albania</b>	Irrigation	Reservoirs	-	-
	Projects are under way to repair the irrigation system	Pumping stations		
		Flood protection works		
<b>Hungary</b>	Irrigation	Reservoirs	National Climate Change Strategy, including the National Drought Strategy	-
	Tillage systems	Water retention structures		
	Application of organic manure			
	Plant protection and weed control			
<b>Serbia</b>	Irrigation	Maintenance of the water supply systems	Development of National Drought Monitoring System	-
	Crop rotation			
	Use of different hybrids and species			
	Maintenance of irrigation systems			



SEE countries	Mitigation Practices in agricultural sector	Mitigation Practices in hydrological sector	Drought management	Drought Master plan
<b>Bulgaria</b>	Irrigation	Water management on river basin principles	National capacity for global environmental management. 2003-2004	National Environment Strategy for 2005-2014 and Action Plan for 2005-2009.
	Reconstruction of irrigation systems	Water discharge regulation	Development and application of systems for estimation and early warning for irrigation needs and determination optimal irrigation scheduling	2007: National Action
	Regulation of prices of water for irrigation	Prevention overexploitation of groundwater	Management plans for river basins 2009-2015	Programme for Sustainable Land Management and Combat to Desertification
	Use of different hybrids	Reconstruction of the water supply systems		April 2012 – National action plan for climate change (2013 – 2020)

SEE countries	Mitigation Practices in agricultural sector	Mitigation Practices in hydrological sector	Drought management	Drought Master plan
<b>Croatia</b>	Irrigation	Reservoirs	National Project of Irrigation and Land and Water Management	-
	Use of groundwater	Construction of water supply systems	National Action Programme to Mitigate the Effects of Drought and Combat Land Degradation	
		Water transportation from region to region		
<b>Montenegro</b>	Irrigation Loans for irrigation systems to independent agricultural producers	Construction of water supply systems	Montenegro Water Law of 2007	Montenegro Spatial Plan until 2020



# Questions ?



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