



# FLOODS IN SERBIA, BOSNIA AND HERZEGOVINA, AND CROATIA

Date: 23 May 2014 (Update from the Briefing Note 19/05/2014)

	Insignificant	Minor	Moderate	Important	Major
<b>Expected impact</b>				<b>X</b>	
<b>Need for international assistance</b>	Not required	Low	Moderate	Important	Urgent
			<b>x</b>		

## Crisis Overview

- Continuous, heavy rainfall, commencing on 13 May, has resulted in extensive flooding in Serbia, Bosnia and Herzegovina (BiH), and Croatia.
- Three months' worth of rain fell in only three days; it is the heaviest rainfall in BiH since records began in 1894.
- In Serbia, more than 1.6 million people are affected by the floods (22% of the population). The most affected areas include Belgrade City and the municipalities of Obrenovac, Lazarevac and Grocka.
- In BiH, an estimated 1.5 million people are affected (39% of the population). The most affected areas are Bosanski Šamac, Odžak, Orašje, Doboj, Bijeljina, Brčko, Maglaj.
- In Croatia, 38,000 people are affected. The most affected towns and villages are Gunja, Rajevo Selo, Račinovci, Posavski Podgajci, Vrbanja, Drenovci, Strošinci, Đurići and Bošnjaci
- As of 22 May, more than 120,000 households in Serbia are without electricity, and as of 19 May, more than one million people do not have access to water in BiH.
- 3,500km (2,175 miles) of roads in Serbia need repair. Schools remain closed in the affected areas.
- The economic impact is enormous. Preliminary estimates show recovery costs of more than one billion euros (USD 1.4 billion) in Serbia and hundreds of millions of euros for BiH. In Croatia, damage to agriculture alone is expected to reach at least 30 million euros

## Key Findings

### Anticipated Scope and Scale of the Event

- As of 22 May, more than 3 million people were affected across Serbia, BiH and Croatia, with nearly one million people evacuated, and 53 people reported killed as a result of the floods.
- In BiH, landslides have moved mines and warning signs to unknown locations. As of 22 May nobody had been killed or injured, but several incidents have occurred, including a mine exploding in Brčko district in the north of BiH.
- In Serbia, prolonged high water levels are expected, which may cause a collapse or leakage of dams and the whole river defence system. More rainfall is predicted in the coming two weeks and flood waves are expected on the Sava and the Morava Rivers. In Belgrade, a new peak of the Danub is expected on 23 May.
- In BiH, rainfall is expected in northeastern and eastern part of the country on 23 May until the evening of 25 May. Water levels are going down in most areas, but are reported to be rising in Central Posavina region.

Affected group	Total
<b>Total population</b>	<b>15,514,096</b>
- Total population Serbia	7,224,000
- Total population BiH	3,834,000
- Total population Croatia	4 456 096
<b>Total killed</b>	<b>53</b>
- Killed Serbia	27
- Killed BiH	24
- Killed Croatia	2
<b>Total evacuated</b>	<b>992,879</b>
- Evacuated Serbia	31,879
- "Evacuated" BiH *	<b>950,000*</b>
- Evacuated Croatia	11,000
<b>Total affected population</b>	<b>3,138,000</b>
<b>(Percentage pop. affected)</b>	<b>(20%)</b>
- Serbia	1,600,000 (22%)
- BiH	1,500,000 (39%)
- Croatia	38,000 (0,8%)
(*) this number refers to people that had to evacuate their home	

### Priorities for Intervention in the Coming Weeks

There is a risk of epidemics linked to rotting animal carcasses as temperatures are rising. Officials warn of contaminated water, and urge everyone to drink bottled water and not to consume food or crops from the affected areas. In BiH alone, more than 1.5 million people are under threat of infection. Main needs include safe drinking water, food (especially food for babies), medicines, and construction materials.

### Constraints

Relief efforts are being hampered by landslides, damaged infrastructure, broken telecommunications, blocked roads, blackouts and difficult conditions. The issue of shifting minefields is also likely to affect the provision of assistance, and the Government is warning against the use of alternative roads without prior clearance.

### Need for Assistance

A State of Emergency or Disaster has been issued for all three countries.

## Impact of Crisis

### Killed

Flooding has led to at least 53 deaths. This figure could increase if more bodies are discovered in houses and farms swamped by the floods and landslides (AFP 22/05/2014). As of 21 May, 27 people had lost their lives during the floods in Serbia, of whom at least 10 or 11 died of natural causes (GoS 21/05/2014). In BiH, as of 22 May, a total of 24 people had been killed, of whom 7 were from the Federation of BiH and 17 were from the Republic Srpska (UNCT BiH 22/05/2014). Two have been killed in Croatia.

### Evacuations

As of 22 May, 31,879 people have been evacuated and rescued from the affected areas in Serbia; 24,000 were evacuated from Obrenovac. People have also been evacuated from Sremska Mitrovica (660) and from the municipalities of Jamena, Šid and Morović (780) (RoS Sit rep #9 22/05/2014). In BiH, according to local media, quoting government sources, a total of 950,000 people have had to evacuate their homes since the beginning of the floods (ECHO 22/05/2014). More than 11,000 people had been evacuated within Croatia (Vecernji list 22/05/2014), including nearly 4,000 in Gunja, where waters flooded the whole village, as well as most of the population of Đurići, Račinovc, Rajevo Selo, Posavski Podgajci, Bošnjaci and Vrbanja (Duzs 22/05/2014).

### Worst Affected Regions and Populations

**Serbia:** As of 20 May, more than 1.6 million people are affected by the floods in Serbia (AFP 20/05/2014). Belgrade City and the municipalities of Obrenovac, Lazarevac and Grocka are currently the most affected (IFRC 21/05/2014). The most difficult situation is near Belgrade (Obrenovac, Lazarevac, Kostolac, Šabac, Sremska Mitrovica, Krupanj, Rača, Jamena, Šid and Adaševci) (GoS). The consequences of floods are most severe in districts of Kolubara, Mačva and Morava; the cities of Valjevo, Šabac, Loznica, Čačak and Zaječar; and municipalities Obrenovac, Osečina, Koceljeva, Lajkovac, Ub, Ljig, Gornji Milanovac, Rekovac, Mali Zvornik, Požega, Vladimirci, Kosjerić, Lučani, Trstenik, Mionica, Rača and Doljevac (RoS Sit rep #8 21/05/2014).

**Bosnia and Herzegovina (BiH):** As of 22 May it is estimated that 1.5 million people, in 60 municipalities in BiH, are affected by the floods (ECHO 22/05/2014). Affected areas are Tuzla canton, Sarajevo canton, Zenica-Doboj canton, Bosnia-Podrinje canton, Una-Sana canton, Brčko district, and the regions of Banja Luka, Doboj, Bijeljina, Odžak, Bosanski Šamac and Srebrenica. The most affected are Bosanski Šamac, Odžak, Orašje, Doboj, Bijeljina, Brčko, Maglaj (UNCT BiH 22/05/2014).

**Croatia:** As of 22 May, 38,000 people are affected by the floods in Croatia (AFP 22/05/2014). The most affected towns and villages are Gunja, Rajevo Selo, Račinovci, Posavski Podgajci, Vrbanja, Drenovci, Strošinci, Đurići and Bošnjaci (Index Novac 21/05/2014).

### Affected Vulnerable Groups

**Children:** More than 500,000 children have been affected by the floods (Save the Children 21/05/2014). There is a particular concern for families with children living in makeshift homes or on the street (Save the Children 17/05/2014).

**IDPs:** At the end of 2013, there were approximately 209,000 registered IDPs in Serbia (IDMC, 2014), and approximately 103,000 in BiH (IDMC 12/2013).

### Impact on Critical Infrastructure

**Power and electricity:** In Obrenovac, one of the worst-hit towns in Serbia, rescuers have managed to contain the waters around the Nikola Tesla power plant, which produces half the country's electricity (AFP 19/05/2014). As of 22 May more than 120,000 households in Serbia were without electricity and telephone lines due to the floods causing sporadic power cuts (IFRC 21/05/2014). The electrical grid is severely affected in some areas and is being restored (Elektroprivreda BiH). Many areas remain without electricity and recovery may take time due to the absence of replacement equipment and transformers.

As of 22 May, more than 2,500 households in the Federation of BiH and approximately 8,200 in Republic Srpska were without electricity (UNCT BiH 22/05/2014).

**Transportation:** Hundreds of bridges have been damaged and 3,500km (2,175 miles) of roads need repairs (GoS). The railway line linking Serbia to the Montenegrin port of Bar, of major importance to Serbia's economy, will remain impassable for at least one month (AFP 22/05/2014). The road network in Serbia suffered greater damage than the railway and some routes will stay closed for both passenger and freight traffic for a long time (GoS 21/05/2014). The damage will cause major problems for the movement of goods and people and is likely to affect small businesses disproportionately (EBRD 20/05/2014). In Serbia, people have been asked to not to travel unless absolutely necessary (IFRC 21/05/2014).

**Buildings, hospitals and schools:** In Serbia, more than 2,260 buildings have been flooded and more than 1,800 buildings damaged (RoS Sit Rep#6 19/05/2014). All schools in Belgrade stopped work for two days, while 155 primary and secondary schools remain closed in the affected areas (IFRC 21/05/2014). In BiH, 230 health and educational facilities have been damaged (UNCT BiH 22/05/2014). In Croatia more than 2,000 houses and 199 farms have been destroyed (AFP 22/05/2014).

### Landslides

2,610 landslides have been reported as of 22 May (UNCT BiH 22/05/2014). Landslides and debris remain a danger in BiH, in areas worst-affected by the floods, including Tuzla canton, Sarajevo canton, Zenica-Doboj canton (UNCT BiH 22/05/2014). In Serbia, landslides have occurred in several municipalities, and in Krupanj municipality more than 20 houses have been swept away (IFRC 21/05/2014).

## Landmines

Landslides have moved landmines to unknown locations (UNISDR 19/05/2014) and swept away many of the warning signs around the minefields (WeatherChannel 17/05/2014). Officials have warned that 120,000 unexploded mines could be dislodged (AFP 19/05/2014). So far, nobody has been killed or injured by shifting mines or unexploded ordnance (UXO). However, a number of incidents have been reported in BiH. On 21 May, a mine exploded in Brčko district, in the north of the country. In Srebrenica and Bratunac, a cluster bomb appeared at the river bank as water receded. A landmine was uncovered by water on the main road connecting Olovo and Tuzla. In Visoko, UXO was found near a petrol station (UNDP 20/05/2014). A refrigerator containing nine explosive devices was found in a flooded garden, as well as a rocket launcher and a large plastic bin full of bombs and ammunition (AFP 21/05/2014). Approximately 800km<sup>2</sup> of mined area is suspected to be impacted by floods (GoBiH 21/05/2014).

## Relief and Operational Constraints

In BiH, relief efforts are being hampered by the infrastructure destroyed, broken telecommunications, blackouts (IFRC 19/05/2014). The problem of shifting minefields may also hamper the provision of aid and relief and debris clearance, with the governments warning international rescue teams not to use alternative roads without prior consultation with the Mine Action Centre and Civilian Protection Service (UNDP 20/05/2014). In Serbia, landslides, road blockages and infrastructure damages have hampered relief efforts (IFRC 21/05/2014).

## Economic Impact

Preliminary estimates for Serbia indicate that the cost of clean-up will far exceed 0.64% of the country's total economic output (the level at which a country can request European Union aid). Prime Minister Vučić has predicted that the total cost of recovery could be as high as one billion euros (USD 1.4 billion). The Serbia's state-run electricity company will suffer damages of more than 250 million euros (AFP 21/05/2014). Vučić has warned that although considerable aid will arrive from the various countries, it will only cover 20–25% of the total funds Serbia will need for the clean-up (GoS 21/05/2014). There will also be difficulties shipping coal to the Kolubara power plant, and 500,000–1 million euros are lost in electricity per day. An attempt will be made to reach 20–25% of production (GoS 21/05/2014). In BiH, officials have estimated the damage bill at hundreds of millions of euros. In Croatia, damage to agriculture alone is expected to reach at least 30 million euros (AFP 22/05/2014).

## Impact of Crisis on Access to Essential Services

### Serbia

- **Food:** Serbia needs food, especially food for babies (GoS 19/05/2014).
- **WASH:** Based on initial rapid assessments, there is a need for safe drinking water, hygiene items, and environmental sanitation (IFRC 21/05/2014).
- **Health:** With temperatures approaching 30 degrees Celsius (86 Fahrenheit), a major challenge is the clear-up drowned animals before their carcasses start rotting

in the heat and potentially spreading disease. Around 200 metric tons of dead animals have been recovered as of 22 May. Health officials are spraying in an attempt to prevent a plague of mosquitoes (AFP 22/05/2014). The Government issued an appeal for more chlorine bleach, quicklime, protection gear, and disinfectants, and the population has been urged not to consume food and crops from the affected areas (The Globe and Mail 22/05/2014). There is also a need for medicine in the country (GoS 19/05/2014).

- **Shelter:** Preliminary assessments highlight emergency shelter and support for rebuilding the damaged houses as key priorities for the most affected areas (IFRC 21/05/2014). Serbia needs construction materials (GoS 19/05/2014).

### Bosnia and Herzegovina (BiH)

- **Food and livelihoods:** People in the Republic of Srpska (RS) need food and clothing (AFP 22/05/2014). Many crops have been completely destroyed and as a result livestock has been severely affected. The entire Posavina region, with the highest percentage of arable land in the country, remains severely affected (UNCT BiH 22/05/2014). Thousands of families have run out of diapers and baby food (Save the Children 21/05/2014).
- **WASH:** More than one million people had no water as of 19 May, according to government officials (AFP 19/05/2014). Access to water and sanitation remains a priority. There are concerns about water and vector-borne disease due to the influx of sewage water and enormous amount of animal carcasses (mainly livestock). Water treatment tablets, pumps, and WASH equipment are needed (UNCT BiH 22/05/2014). Thousands of families are living in appalling hygiene and sanitation conditions (Save the Children 21/05/2014).
- **Health:** There is a risk of water and vector-borne disease. Disinfecting of flooded areas has begun in an attempt to prevent outbreaks turning into epidemics. Local health authorities have warned of possible outbreaks of infectious diseases such as enterocolitis, typhoid, and hepatitis as temperatures have risen (IMC 19/05/2014), and have urged the population in affected areas to use only bottled water. Over 1.5 million people are under threat of infection (UNCT BiH 22/05/2014).

### Croatia

In Croatia, the affected population urgently needs drinking water, food, tents, and medical supplies (UN 20/05/2014).

## Disaster Outlook

Long-term forecasts for the region predict continued cycles of heavy rain throughout May (ACT Alliance 16/05/2014).

**Serbia:** Prolonged high water levels are expected, which may cause collapse or leakage of dams and the whole river defence system. More rainfall is predicted for the coming two weeks (as of 21 May), and new flooding waves are expected on the Sava and the Morava Rivers. Among the areas at risk are the municipalities of Belgrade, Obrenovac, Šabac, Ub, Sremska Mitrovica, Svilajnac, Smederevo, Požarevac,

Paraćin, Jagodina and Krupanj (IFRC 21/05/2014). In Belgrade, where the Sava flows into the Danube, volunteers have been working to erect a wall of sandbags 12km (seven miles) long. According to several sources, a new peak is expected on 23 May (AFP 21/05/2014, IFRC 21/05/2014).

**BiH:** The weather improved on 21 and 22 May (Federal Meteorological institute). The Rivers Bosna, Drina, Una, Sava, Sana, Vrbas and their tributaries are receding and returning to pre-flood levels. Water levels are going down in most areas (checkpoints Gradiška, Srbac, Novi Grad, Prijedor, Doboj, Radalj, Bihać, Sanski Most, Sarajevo, Reljevo, Zenica and Tuzla). Rainfall is expected in northeast and eastern part of the country (up to 25l/m<sup>2</sup>) starting 23 May until the evening of 25 May. Water levels are reported to be rising in Central Posavina region (Kopanice) (UNCT BiH 22/05/2014).

## Potential Aggravating Factors

**Region already affected by floods earlier this year:** Serbia was affected by floods in mid-April (IFRC 25/04/2014), however the areas mainly affected during these floods were slightly further south than during the current floods.

**Weak economy in the affected countries:** Bosnia has one of the weakest economies in Europe and an unemployment rate of up to 44%. Almost no one has property insurance, meaning many residents lost virtually everything. Serbia is also poor: its economy has failed to recover fully following the wars and international sanctions in the 1990s. The unemployment rate officially stands at 20% but in reality is considerably higher (Weather Channel 22/05/2014).

**New Government in Serbia:** Handling the flood could be a challenge for the recently appointed Serbian Government (elected on 16 March) (Stratfor 18/05/2014).

**Recent anti-governmental protests in BiH:** There is a concern that anti-government protests, which took place in Sarajevo in early February, and were against corruption and bureaucracy, could increase if the population of BiH are not satisfied with the Government's flood response (Stratfor 18/05/2014, Stratfor 11/02/2014).

## Response Capacity

### National Capacity

**Serbia:** The government response has been reinforced with widespread volunteer activity, who accepted a public call to volunteer and were sent to sites to reinforce and build new temporary dams in the endangered cities. The Government is coordinating different response actions and has called for in-country donations, and it has also appealed for international assistance (IFRC 21/05/2014)

**Bosnia and Herzegovina (BiH):** Limited capacity and resources mean that the Civil Protection and Armed Forces are not able to cope and have requested international assistance (BiH MoS 16/05/2014).

**Croatia:** The Croatian Red Cross is assisting the flood-affected with more than 1,500 volunteers and staff, providing food, drinking water, organising temporary accommodation, etc (Croatian Red Cross). National intervention of civil protection, firefighters, armed forces, and mountain rescue services are assisting the most affected areas (National Protection and Rescue Directorate). A public website has been launched, providing practical information about the situation, response, public appeals from authorities and organisations responding to flood-affected areas, as well as advising volunteers on who to contact and how to get involved in the response. (<http://poplave.hr/>).

### State of Emergency

On 15 May, Serbia declared state of emergency for the entire territory of the Republic (GoS 15/05/2014). On 15 May, a state of natural disaster was declared in BiH and the country has requested assistance through the EU Civil Protection Mechanism (ECHO 16/05/2014). On 21 May, the Government of Croatia, at the proposal of the Director of the National Directorate for Protection and Rescue, declared a disaster for the area of Vukovar-Srem county (Jutarnji.hr 21/05/2014).

### International Response

As of 22 May, a total of a total of 23 EU Member States were providing UCPM and bilateral assistance (ECHO 22/05/2014). In Serbia, the Russian EMERCOM is on the ground with search and rescue units and two planeloads of humanitarian assistance (IFRC 21/05/2014).

## Lessons Learned

During and after flooding, many people are at high risk of skin, eye, and respiratory infections.

Highly requested products following flooding events include: nutritional products, IV solutions, antibiotics, wound care, personal hygiene supplies and medicines for chronic conditions.

In the coming months there will be long-term needs for support in the form of shelter items for those who have been displaced, medicine and first-aid items for people injured, as well as supplies to treat water-borne illness (Direct Relief 21/05/2014).

## Key Characteristics of Host Population and Area

Key indicators	Serbia	Bosnia and Herzegovina	Croatia
<b>Total population</b>	7,224,000 (2012)	3,834,000 (2012)	4,456,096 (2011)
<b>% population in rural areas</b>	65% urban population (2010)	49% urban population (2010)	52.4% urban population (2011)
<b>Gender and age distribution of population</b>	14.8% 0-14 years old 16.9% 65 years and older	13.7% 0-14 years old 12.9% 65 years and older	14.5% 0-14 years old 17.4% 65 years and older
<b>Country capital</b>	Belgrade	Sarajevo	Zagreb
<b>WASH figures</b>			
Improved drinking water:	99% (2012)	99% (2012)	98.5% (2011)
Improved sanitation:	99% (2012)	99% (2012)	98.2% (2011)
<b>Health figures</b>			
<5 mortality:	7 per 1,000 births (2012)	7 per 1,000 births (2012)	5 per 1,000 births (2012)
Infant mortality:	6 per 1,000 births (2012)	6 per 1,000 births (2012)	4 per 1,000 births (2012)
Maternal mortality:	16 per 100,000 births (2013)	8 per 100,000 births (2013)	13 per 100,000 births (2013)
<b>Nutrition levels</b>			
Stunting	6.6% (2010)	8.9% (2011-2012)	1.4% (1996)*
Wasting	3.5% (2010)	2.3% (2011-2012)	1.2% 1996)*
<b>Literacy rates (&gt;15 years)</b>	98%	98%	98.9%

Sources: UNICEF 2012, WB 2014a, WB 2014b, WHO 2013, WB 2012, WB 2013, CIA Factbook 2014a, CIA Factbook 2014b, CIA Factbook 2014c, WHO 2012, WHO 2010, CBS 2011 WB 2013, WB 2012

\* No updated figures could be found on nutritional information for Croatia.

# Overview of Flooding in Serbia, Bosnia and Herzegovina and Croatia (as of 22 May 2014)

