

## ***Interactive comment on “Meteorological analysis of flash floods in Artvin (NE Turkey) on August 24, 2015” by Hakki Baltaci***

### **Anonymous Referee #3**

Received and published: 20 May 2017

This paper investigates the meteorologic conditions before the flash flood event occurred in the city of Artvin on 24th of Aug 2015 in north-eastern part of Turkey. This region is prone to flash flood events which lead to landslides in the region due to intense storms and steep topography. Hence, the outcome of this study is important for decision makers to establish an early-warning system.

The paper is suitable for Natural Hazards and Earth System Sciences. I have minor points which should be addressed. I highly recommend to send it a professional editing service.

Moderate points:

- At the end of abstract, I recommend one sentence as a take-home message (general message).

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- Similarly, in the Conclusion Section, please add a few sentences as a take-home message for decision makers to emphasize the applicability of the outcomes of this study.

Minor Points:

P1. L12. ...total accumulated rainfall AMOUNTS of 136, 69, and 109 mm WERE measured...

P1. L22. Delete 'the' before Artvin.

P2. L2. Insert 'the' before warm. ....on THE warm Mediterranean Sea. ....

P2. L6. Delete 'the' before 2002.

P2. L6. Delete Euro sign (€). ...caused 1.2 billion damages. .... Similar, also correct: P2.L7, P2.L8, P2.L9. ...

P2. L9. Delete 'the' before 2000. ....flood in 2000. ...

P2. L10. WORD CHOICE. My recommendation: ....it is necessary to IMPROVE OUR CURRENT UNDERSTANDING about the. ....

P2. 16. Re-write. My recommendation: Depending on the catchment characteristics, mainly two types of flood occur in Turkey.

P2. L18. COMMA. Insert a comma after 'affected'.

P2. L18. CAPITALIZATION. Capitalize 'river'. ....of the Meric River. ...

P3. L5. Re-write. My recommendation: ...in Antalya, a coastal city located on the Mediterranean Sea.

P3. L8. Re-write. My recommendation: ....investigated the hydrometeorological role of floods occurred during 7-10 September, 2010 in the Marmara Region.

P3. L15-17. Re-write. My recommendation: The underlying geology of the EBS is gen-

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erally consists of semi-permeable volcanic rocks which reduce infiltration and enhance runoff production (XXXX).

P3. L17-19. Re-write. My recommendation: The north-eastern coastal parts of Turkey, regions located on the windward slopes of the EBS facing the Black Sea, receives more than 2000 mm of annual precipitation which is the wettest part of the country.

P3. L19-21. Re-write. My recommendation: The large mountainous area which extends through the Black Sea, and slope instability due to steep gradients as well as intense rainfall result in flash floods and landslides and threaten the settlements in the EBS region.

P4. L1. VERB. . . .facilitate. . .

P4. L7. TYPO at the end of dollars. . . .dollars' Delete the apostrophe.

P4. L8. WORD CHOICE. . . .the DETRIMENTAL EFFECTS of floods for. . . .

P4. L11. WORD CHOICE. . . .the aim of this research is TO FOCUS on. . . .

P4. L20. Insert a comma after synoptic. . . .synoptic, and . . . .

P4. L22. WORD CHOICE. . . .with WEATHER forecasts. . . .

P5. L4. Insert 'to' before retrieve. . . .as well as TO retrieve. . . .

P5. L16-19. Re-write.

P6. L2. Insert a comma after 'domain'. . . .domain, and . . . .

P6. L9. Re-write. My recommendation: This mountain chain extends parallel to the Black Sea and . . . .

P6. L11-12. Re-write. My recommendation: . . .the region also experiences orographic effect on precipitation.

P6. L14-15. Re-write. My recommendation: The rain shadow effect on the lee side of

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the mountainous area CAUSES a more. . .

P7. L2. WORD CHOICE. . . .(MAP) VARIES from. . . .

P7. L6. Explain MCS. Describe acronym 'MCS'.

P7. L7. WORD CHOICE. . . .were OBSERVED AT Hopa, Rize, and Pazar with . . . .

P7. L13. Insert a comma after 'Hopa'. . . .Hopa, and . . . .

P7. L17. Insert a comma after 'Arhavi'. . . .Arhavi, and . . . .

P7. L20. WORD CHOICE. . . .Another coastal station, Arhavi. . . .

P7. L22. Re-write. Describe it. Temporal distribution of WHAT? Temporal distribution of XXXXXXXX that. . . .

P8. L1. Insert 'THE' before midday. . . . .at THE midday on the. . . .

P8. L2. REPLACE. Hourly observations AT the three stations. . . .

P8. L2. REPLACE. . . .increased FROM 27 to 32. . . .

P8. L3. REPLACE. . . .DROPPED to 2-4 mm. . . .

P8. L6. DELETE 'station'. . . .at Hopa during. . . .

P8. L19 CHECK. I am not sure 'phenomenology' is the correct word there?

P9. L4-7. Re-write. (Azarbijan). Make sure that a reader should understand that Azerbaijan is another country that locates east of Turkey.

P9. L17-18. Re-write. My recommendation: . . .with a decrease in temperature from . . . .

P10. L1. VERB. . . .that developed severe. . . .

P10. L4. REPLACE. . . .activity before and during . . . .

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P10. L11. ...were used to examine THE ATMOSPHERIC CONDITIONS ON 24 August. ....

P10. L17-19. Re-write. You do not need to say more yellowish. On the other hand, more intense storms were observed over the land areas such as Georgia (Fig.7a).

P11. L5. WORD CHOICE. ....was investigated IN DETAIL by. ....

P11. L9. WORD CHOICE. ...the role of SSTs of the Black Sea on. ....

P11. L10. INSERT 'the'. ....for THE BS. ....

P11. L12. WORD CHOICE. ....were NORTH OF the latitude of 44°N.

P11. L13. VERB TENSE. Use PAST TENSE. ....exceedED. ....

P11. L14. WORD CHOICE. .... values in NORTH OF 44°N latitude.

P11. L20. VERB TENSE. ....station observations WERE clearly. ....

P12. L1. Describe Alaro model.

P12. L5-7. Re-write the sentence.

P12. L12. VERB TENSE. ...offices GAVE alert messages. ....

P12. 14. Insert a comma after 'Artvin'. ....Artvin, and Trabzon. ....

P13. L7. WORD CHOICE. ...was transported FROM THE SEA to the atmosphere.

Figure 1. Narrower region for Turkey map. Show Georgia and Azerbaijan as countries.

Figure 2. In the caption: Hopa CITY centre. ....

Figure 4. In the caption: ...in THE eastern Black Sea. ....

Figure 5. In the caption: I recommend using following: ....units in g kg-1). ....

Figure 5. L7. Insert a space after 2015, 00:00 UTC. ....

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Figure 8. L2. Mean of August. ...

L3. ....over THE Black. .... 24 August. ...

L4. ...long-term August ... ..data ARE derived. ....

Figure 9. Delete comma after region. ....region (a) for. ....

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