



**MINISTRY OF EMERGENCY SITUATIONS OF
ARMENIA**

**SERVICE OF THE HYDROMETEOROLOGY AND
ACTIVE INFLUENCE ON ATMOSPHERIC
PHENOMENA**

Amalya Misakyan and Levon Azizyan

**Black Sea Middle East Flash Flood Guidance
(BSMEFFG) System**

**First Steering Committee Meeting
Flash flood forecast example with the
BSMEFFG SYSTEM**

Tbilisi, Georgia, 28 – 30 June 2016

From 2014 Armenian Hydromet Service have begun collecting examples of flash flood cases and comparison and analysis of BSMEFFG system results.

The flash flood cases in this period because of water shortage years weren't so much.

For analyses was taken this example of flash flood in Armenia during 2014:

- ✓ Date 02.06.14 - 03.06.14
- ✓ The area of Tashir river basin
- ✓ The maximum amount of precipitation for 1 hour in that days is 47 mm (17.00-18.00)
- ✓ Because of rain the homes basements of Tashir town in Lori marz were filled with water, fields, gardens, fish farms have been damaged.

So the discharges of Tashir river (Saratovka station) during the period from May 30 to June 1 have been fluctuated from 4.00-6.00 m³/s and according to the weather forecast on June 2 were expected intense precipitation, consequently, in the river had been predicted discharge increase. On June 2 in the river was observed discharge increase and the average daily discharge has reached from 5.93 m³/s to 17.4 m³/s.

Studying the results of BSMEFFG system maps present:

In the north regions the soil saturation reaches 65%, according to the precipitation maps the previous day have been observed precipitation, and by ALADIN model in the territory of republic the next day precipitations would be expected.

So on June 1 really observed intense precipitation and the discharge increase in the river became from 5.93 m³/s to 17.4 m³/s.

REGION: ARMENIA PRODUCT: MWGHE Precipitation DT: 24-hr

Year: 2014 Month: 06 Day: 01 Hour: 10 Submit

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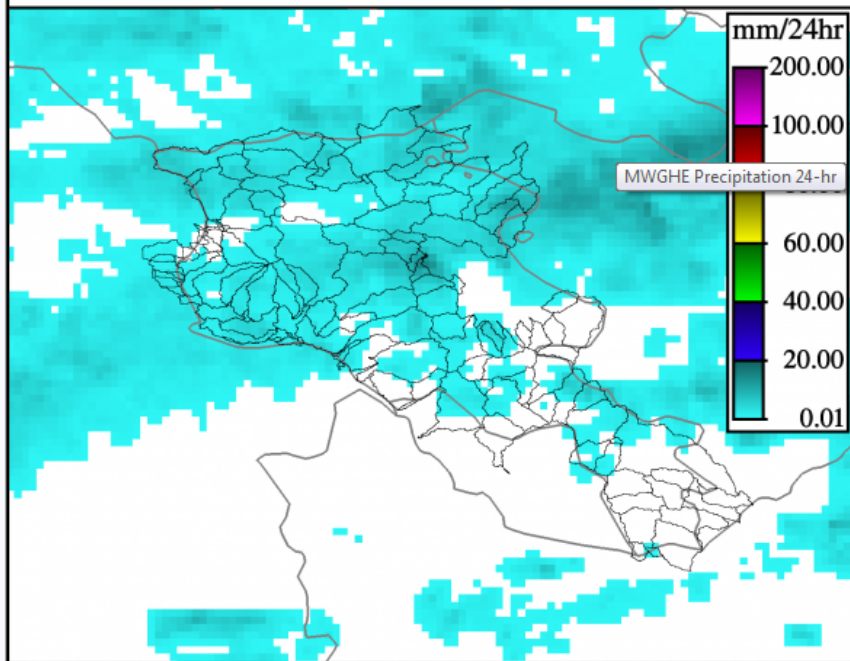
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MWGHE - 24 hr 2014-06-01 10:00 UTC ARMENIA



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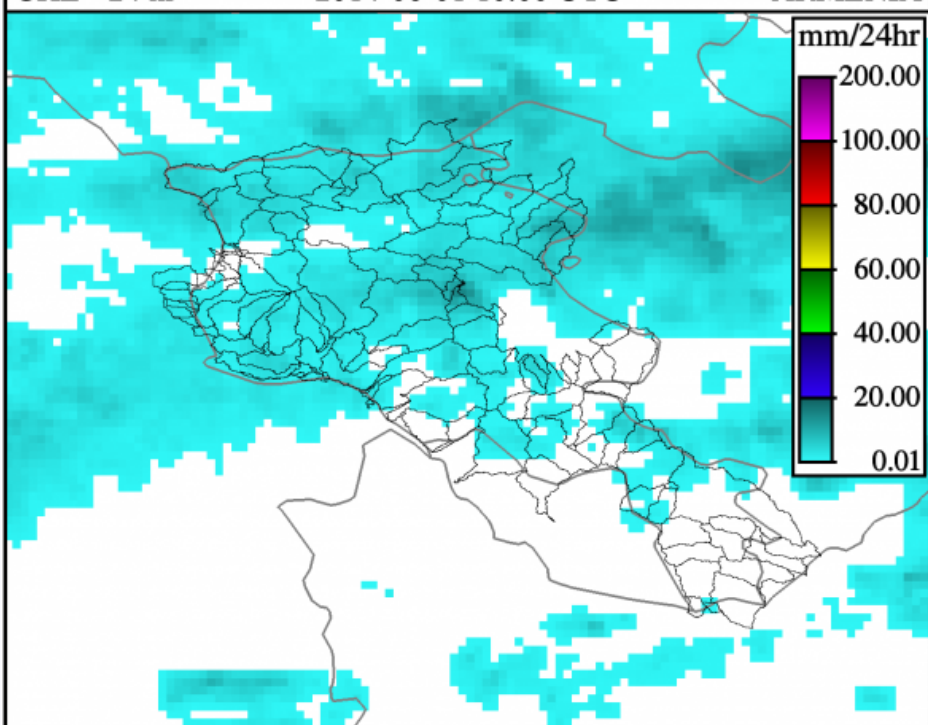
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GHE - 24 hr 2014-06-01 10:00 UTC ARMENIA



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REGION: ARMENIA PRODUCT: Merged MAP DT: 24-hr

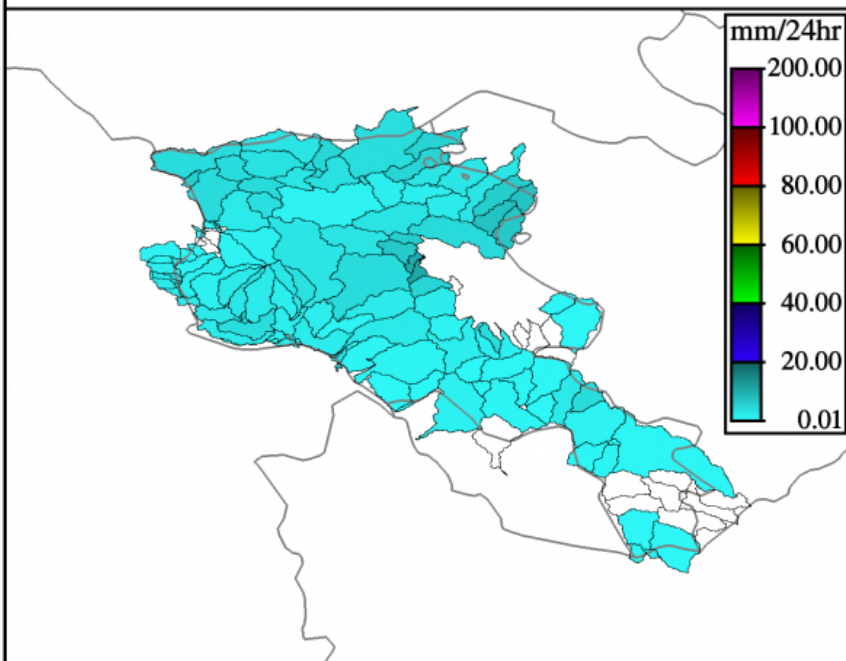
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MAP - 24 hr 2014-06-01 10:00 UTC ARMENIA



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REGION: ARMENIA PRODUCT: ASM DT: 06-hr

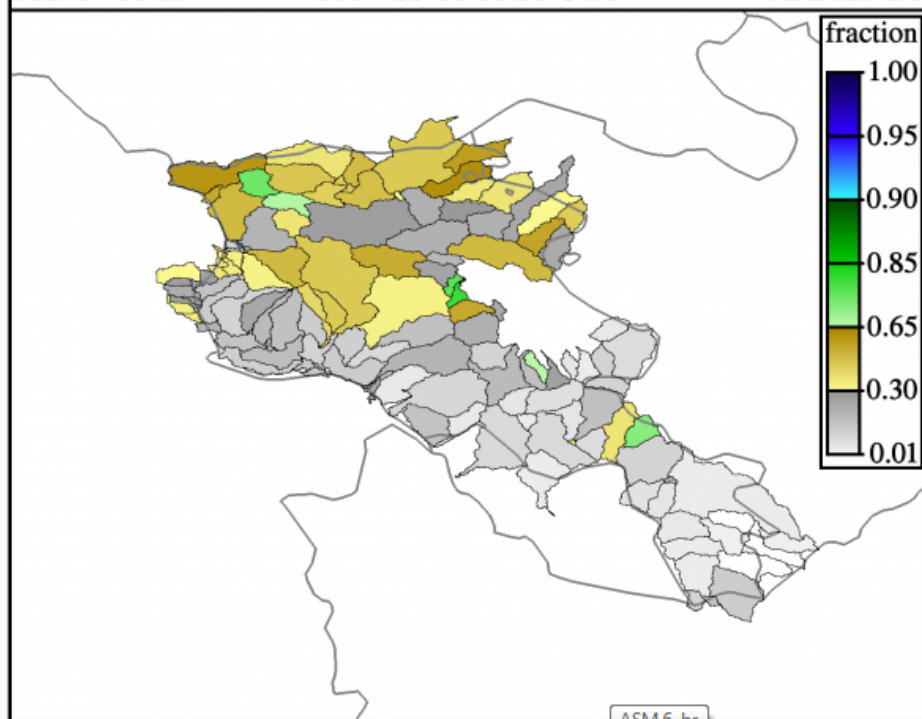
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ASM - 06 hr 2014-06-01 06:00 UTC ARMENIA



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REGION: ARMENIA PRODUCT: ALADIN Forecast DT: 06-hr

Year: 2014 Month: 06 Day: 01 Hour: 10

Submit

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Prev 6-hr Interval (06 UTC)

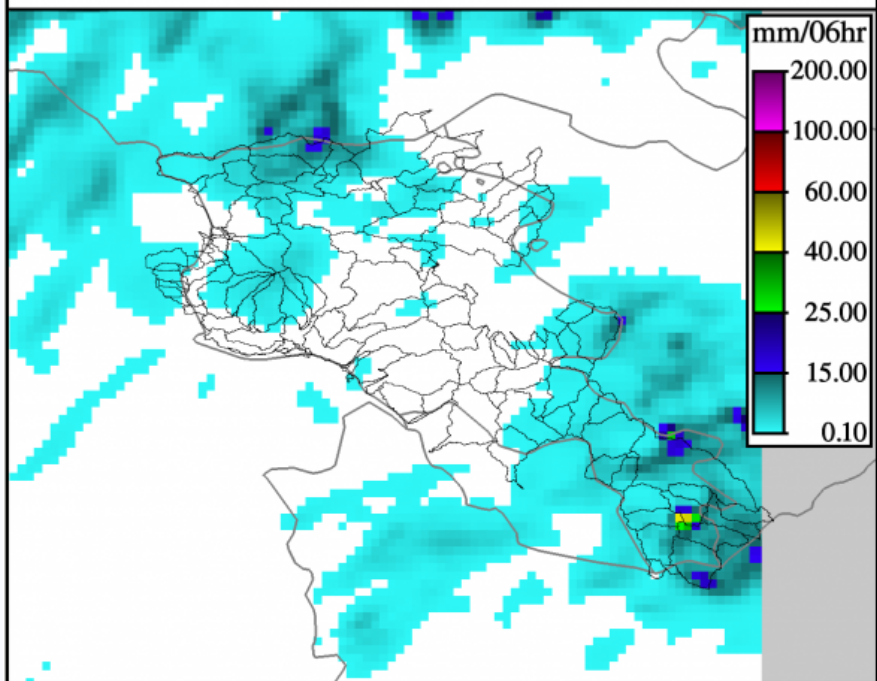
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Next 6-hr Interval (12 UTC)

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FORECAST - 06 hr 2014-06-01 10:00 UTC ARMENIA



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REGION: ARMENIA PRODUCT: FFG DT: 01-hr

Year: 2014 Month: 06 Day: 01 Hour: 23

Submit

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Prev 6-hr Interval (18 UTC)

Reset to Current

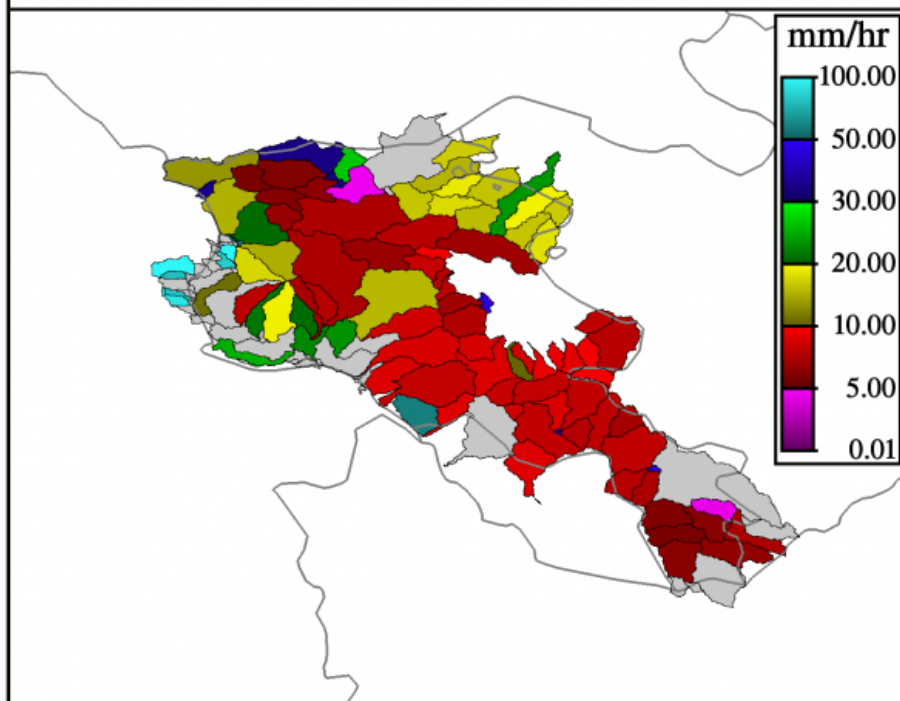
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FFG - 01 hr 2014-06-01 18:00 UTC ARMENIA



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But in the precipitation continued on June 2 also and according to the weather forecast it had a continuous trend, therefore, on June 3 the intense precipitation were added to the already high discharges and in the river unfavorable discharges were formed, as a result surrounding areas were filled with water.

The results of BSMEFFG maps from June 2 to June 3

As already mentioned precipitation continued several days, besides the soil was filled by humidity and the large amount of precipitation became a reason of flood.

Current Date: 2014-07-09 13:11 UTC Nav Date: 2014-06-02 23:00 UTC

REGION: ARMENIA PRODUCT: MWGHE Precipitation DT: 24-hr

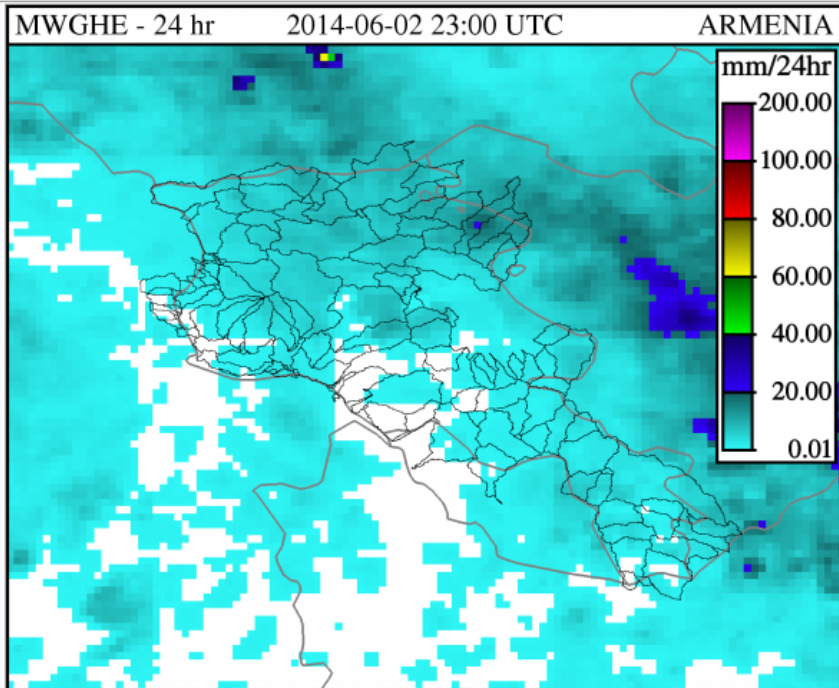
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Prev 6-hr Interval (18 UTC) Reset to Current Next 6-hr Interval (00 UTC)

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Current Date: 2014-07-09 13:11 UTC Nav Date: 2014-06-02 23:00 UTC

REGION: ARMENIA PRODUCT: GHE Precipitation DT: 24-hr

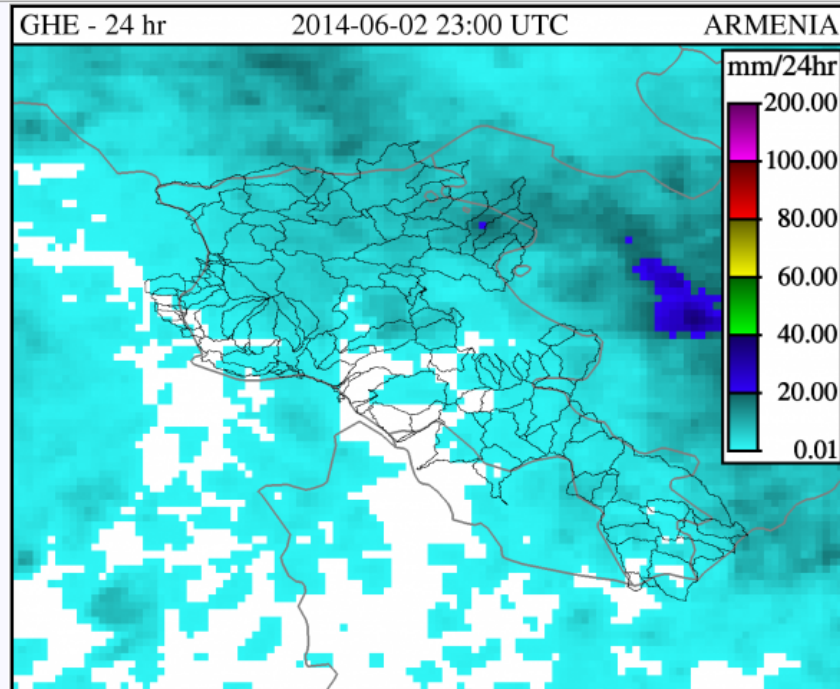
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-1 Month -1 Day -6 Hours -1 Hour +1 Hour +6 Hour +1 Day +1 Month

Prev 6-hr Interval (18 UTC) Reset to Current Next 6-hr Interval (00 UTC)

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REGION: ARMENIA PRODUCT: Merged MAP DT: 24-hr

Year: 2014 Month: 06 Day: 02 Hour: 23 Submit

-1 Month -1 Day -6 Hours -1 Hour +1 Hour +6 Hour +1 Day +1 Month

Prev 6-hr Interval (18 UTC) Reset to Current Next 6-hr Interval (00 UTC)

Return to Main

REGION: ARMENIA PRODUCT: ASM DT: 06-hr

Year: 2014 Month: 06 Day: 02 Hour: 18 Submit

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Prev 6-hr Interval (12 UTC) Reset to Current Next 6-hr Interval (00 UTC)

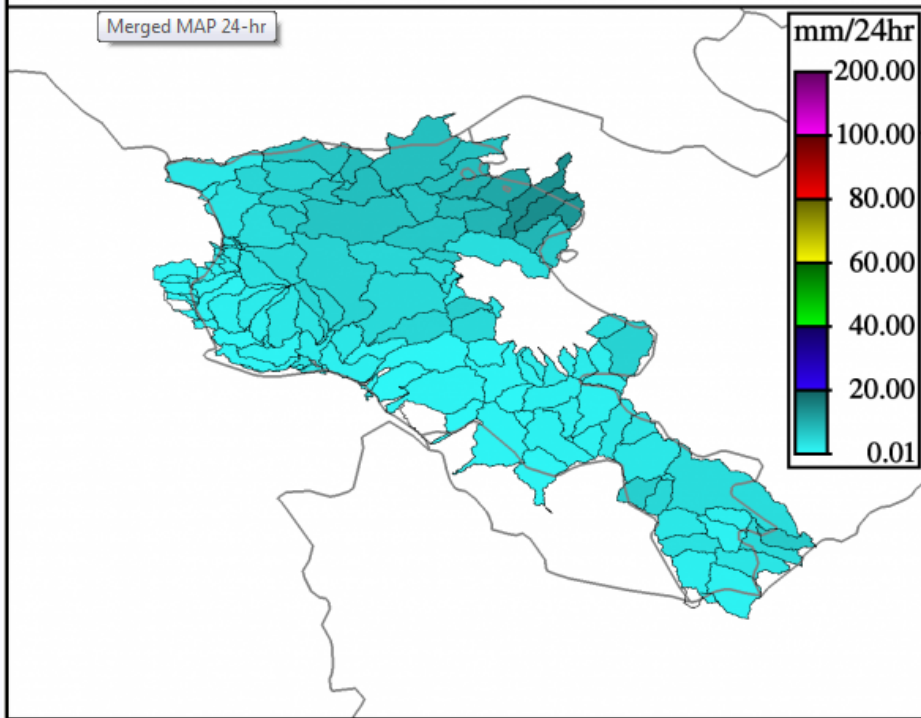
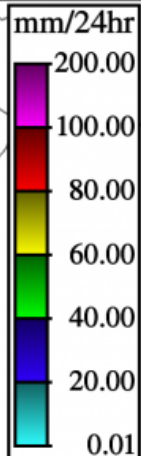
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MAP - 24 hr 2014-06-02 23:00 UTC ARMENIA

Merged MAP 24-hr



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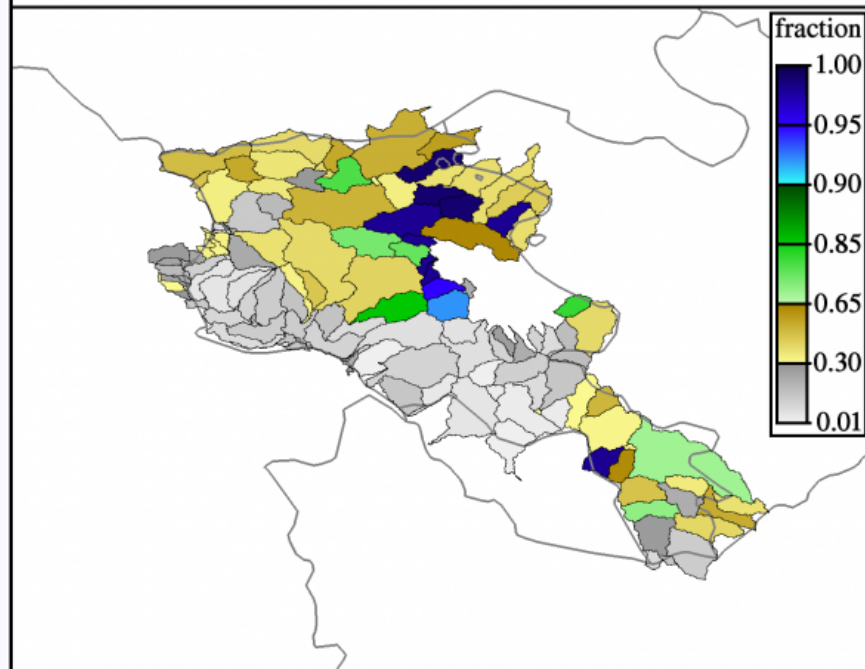
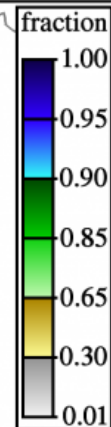
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ASM - 06 hr 2014-06-02 18:00 UTC ARMENIA



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REGION: ARMENIA PRODUCT: ALADIN Forecast DT: 24-hr

Year: 2014 Month: 06 Day: 02 Hour: 09

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Prev 6-hr Interval (06 UTC)

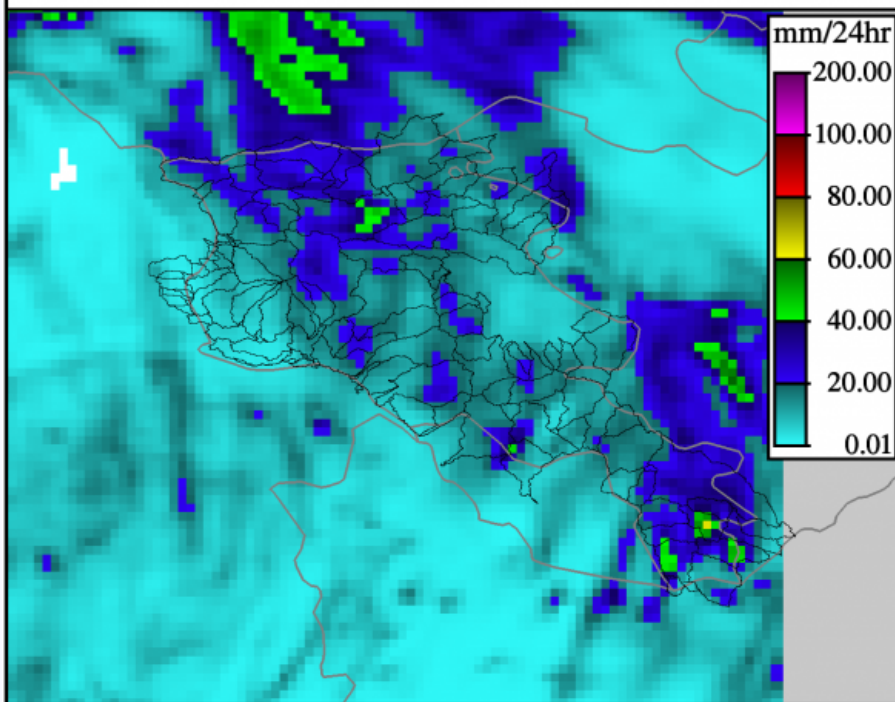
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Next 6-hr Interval (12 UTC)

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FORECAST - 24 hr 2014-06-02 09:00 UTC ARMENIA



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REGION: ARMENIA PRODUCT: ALADIN Forecast DT: 24-hr

Year: 2014 Month: 06 Day: 02 Hour: 18

Submit

-1 Month -1 Day -6 Hours -1 Hour +1 Hour +6 Hour +1 Day +1 Month

Prev 6-hr Interval (12 UTC)

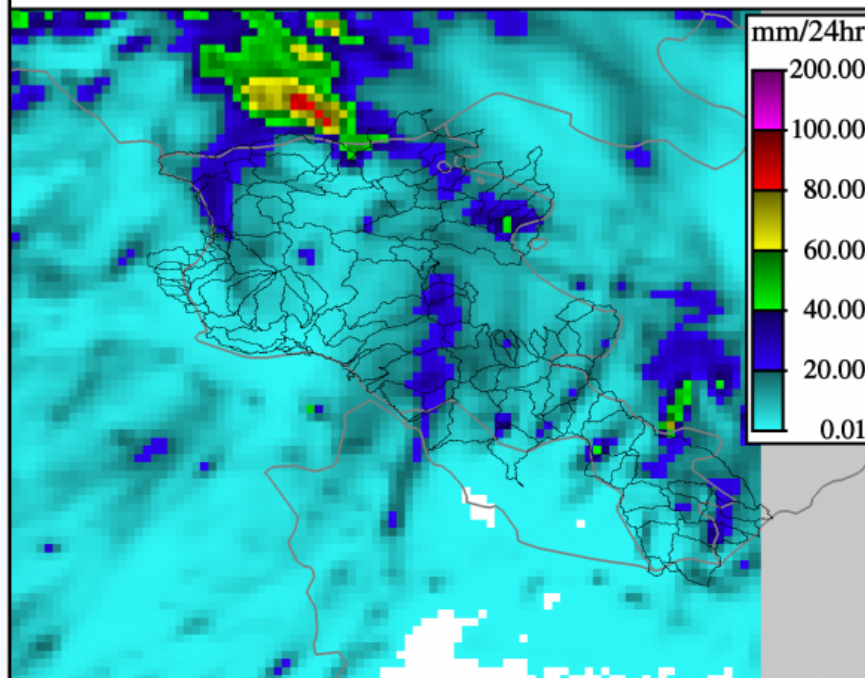
Reset to Current

Next 6-hr Interval (00 UTC)

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Composite Product: [text](#), [CSV](#), [CSV/T](#)

FORECAST - 24 hr 2014-06-02 18:00 UTC ARMENIA



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REGION: ARMENIA PRODUCT: FFG DT: 06-hr

Year: 2014 Month: 06 Day: 03 Hour: 03 Submit

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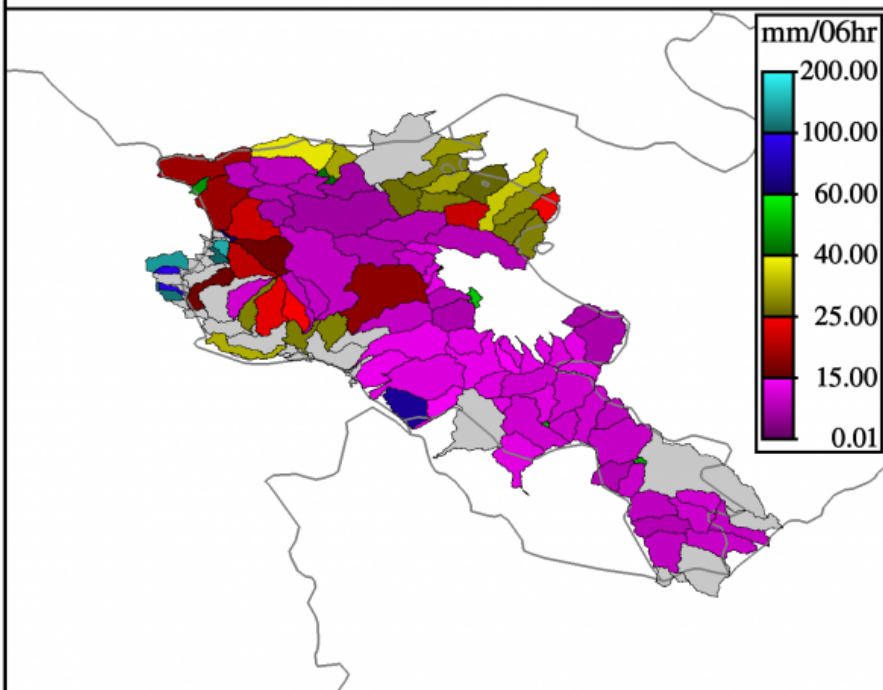
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FFG - 06 hr 2014-06-03 00:00 UTC ARMENIA



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REGION: ARMENIA PRODUCT: FFFT DT: 06-hr

Year: 2014 Month: 06 Day: 03 Hour: 05 Submit

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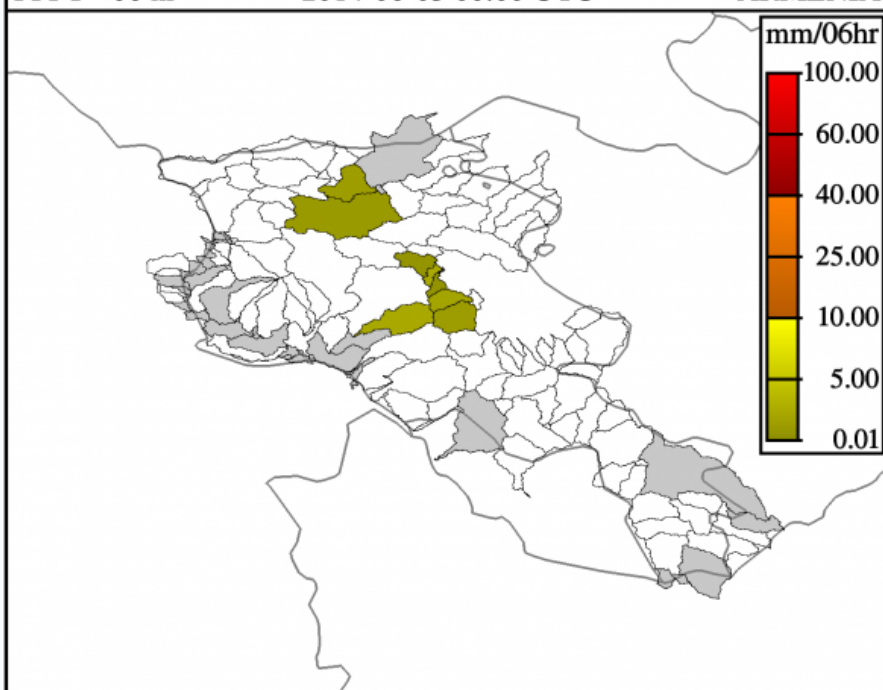
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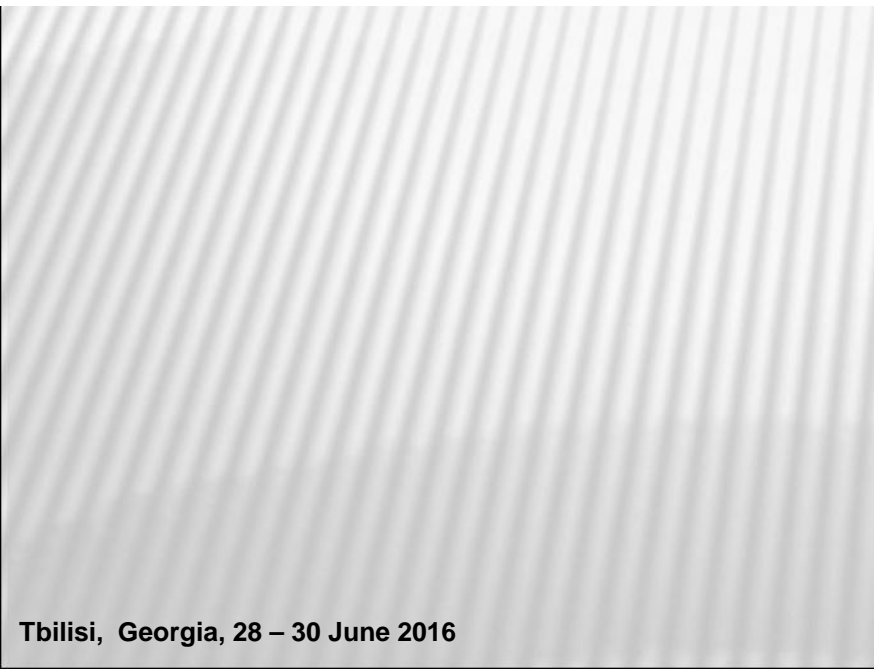
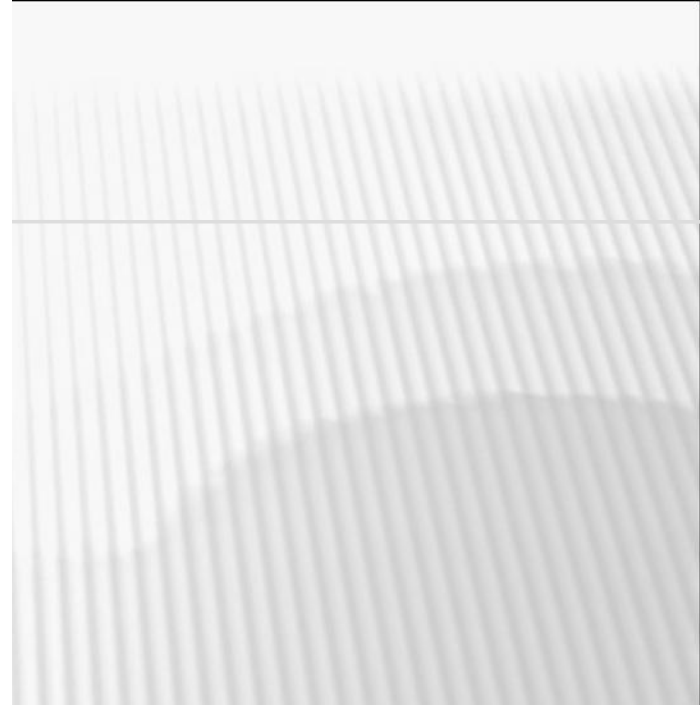
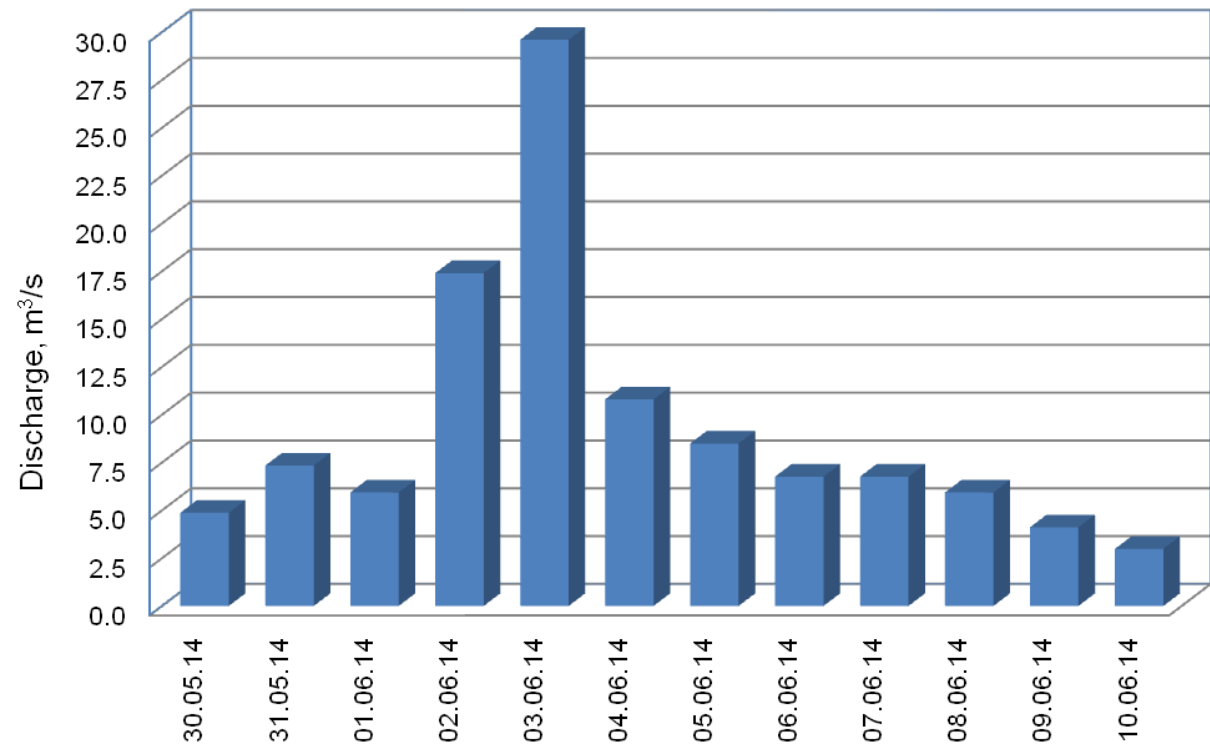
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