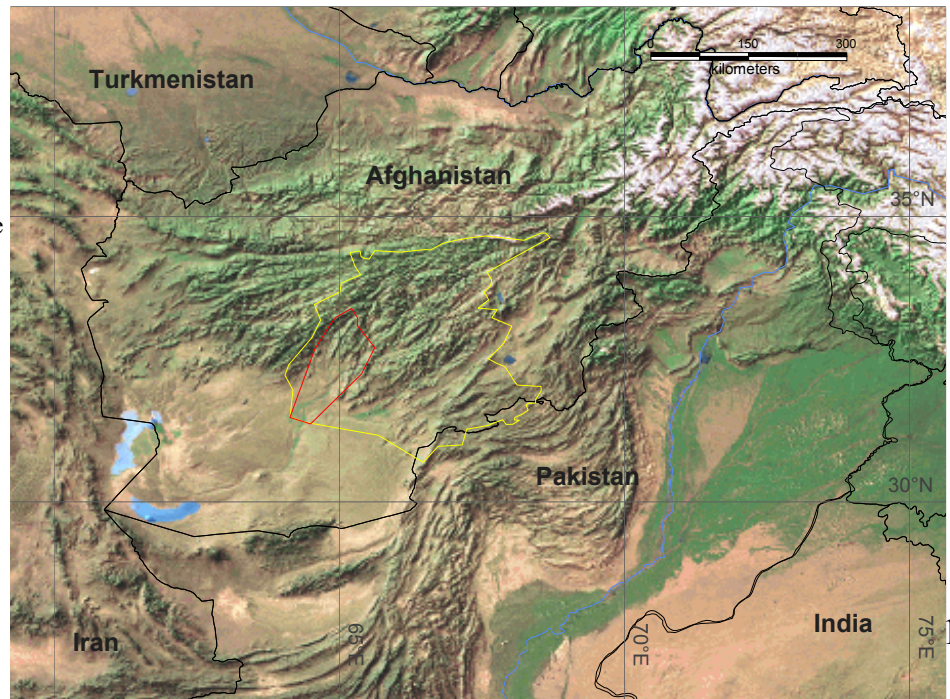


Dartmouth Flood Observatory

Flood Analysis Report 2003-096

Event:	DFO-2003-096, S. Afghanistan	Previous Events:	
Duration:	April 18 - 21, 2003, 4 days	News Notes:	5 dead, 25 still missing. 25 to 50 year recurrence interval.
Cause:	Heavy spring rains in the Saghaw valley.	Locations:	Helmand Province in Afghanistan, Kajaki and Baghran districts. The Helmand River is not usually visible to the MODIS sensor.
Region Affected:	14,990 sq. km	Watershed:	118,000 sq. km; Helmand River
Severity:	1, large	GIS vectors	20031110640AfghHel096M2.25 20031120855AfghHel096Ma2.29 20031130630Afghan096M2.24.
Magnitude:	1.7		

Figure 1. Location of contributing watershed (yellow line) and area affected by flooding (red line)



Causation categories are: 1, thunderstorm; 2, precipitation band; 3, squall line; 4, stationary front; 5, mesoscale convective complex; 6, convective cloud cluster; 7, tropical cyclone; 8, extra-tropical cyclone; 9, stationary synoptic front; 10, ITCZ wave disturbance; 11, snowmelt; 12, rain and snowmelt; 13, ice jam or ice break-up; 14, dam break; 15, avalanche.

Severity classes: 1, large, 20%-5% exceedance probability – and/or significant damage to structures or agriculture; 2, very large, 5%-1%; 3, extreme, <1%.

Flood Magnitude: {Natural Log duration (days)} x {severity class} x {sq rt region affected (sq. km)} x .01.

Duration, region affected, and intensity are estimates from news and government reports.

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Dartmouth Flood Observatory Flood Analysis Report 2003-096

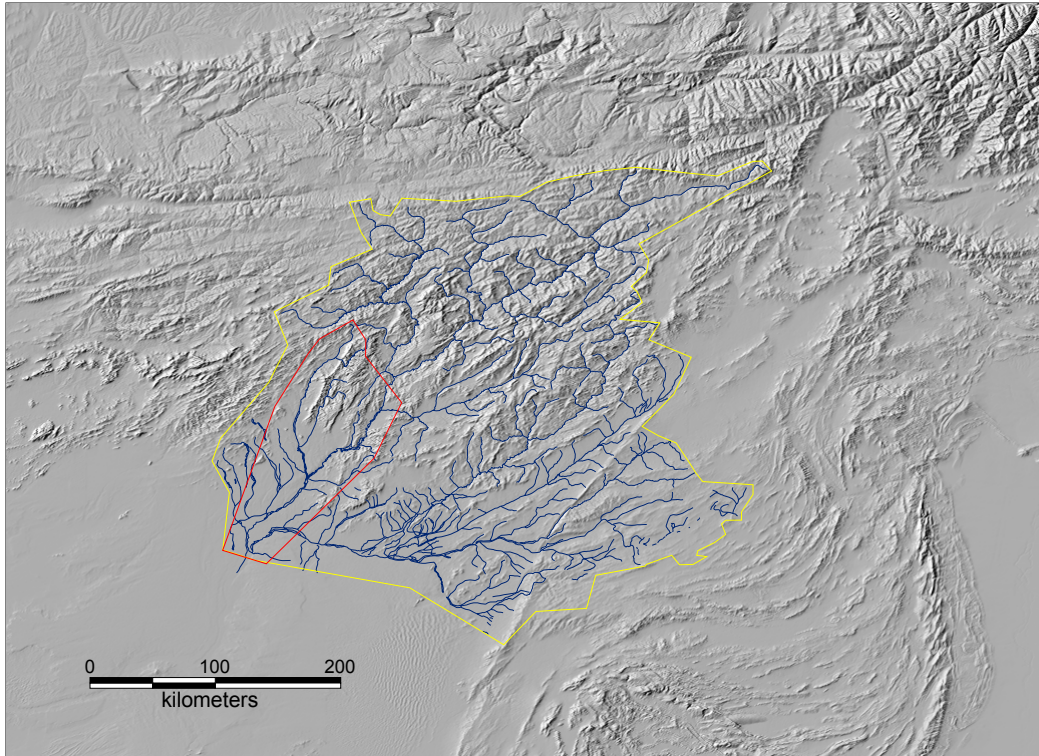


Figure 2. Flood-generating watershed for this flood event.


DFO event # 2003-096


Area affected 

MODIS flood inundation limit

April 23, 2003 
 April 22, 2003 
 April 21, 2003 

MODIS data cloud free area

April 23, 2003 

MODIS reference water 

Main city 

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 Dartmouth Flood Observatory
 Dartmouth College
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 Sébastien Caquard
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Universal Transverse Mercator
 UTM Zone 41 North; WGS 84
 Graticule: 2 degrees

