Dartmouth Flood Observatory
Flood Analysis Report 2003-073

Event:	DFO-2003-073, Southern Ukraine	Previous Events:	
Duration:	March 22-28, 2003, 7 days	News Notes:	1 report from TASS – over 300 houses flooded, 126 evacuated
Cause	11, Snowmelt	Locations:	From news sources: Nikolayev and Dnepropetrovsk regions. Rivers: Ingul, Yuzhny Bug, Seversky Donets, Lower Pripyat. From DFO remote sensing: Yuzhny Bug, Ingul, and Dnestr rivers.
Region Affected:	220,00 sq. km	Watershed:	678,000 sq. km; Rivers draining to the Northwest Black Sea.
Severity:	1, large	GIS vectors:	20030870905YuzhnyBug073M2.26 20030851055YBug073Ma2.27
Magnitude:	5.5		

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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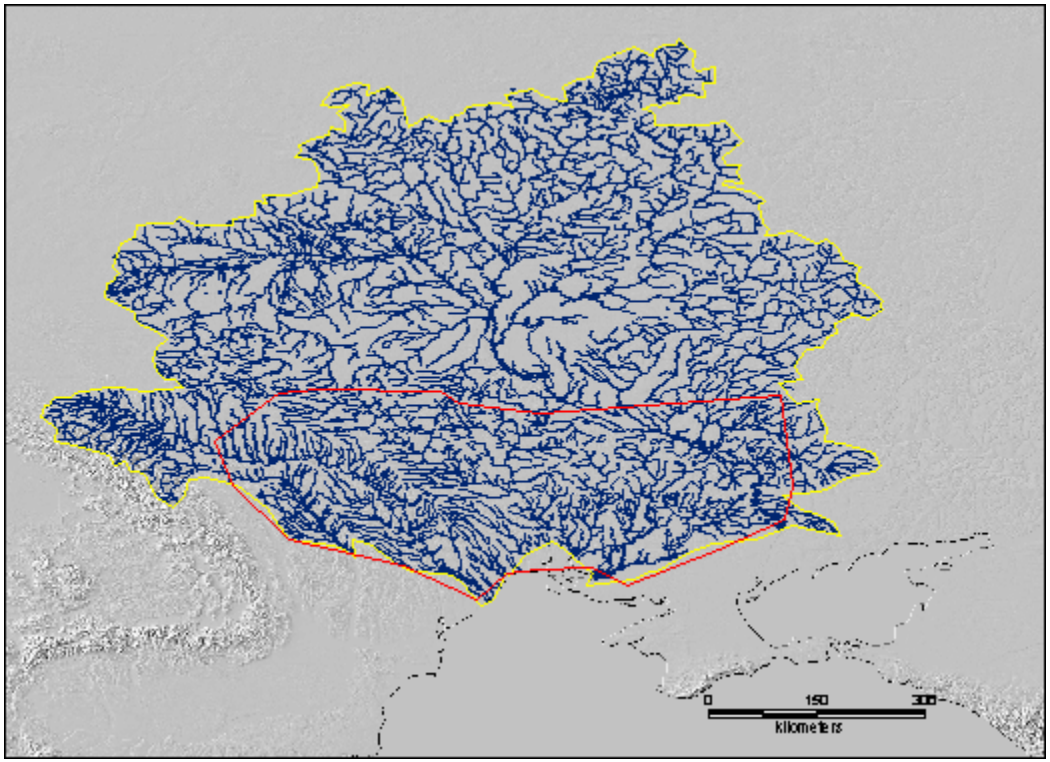
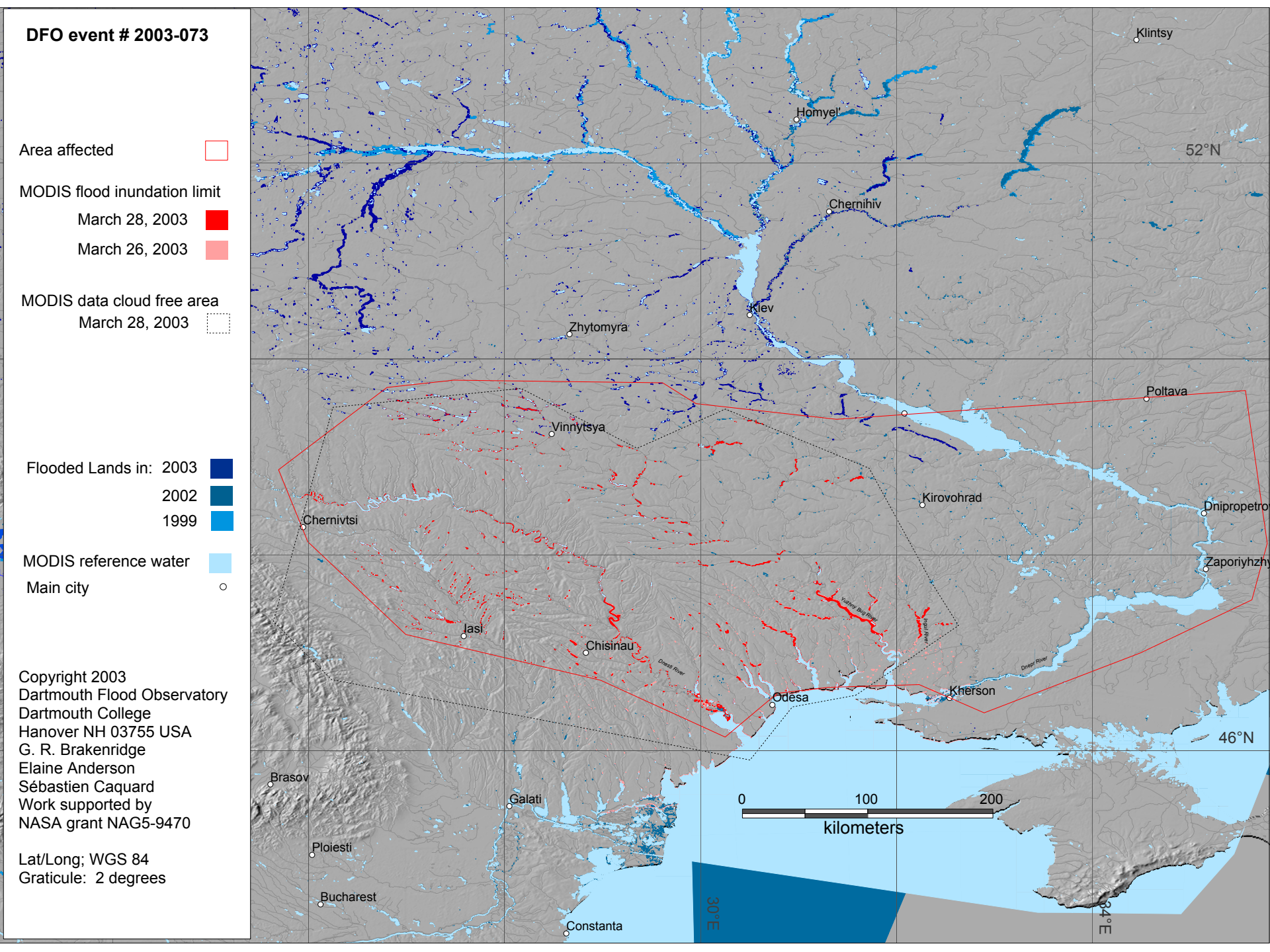


Figure 2. Flood-generating watershed for this flood event.


DFO event # 2003-073
Area affected
MODIS flood inundation limit
March 28, 2003
March 26, 2003
MODIS data cloud free area
March 28, 2003
Flooded Lands in: 2003
2002
1999
MODIS reference water
Main city
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Lat/Long; WGS 84
Graticule: 2 degrees
Klintsy
Homyel'
Chernihiv
Kiev
Zhytomyra
Vinnytsya
Poltava
Kirovohrad
Chernivtsi
Iasi
Chisinau
Odesa
Kherson
Brasov
Galati
Ploiesti
Bucharest
Constanta
52°N
46°N
30°E
34°E
0
100
200
kilometers