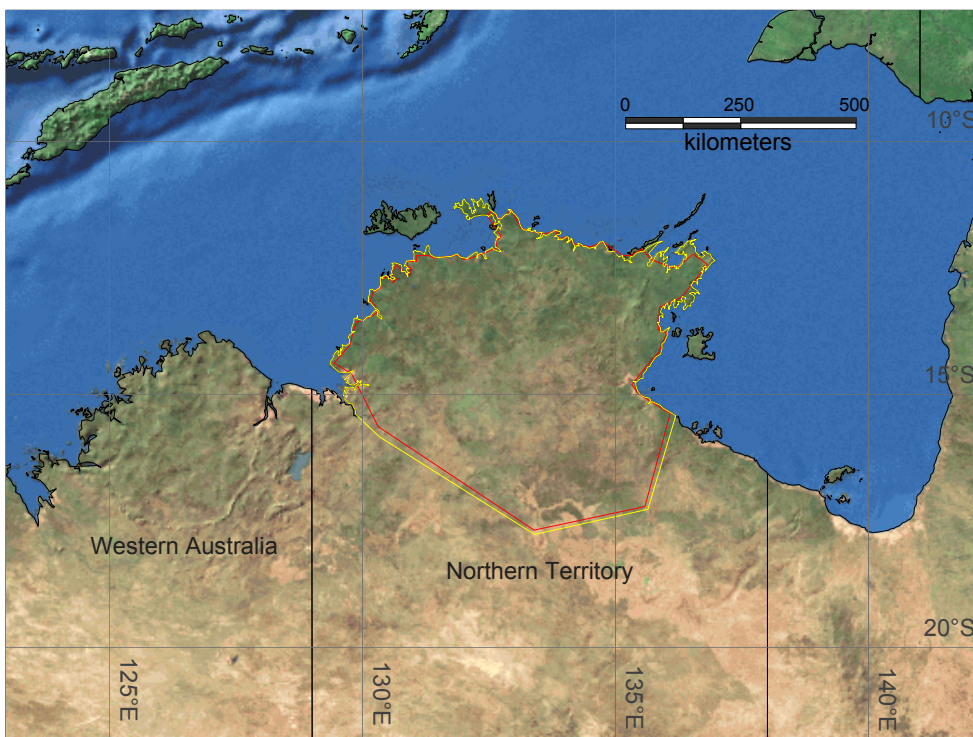


Dartmouth Flood Observatory

Flood Analysis Report 2003-066

Event:	DFO-2003-066 NW Australia	Previous Events:	DFO-2002-024; DFO-1998-005.
Duration:	March 7-17, 2003, 11 days	News Notes:	The town of Daly River was already isolated by seasonal floods prior to Cyclone Craig.
Cause	7, Heavy rains from tropical cyclone Craig.	Locations:	From News sources: Northern Territory “Top End” From DFO remote sensing: Roper, Wilton, Daly, Mary and South and East Alligator rivers.
Region Affected:	338,900 sq. km	Watershed:	358,700 sq. km; Roper and Daly River
Severity:	1, large	GIS vectors	20030740140AusNT066M2.51 20030720435AusNT066Ma2.46 20030760125AusNT066M2.44
Magnitude:	14.0		

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.

Work supported by: the NASA Office of Earth Science and by the Dartmouth College Geography Department, Hanover NH 03755 USA

Citation for this publication: Anderson, E. and Brakenridge, G.R., 2003, Dartmouth Flood Observatory Flood Analysis Report 2003-066, p1-4, online at <http://www.dartmouth.edu/~floods/2003066.pdf>

Dartmouth Flood Observatory Flood Analysis Report 2003-066

Figure 2. NASA/NASDA Tropical Rainfall Measurement Mission (TRMM) daily rainfall (“Quicklook”) data for the flood-generating storm. Images are from the TRMM home page at: http://trmm.gsfc.nasa.gov/data/quicklook/last_2_cal.html.

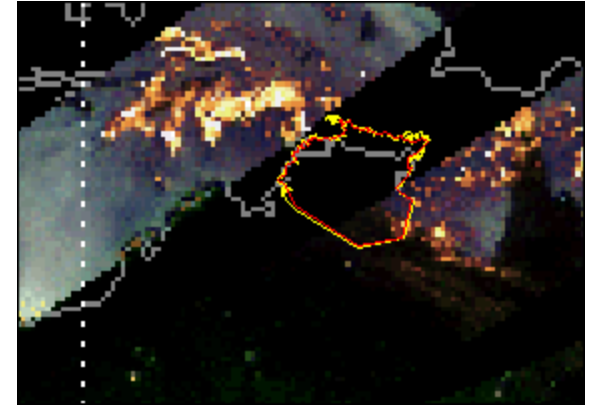
March 8, 2003



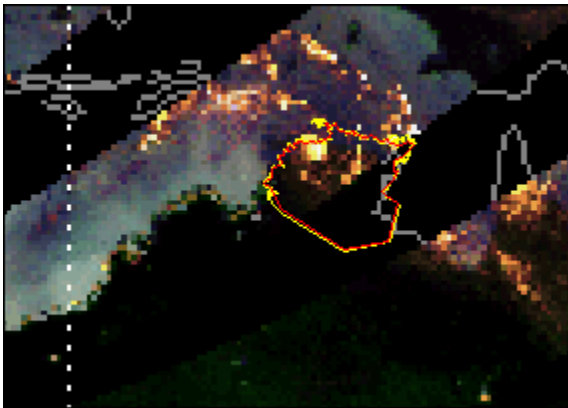
March 9, 2003



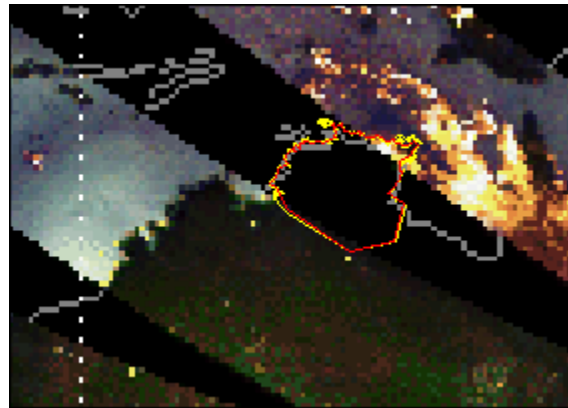
March 10, 2003



March 11, 2003 - am



March 11, 2003 pm



TRMM data show Cyclone Craig hovering off the coast of the Top End for several days before passing over Melville Island, the Cobourg Peninsula and Cape Stewart on the 11th. Craig then headed for the Gulf of Carpentaria. The category 2 storm brought heavy rains which flooded low lying areas across the Top End of the Northern Territory.

Dartmouth Flood Observatory Flood Analysis Report 2003-066

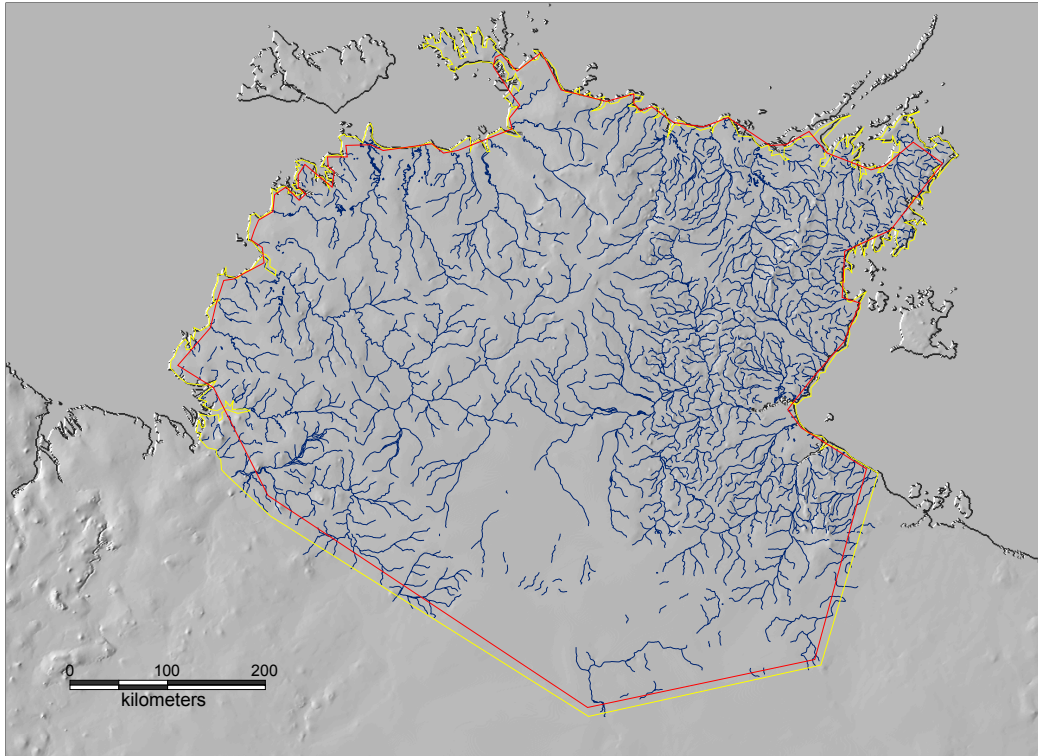






Figure 3. Flood-generating watershed for this flood event.


DFO event # 2003-066



Area affected 


MODIS flood inundation limit

-  March 17, 2003
-  March 15, 2003
-  March 13, 2003

MODIS data cloud free area

March 17, 2003 

Flooded Lands in: 2003 
2001 

MODIS reference water 

Main city 

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Dartmouth Flood Observatory
Dartmouth College
Hanover NH 03755 USA
G. R. Brakenridge
Elaine Anderson
Sébastien Caquard
Work supported by
NASA grant NAG5-9470

Lat/Long; WGS 84
Graticule: 2 degrees

