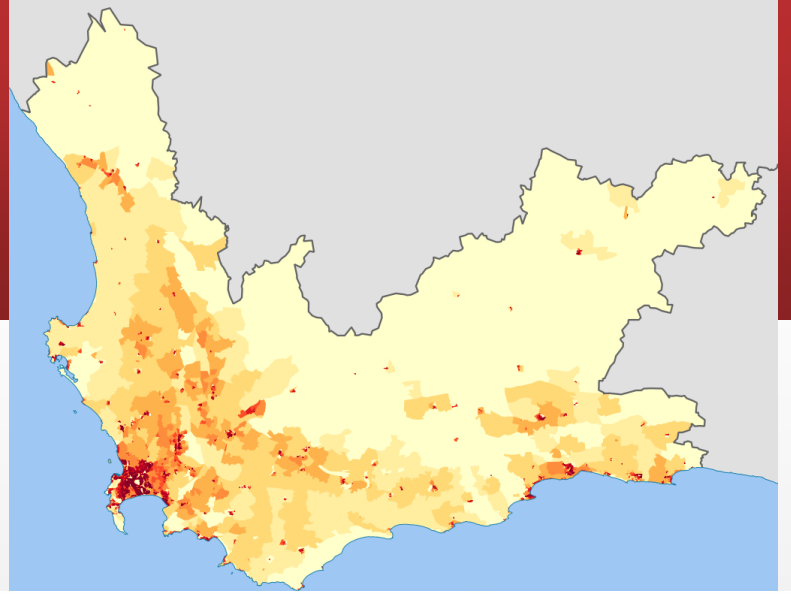
Helicopter Rescue in the Western Cape: Case Study

OVERVIEW OF HELICOPTER SEARCH AND RESCUE OPERATIONS IN THE WESTERN CAPE

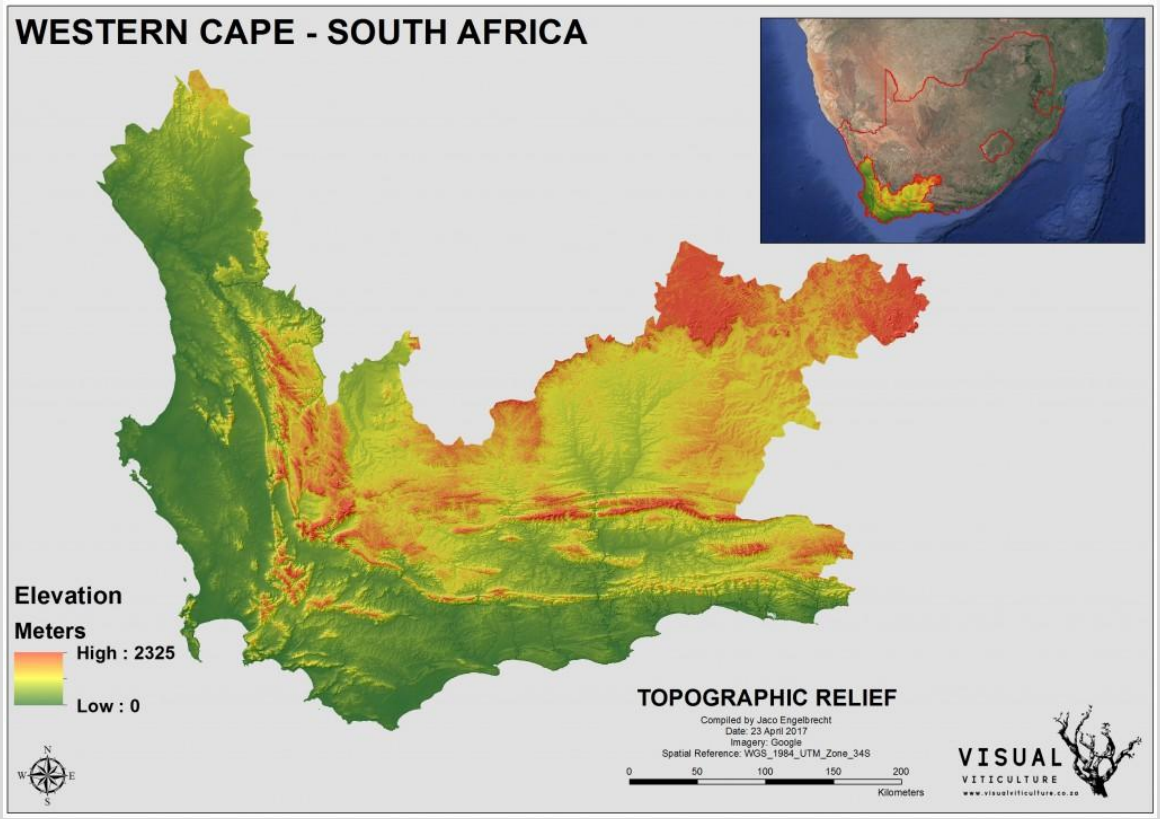
Wilderness Search & Rescue

129 449 km²

7.5 million People



- Over 1.7 million visitors to the Table Mountain National Park annually



Organisations

- Western Cape Department of Health and Wellness
- SA Red Cross Air Mercy Service
- 22 Squadron South African Air Force
- SAPS Air Wing, Dive Unit, SAR
- Forensic Pathology
- Local Municipalities
- Fire and Rescue
- Wilderness Search and Rescue
- Life-Saving South Africa
- NSRI

Contributors/Acknowledgements

- Dr Rik de Decker
- Dr John Roos
- Dr Wayne Smith
- Iefan Blake
- Rob Thomas
- Andrew Lewis
- Simon McDonnel
- Grant Duncan-Smith

Cape Times 12/11/28

A LADY CLIMBER INJURED.

Fall of 30 ft. on Table Mountain.

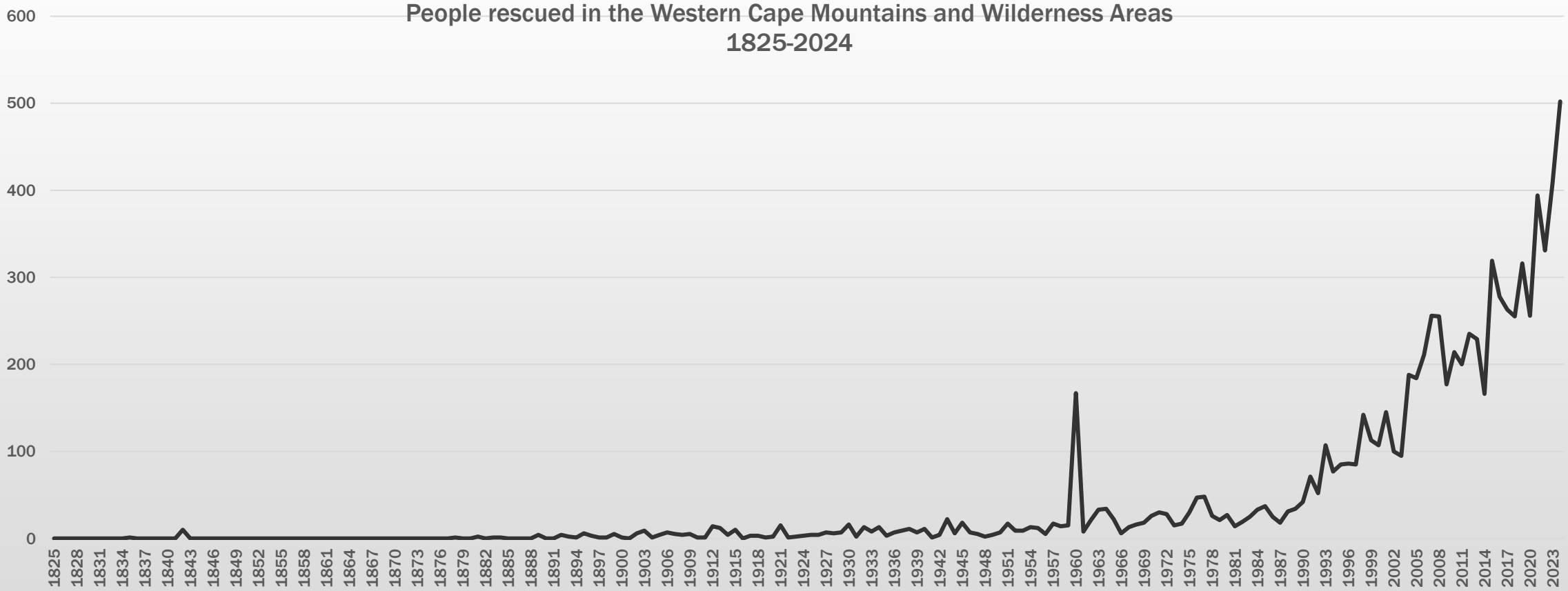
CLUB MEMBERS WANTED THIS MORNING.

Rescue practice on Table Mt. 1892 – E. J. Steer

Times have changed!

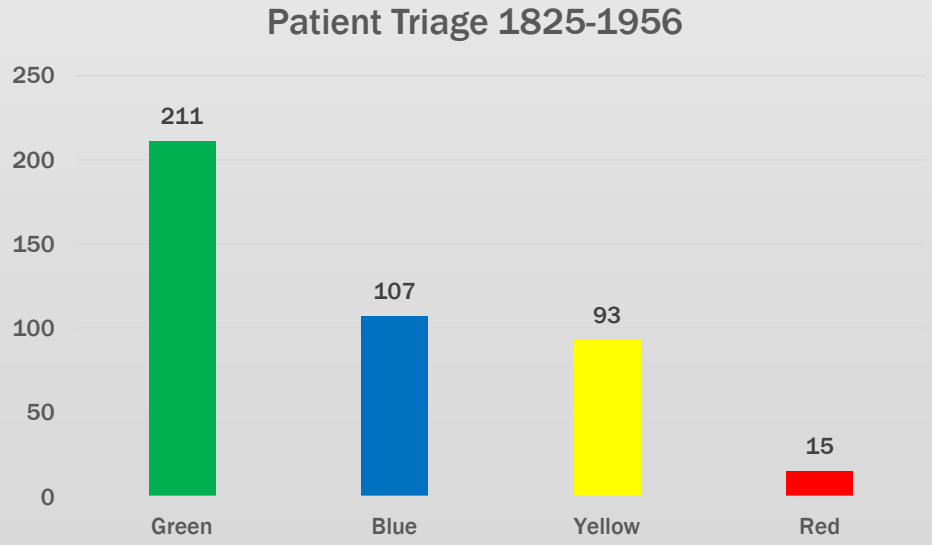
Cape Times Newspaper 12 November 1928

Western Cape Mountain Rescue Patients

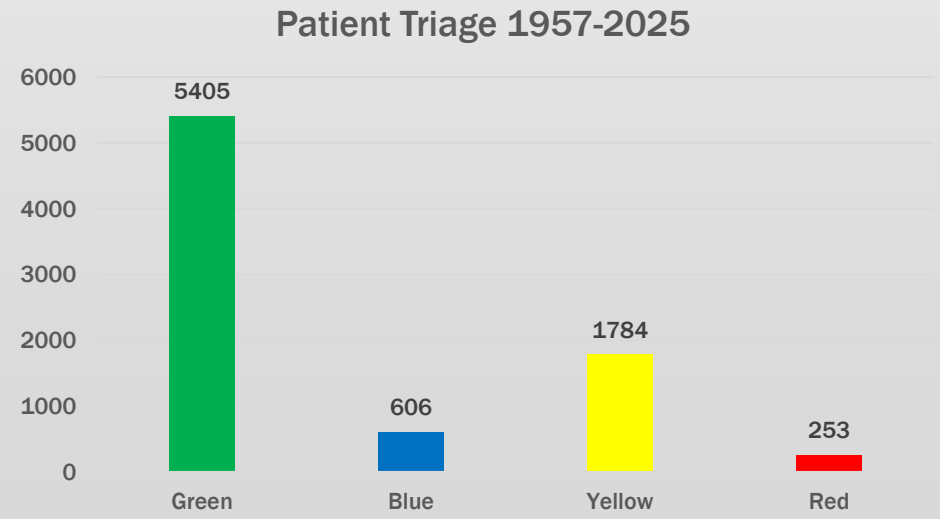


Patient triage

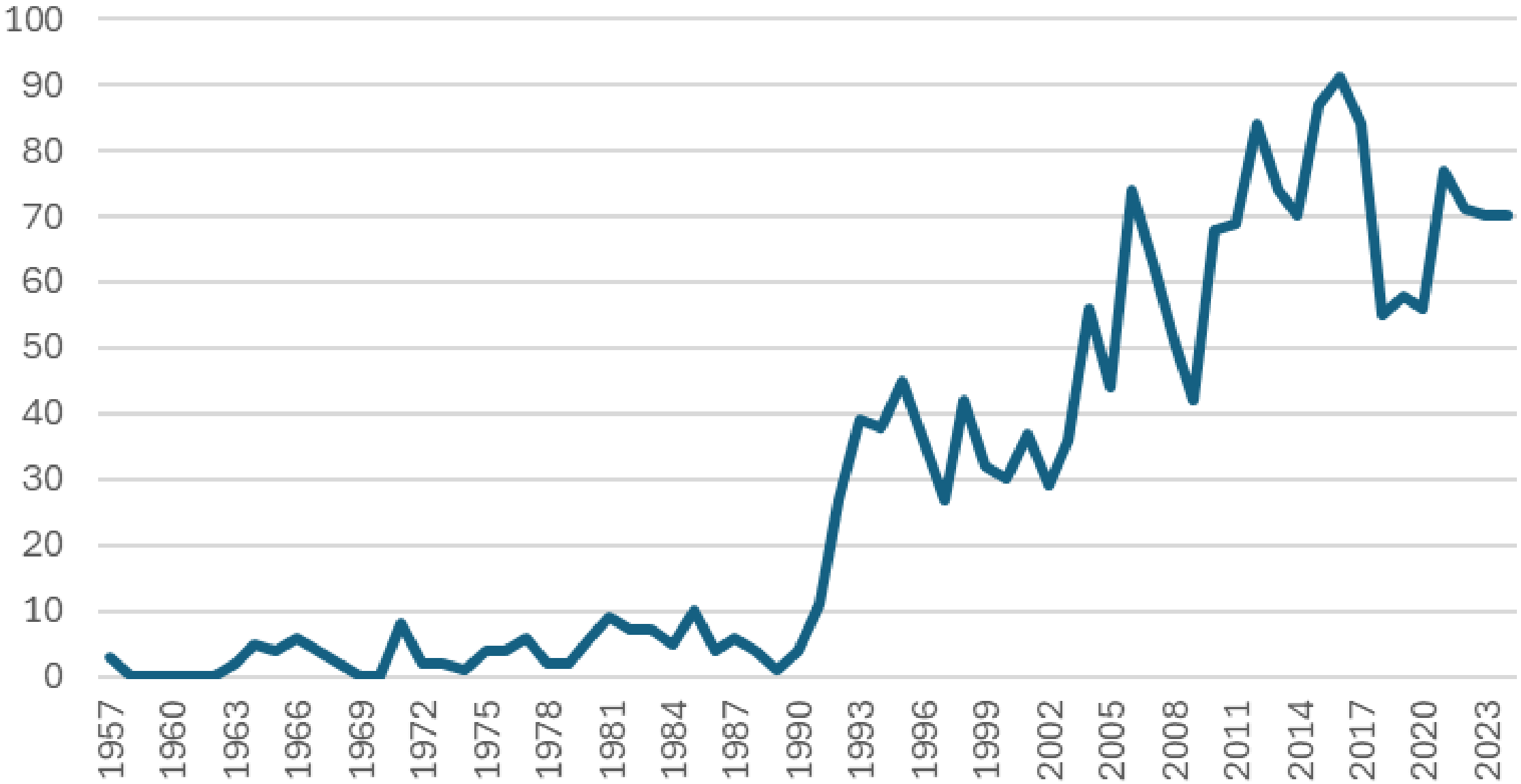
1825-1956		
Status	Patients	%
Green	211	50%
Blue	107	25%
Yellow	93	22%
Red	15	4%



1957-2025		
	Patients	%
Green	5405	67%
Blue	606	8%
Yellow	1784	22%
Red	253	3%



Utilisation of Helicopters in Terrestrial Rescue



Changes

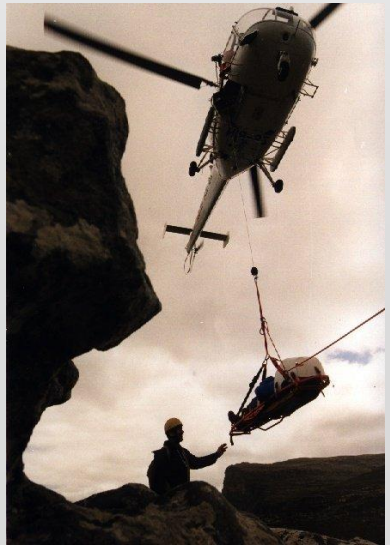
More…

- People on the mountain
- Foreign tourists
- Local tourists
- Diversity of people/activities
- Extreme sports and extremism
- Fitness culture
- Rescuers and rescue teams

Technology…

- Cellular phones
- GPS
- Emergency Medicine
- Air support
- Ease of access to rescuers

- Over the last few years the busy summer season can see us doing an average 1 to 3 rescues per day.
- Most recorded rescues on one day: 5
- In August 2007 Dr de Decker, Andre Oliphant and Bees Marais flew 4 helicopter missions back-to-back on one day!



First helicopter rescue performed in 1944 – where the helicopter was able to land.

On November 29, 1945, a Sikorsky R-5 hovers over a grounded oil barge in Long Island Sound off Fairfield, CT, to perform the first helicopter hoist rescues in aviation history. The rescue site was a short flight from the Sikorsky factory in Connecticut.

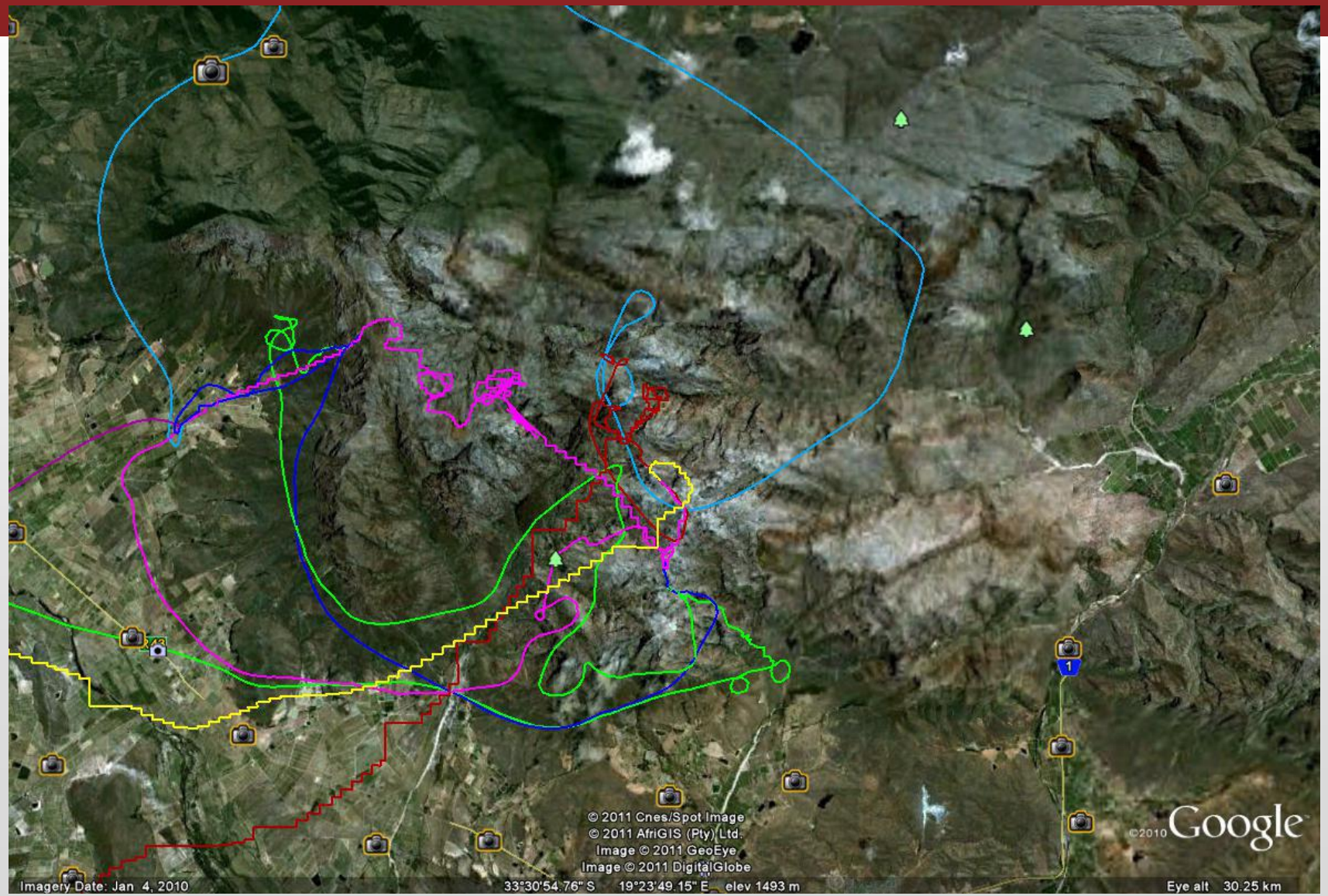
Was also the first hoist-failure after 2nd hoist.

Impact of helicopters

- Decrease in the utilisation of ground teams
- Decrease in the number of fatalities
- Rapid extraction time
- Improved patient outcomes

- In Vietnam – if seriously injured the chances of survival were higher than in the average street in the USA – (US National Academy of Sciences, 1966)

Search flown by AMS in 2010 – Hex River Mountains – data from tracking unit



- Helicopter rescue used to be exclusively done by the SAAF since 1957 – Crown Peak near Swellendam
- AMS introduced a medical helicopter (BO-105) in 2000 – not rescue capability. This was used occasionally where they could land next to the patient or skid on approach.
- Allouette III introduced in 2002 – with a hoist
- Both replaced in 2004 with the AS-350 B2 Squirrel with hoist and dual cargo hook
- Agusta-Westland AW119KE introduced in 2008

Limitations of light helicopters

- Cannot transfer from hoist to interior stretcher in flight
- Limited weight
- Limited power (high wind situations)
- Visual flight rules
  - Cannot fly through cloud

Key to success

- Rapid activation
- Rapid location
- Rapid medical intervention by Advanced Life-Support
- Rapid extrication
- Rapid transport to definitive care

Conclusion

Greater demand for rescue

Greater service delivery expectations

Greater co-ordination and communications required

Greater focus on patient care and time to definitive care

Less margin for error