



British Antarctic Survey:

Bringing SMS in from the cold.

Rod Arnold

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Introduction

Procedures

Training/Education

Reporting Scheme

Culture

Conclusions





Dash-7 (DHC-7)



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Wheels only configuration



Main Antarctic tasking:-

Intercontinental link (pax/cargo)
Remote sensing (mag and gravity)
Field deployments to blue-ice fields

Series 110

Increased gross weight
Unique cargo door & long range tanks
Max range 2320 nm
10 hrs fuel



Twin Otter (DHC-6)



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x 4 wheel / ski

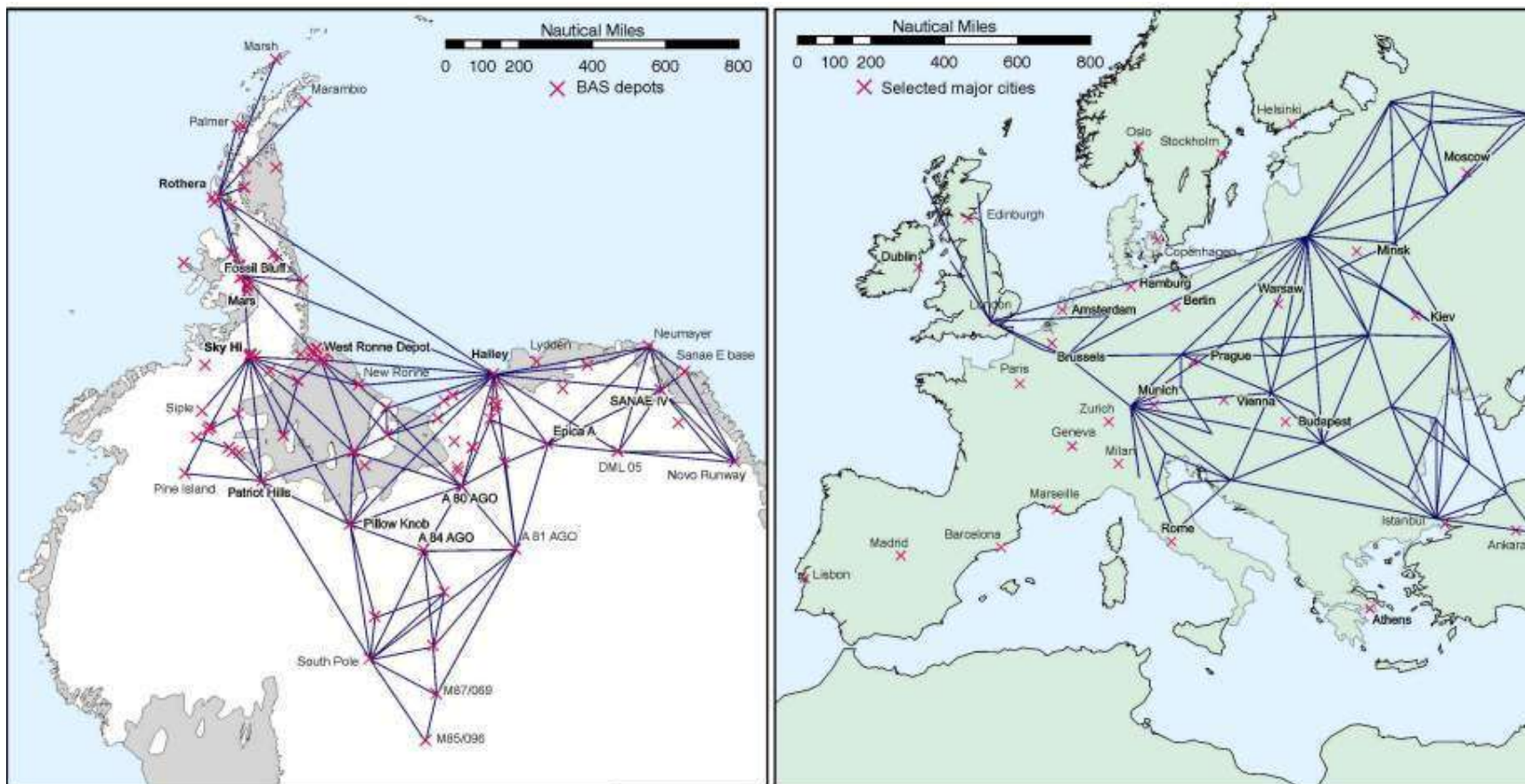


Main Antarctic tasking :-
Field party input & support
Wheel /Ski
Meteorological research
Geophysical research

DHC6 Series 300
Vertical photography
Remote sensing – Near-Long wave IR

Comparison of BAS Operational Area with Europe

Both maps at scale 1:15 000 000 using stereographic projection. Flightlines used on the map of Europe are identical to that of Antarctica, but are rotated so that Rothera Base is in the position of London



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ERNEST SHACKLETON







Procedures

Specialised: Linked Travel

Generic: FTL/Duty time









FLYING WITH
A DIFFERENT
RESPIRATORY

Nestlé
NIDO
MILK POWDER

NIDO

FRUIT'S MIP



Training/Education

Medical statistics

Preliminary results

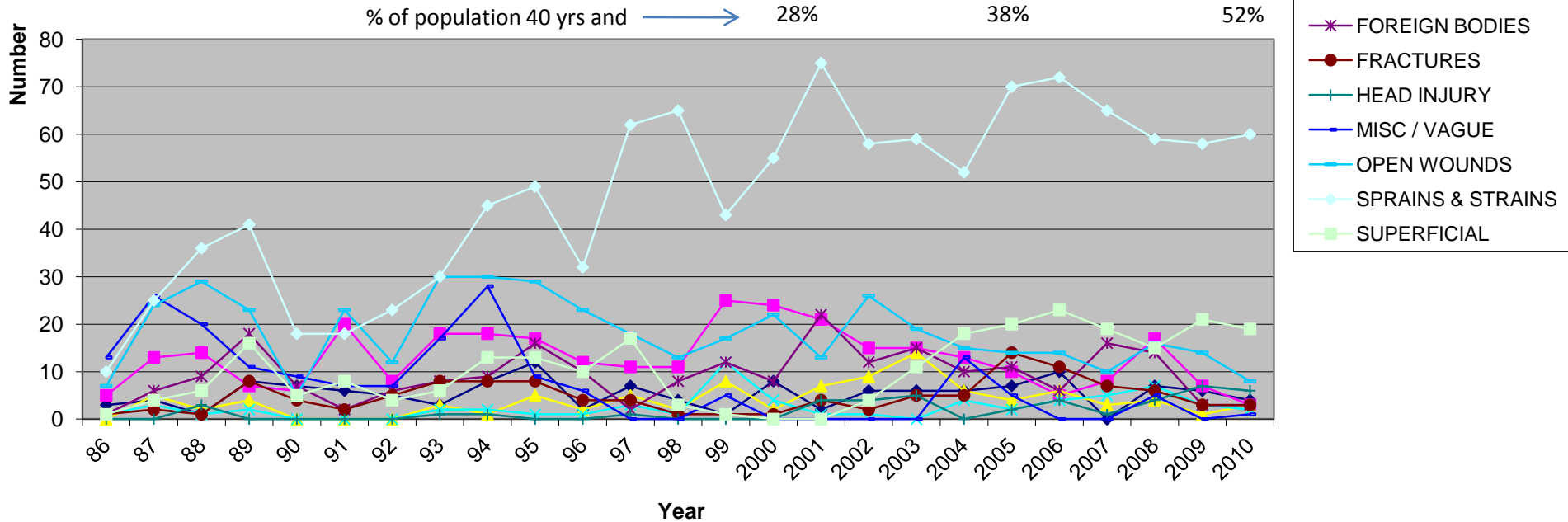


Medical events 1986 onwards

Deployment numbers for comparison

<u>Year</u>	<u>Deployment Days Total</u>	<u>Deployment numbers Total</u>
06/07	19,124	391
07/08	18,026	529
08/09	17,445	479
09/10	18,788	549
10/11	13,958	531

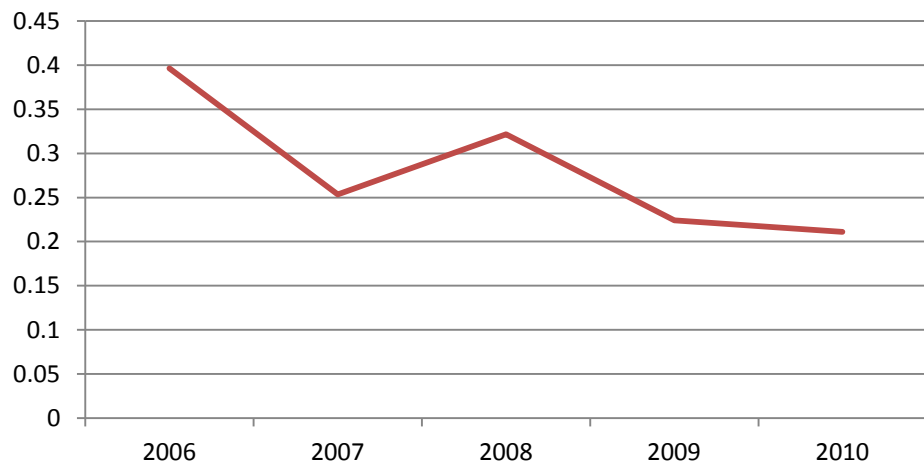
(above data from BAS South database. Thanks to Chris Aldridge)



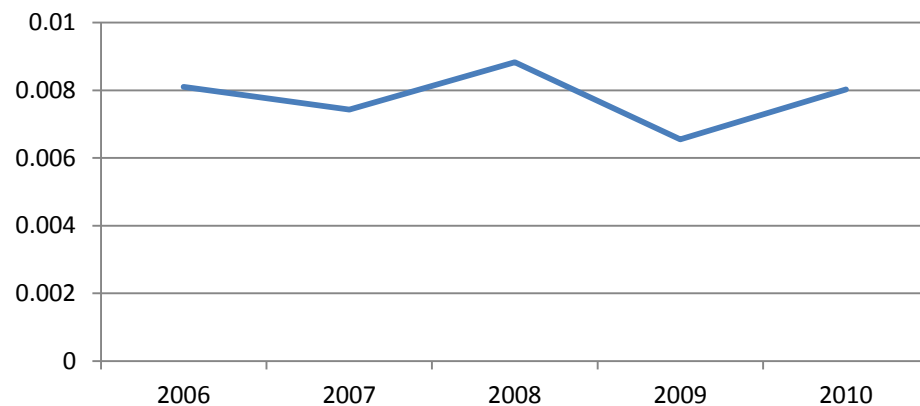


POLAR SCIENCE FOR PLANET EARTH

Injuries per person



Injuries per person/day



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Reporting Scheme

Intelligent assessment

Carbon Monoxide

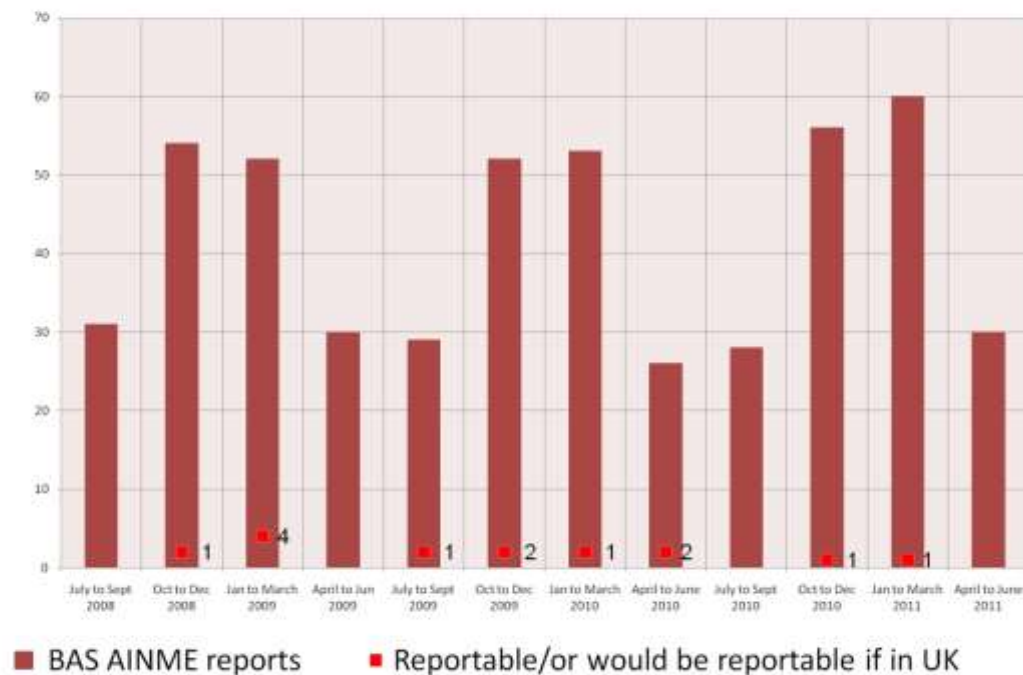
Crane Operation





POLAR SCIENCE FOR PLANET EARTH

Total of accidents, incidents and near misses reported at BAS (each quarter) 2008 to 2011



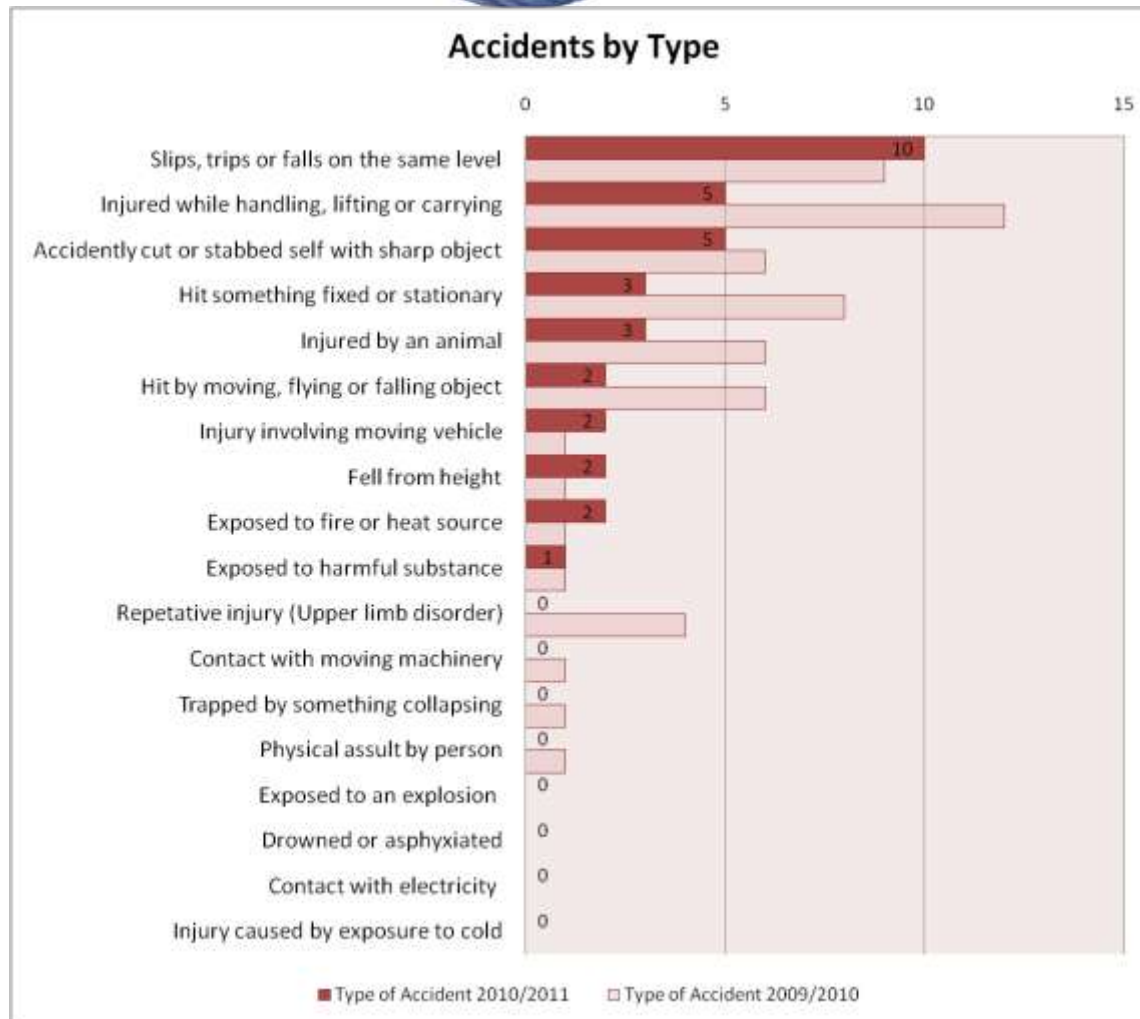
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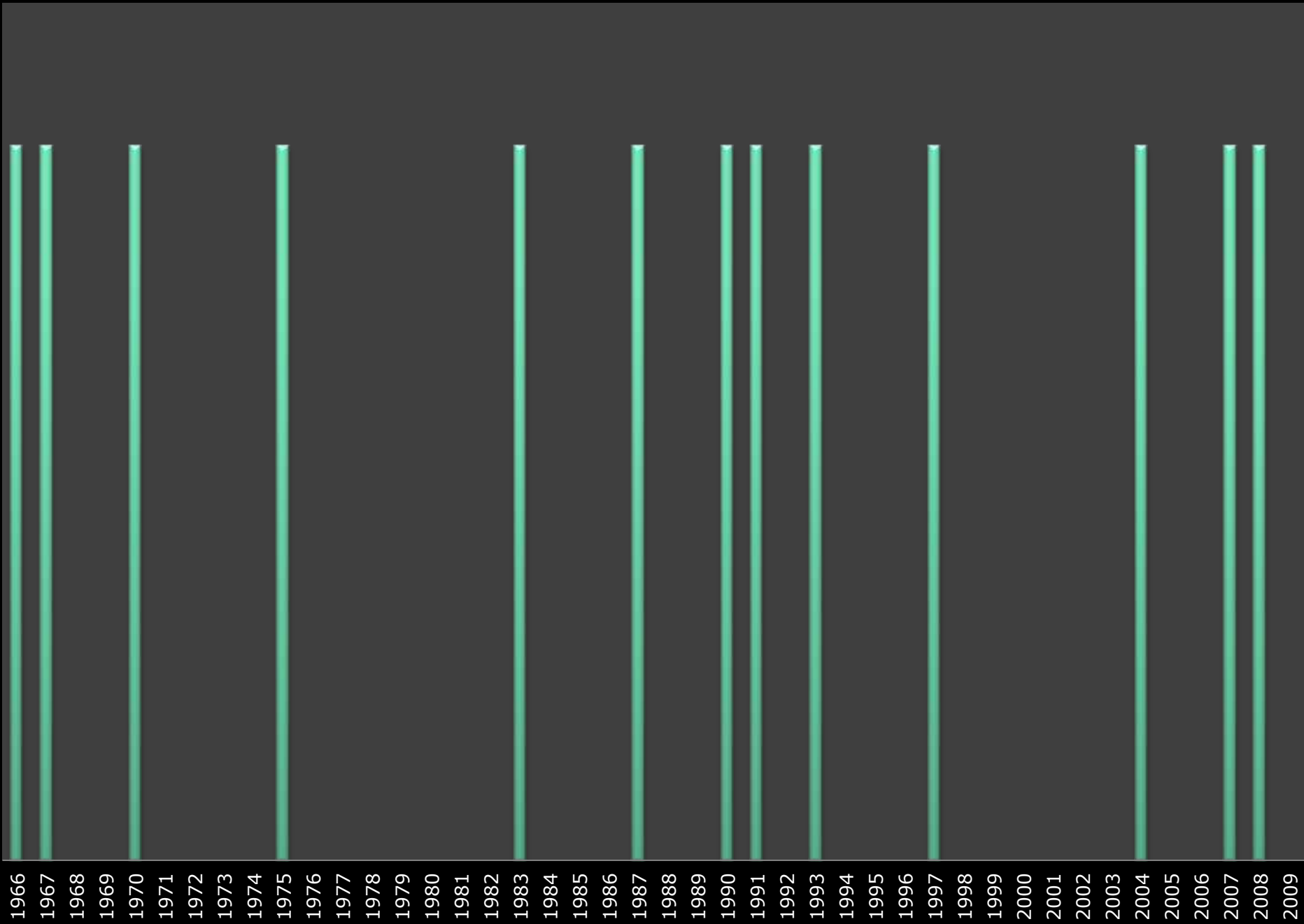


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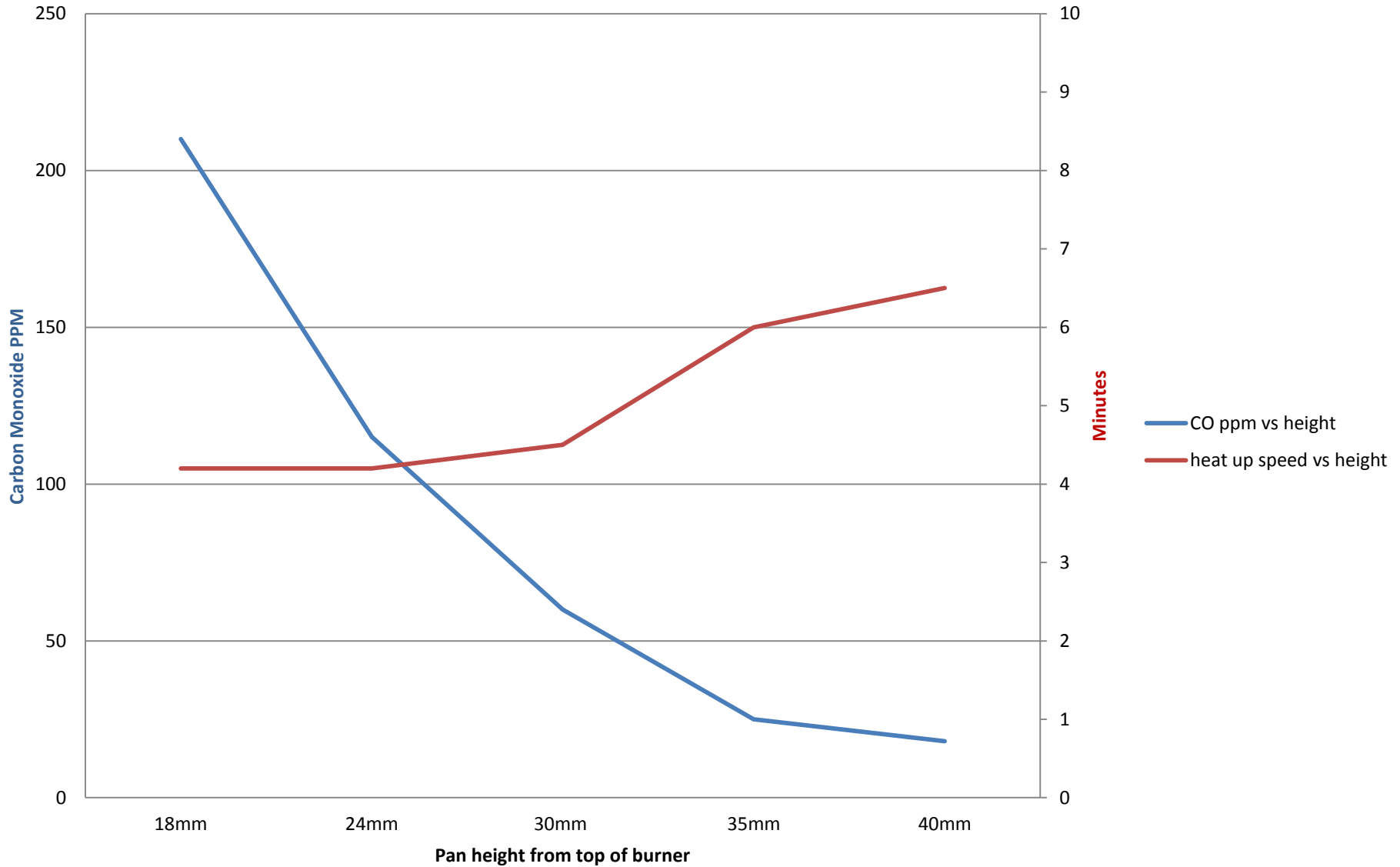
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Carbon Monoxide Incidents



Association between pan height from burner, the production of carbon monoxide (CO) and the time to boil the pan

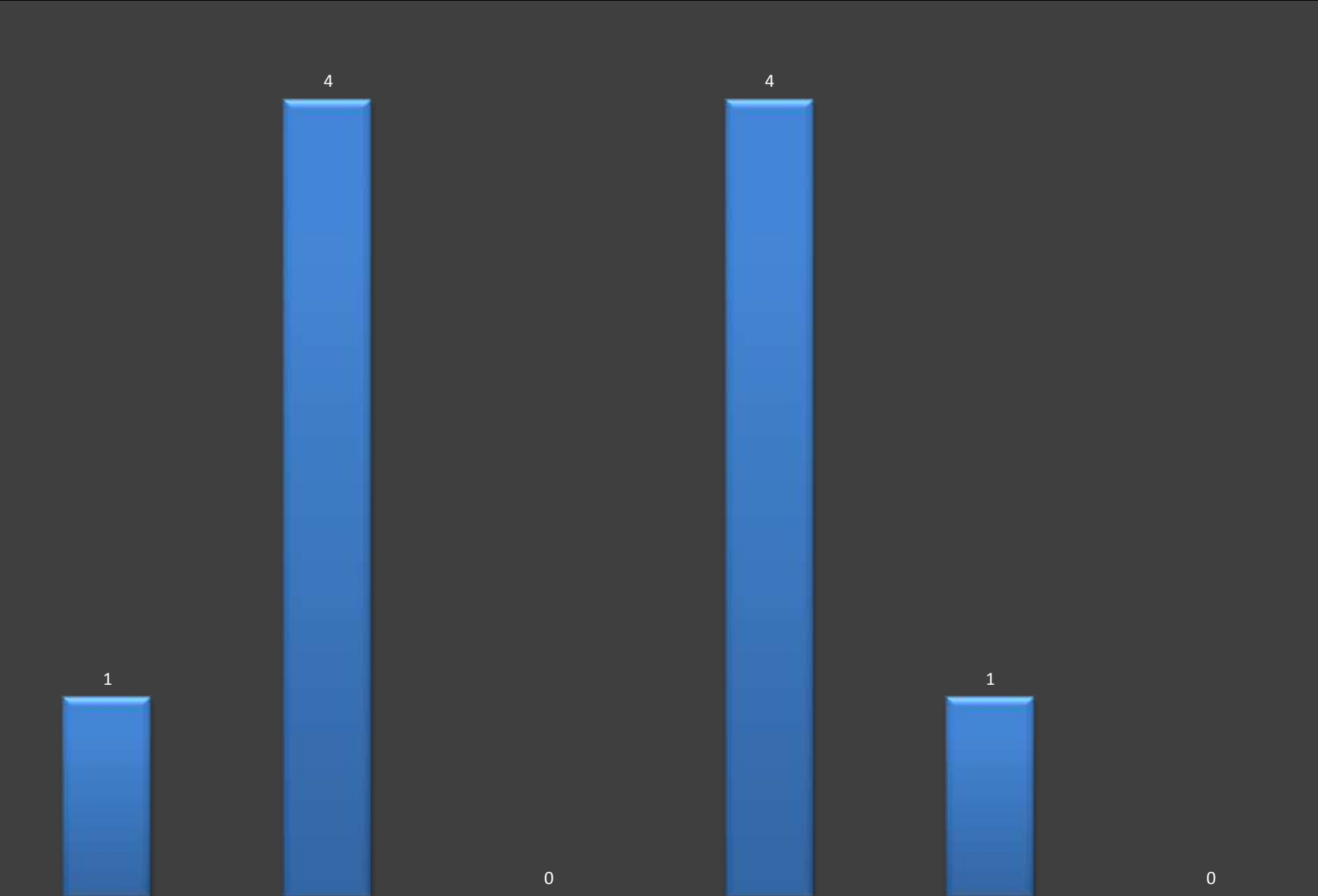




ERNEST SHACKLETON
STANLEY
FALKLAND ISLANDS

530 CAT

Crane Operation Incidents



2006

2007

2008

2009

2010

2011



Crane Incident Analysis:

- 1. 40% Involved incorrect load slinging**
- 2. 50% Involved Operator error**
- 3. 50% poor weather was contributing factor**

Identified Areas for Improvement:

- 1. Audit process for load security**
- 2. Audit/Improve Training and Competency programme**
- 3. Supervision (haste, weather decisions etc)**





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FOR PLANET EARTH

Culture

Leadership

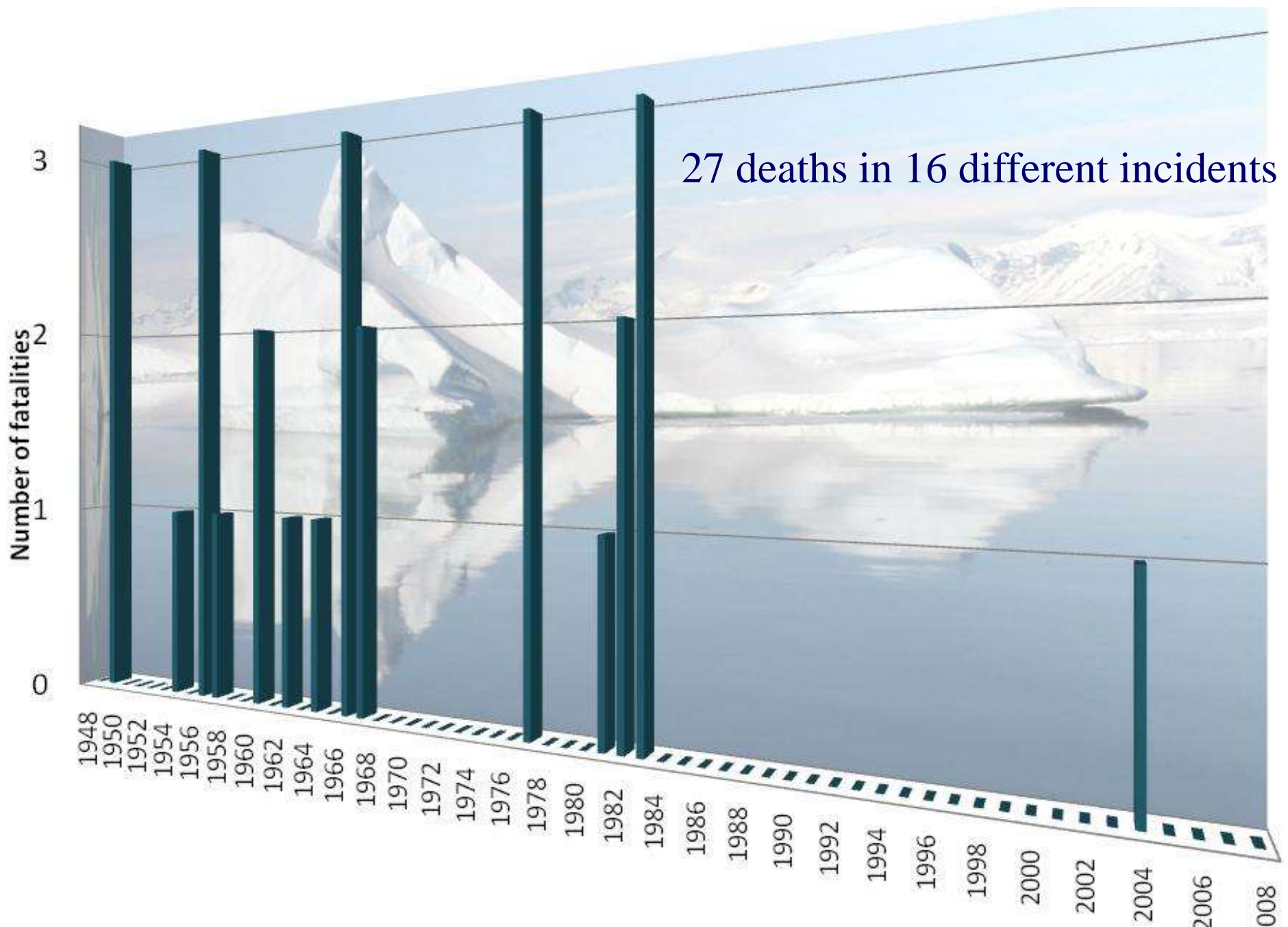


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Occurrence of fatalities in the history of FIDS & BAS







Conclusions

BAS SMS Frontline Principles

1. Identification of hazards
2. Competence in assessing the risks
3. Proper controls implemented
4. No divergence from safety critical control measures
5. Retention of knowledge
6. Safety Leadership



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