

Antarctic Leadership Challenge and Adventure

Dr Joe Johnson CSC OAM AAM FRGS

Phillip Law Medalist



Antarctic Service and the Australian Honours System

The Australian Antarctic Medal :

Part of the Meritorious Service Awards

For outstanding service in the Antarctic - 365 days south of 60° latitude

Can be awarded more than once

Anyone can make nominations



Antarcticians in the Order of Australia



AC	3	Solely for Antarctic work 2 (Exploration & Discovery)
AO	3	Solely for Antarctic work 1 (Exploration & Discovery)
AM	3	Solely for Antarctic work 1 (Polar Medicine)
OAM	4	None Solely for Antarctic work

Total = 13

(The Phillip Law Medal has been awarded 13 times, 8 of whom are in the Order of Australia)

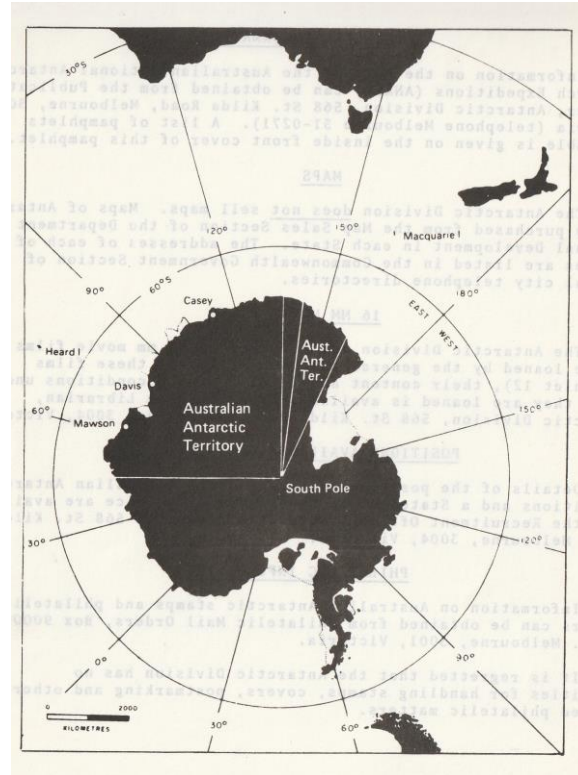
My involvement in Antarctica

- Station Leader at Casey 1981
- Station Leader at Davis 1998
- Joint Author of the feasibility study into the Australia-Antarctica Air Link 1999
- Leader of Relief Voyage 2001
- Leader of Relief voyage 2002
- Chair, Antarctic Names and Medal Committee 2004 -15
- President of the ANARE Club 2014, 2015, 2017, 2018
- Awarded Australian Antarctic Medal 2001
- Awarded the Phillip Law Medal 2023

Polar Leadership



Antarctica



ANTARCTICA

- **93% covered in ice**
- **10 million cubic km of ice – (would cover Australia to 2 km deep)**
- **Highest continent – up to 4,200m (Mount Kosciuszko 2,228m)**
- **Driest continent (Av. Precip'n is 5cm) [Oodnadatta 10cm] – the world's largest desert**
- **Winiest continent – winds up to 250 km/h (Hurricane is 120 km/h)**
- **15% of the Earth's Surface (Almost twice the area of Australia)**

Station Locations



Physical Challenges



Antarctic Challenges



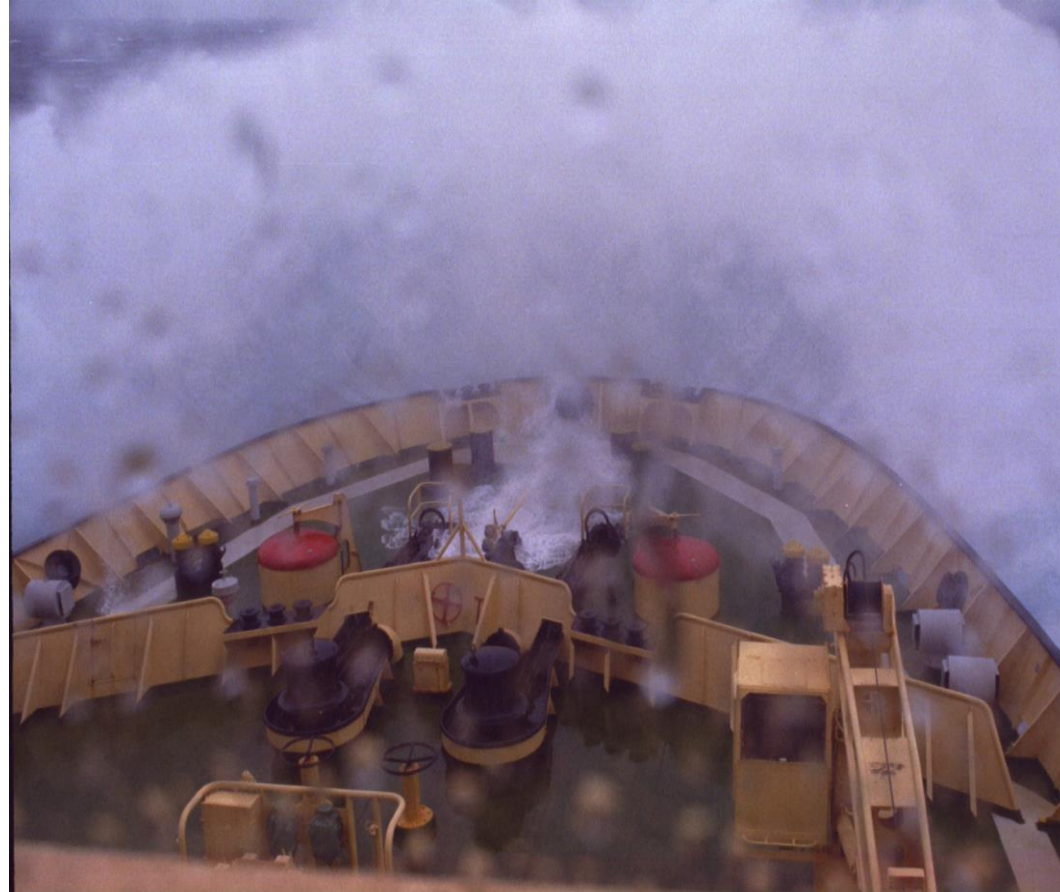
Remoteness

Antarctic Challenges



Getting There

Furious Fifties



Thala Dan taking weather observations



Aurora Australis in 1 metre Ice



Antarctic Challenges

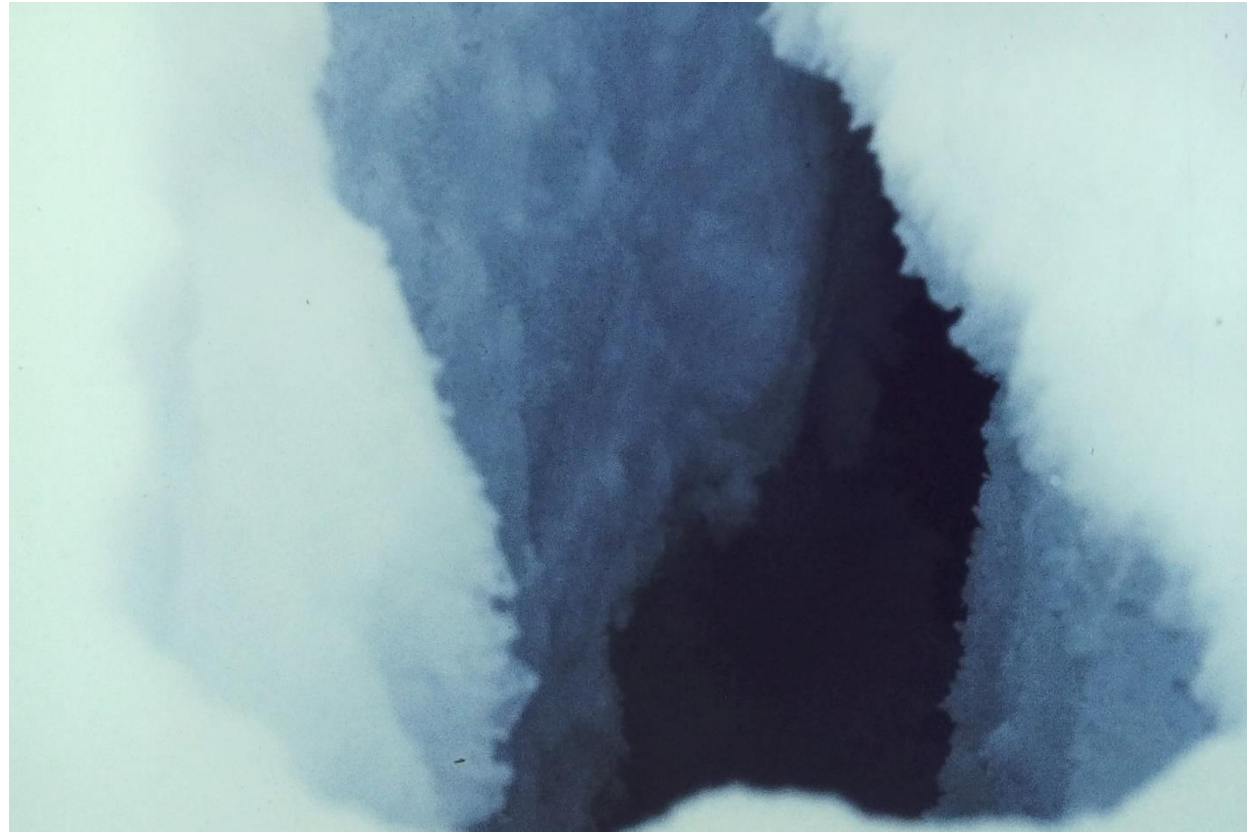


Isolation

Geographical Isolation



Ever Present Danger



Ever Present Danger



Death

Long Periods of Darkness



Sunset 3 June 1998



Sunrise 13 July 1998

Human Challenges



Communication

YIO - YIT		YIT - YIW	
YIOXD	... VERY SORRY TO HEAR THAT	YITDZ	... VERY BUSY PREPARING GEAR FOR SPRING WORK INCLUDING TRAINING DOGS
YIPER	... WILL YOU PLEASE ASK/TELL	YITUB	... I AM NOT SURE WHETHER MEN TRAINING DOGS OR DOGS TRAINING MEN
YIPRE	... LOVE AND BEST WISHES FOR MOTHER'S DAY	YITVA	... WOULD YOU PLEASE PACK CAREFULLY AND SEND FOLLOWING BY SHIP
YIPTO	... TO COMPARE, "CALLING ANTARCTICA", RADIO AUSTRALIA, RECORDING CAME THROUGH VERY WELL MANY THANKS	YITWE	... PLEASE CONTACT ANTARCTIC DIVISION, HEAD OFFICE, KINGSTON, TASMANIA, FOR INFORMATION ABOUT
YIPUT	... TO COMPARE, "CALLING ANTARCTICA", RADIO AUSTRALIA, COULD NOT HEAR YOU OWING TO BAD RADIO CONDITIONS LAST FRIDAY	YITZO	... PLEASE SEND ME BY RELIEF SHIP ... KODACHROMES
YIRAS	... VERY SORRY TO HEAR ABOUT THE DEATH OF	YIUGM	... PLEASE SEND ME BY RELIEF SHIP ... BLACK & WHITE FILMS
YIRET	... WISH I COULD HAVE BEEN THERE	YIUHN	... RECEIVED ALL MAIL AND FILMS THANK YOU
YIRIV	... HOPE TO BE ABLE TO BE THERE	YIUJP	... SAW FILMS ON PROJECTOR, ALL ARE GOOD (EXCEPT)
YIRSA	... SHOULD BE ABLE TO BE THERE ALRIGHT	YIUMS	... AM SAVING MONEY AND DOING OKAY FINANCIALLY
YIRTE	... AM OKAY, DON'T WORRY	YIURY	... I AM HAVING A STRUGGLE FINANCIALLY
YIRUX	... AM RATHER TIRED BUT OTHERWISE FIRST-RATE	YIVBO	... HOW ARE THE CHILDREN?
YIRWO	... PLEASE TRY TO ARRANGE (FOR)	YIVIZ	... GIVE MY LOVE TO THE CHILDREN
YIRZY	... ONLY HOPE THAT	YIVOB	... WE'VE JUST HAD A RADIO BLACKOUT LASTING SEVERAL DAYS
YISAT	... WE HAVE JUST HAD	YIVUC	... DAYS ARE SHORT IN THE ANTARCTIC AT PRESENT, THE SUN APPEARING ABOVE THE HORIZON FOR NO MORE THAN THREE HOURS
YISEV	... ALL AT HOME ARE WELL AND SEND THEIR LOVE	YIVWA	... MY LOVE AND GREETINGS ON FATHERS DAY
YISEX	... YOUR FRIEND	YIVYE	... HOSPITALITY OF PEOPLE HERE WONDERFUL
YISOR	... AU REVOIR	YIWEZ	... HEARING YOUR VOICE ON THE RADIO GAVE ME A WONDERFUL THRILL
YISTA	... FONDEST LOVE	YIWIB	... HOPE TO BROADCAST GREETINGS FROM THE A.B.C. VIA "CALLING ANTARCTICA" PLEASE LISTEN
YISUZ	... NO SUN NOW, SHOULD RE-APPEAR IN ...DAYS	YIWOC	... I AM SETTING OUT ON A MAN-HAULING SLEDGE JOURNEY TO
YISVE	... SAW SUN FOR THE FIRST TIME TODAY, AM NOW VERY BUSY		
YISYO	... MIDWINTER PARTY WAS A GREAT SUCCESS		
YISYQ	... THE DAYS ARE GETTING SHORTER		
YITAV	... DAYS ARE GETTING LONGER:ALL GOING FLAT-OUT PREPARING FOR		
YITIX	... TIME SEEMS TO BE ONLY THING WE'RE SHORT OF		

Code book for personal communications

Group Isolation



Isolation within the Group



Anti-Social Behaviour



Aggressive Individuals



Casey 1981

- **Only one major scientific activity - glaciation**
- **Few areas of interest close to the station**
- **Considerable construction and maintenance activity**
- **On the edge of the continental ice sheet**
- **Small summer science program**
- **28 winterers**
- **Air support only when ship is in harbour**



Casey in Summer



Specific Challenges at Casey, 1981

- **Medical Emergencies (2)**
- **Inadequate Subordinate Leaders**
- **Aviation Incidents (2)**
- **Mechanical Issues**

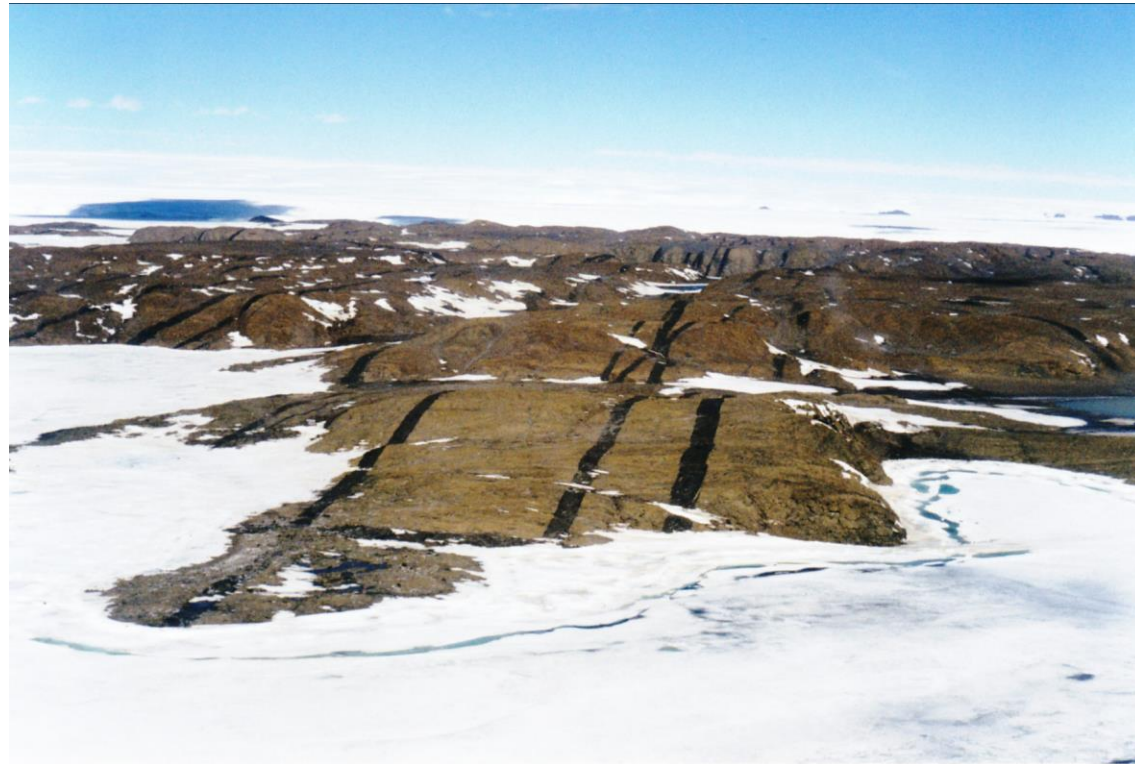
Aviation Incidents



Mechanical Breakdown



Davis Landscape



Davis, the Riviera of Antarctica



Davis from the air

Davis 1998 – Very different from Casey 1981

Davis

- **Unique exposed land area around station**
- **Extremely busy summer season**
- **Dedicated aircraft on station for summer**
- **Vast area of summer science activity**
(Larger area than the UK)
- **Foreign stations in close proximity**
- **18 winterers**



Specific challenges at Davis

Foreign Liaison

Aviation Issues

Shipping issues



The best laid plans of mice and men ...

Foreign Nations (1)



China – Zong Shan Station

Foreign Nations (2)



Russia – ПРОГРЕССЙ “Progress” 2 Station – “Old Station”

Foreign Nations (2)



Russia – “Progress 2” (“New” Station)

Science at Davis



Upper Atmosphere Physics – Light direction and ranging - LIDAR

Science at Davis



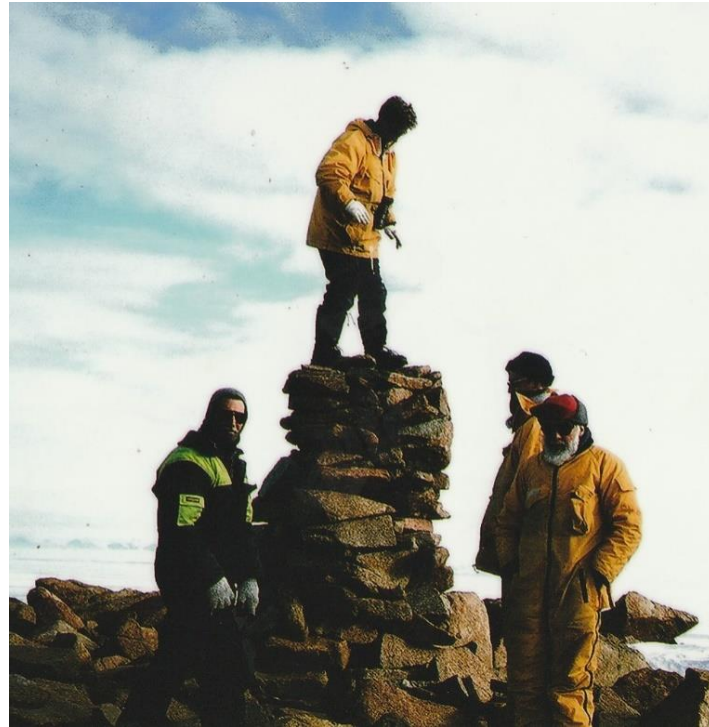
Hypersaline Lakes

Science at Davis



Geology on the Mawson Escarpment

Science at Davis



Surveying and Mapping

Aviation Issues



Long distance flights

Aviation Issues



Effects of climate and available light

Shipping Incidents

- Overstay, arrival voyage
 - Unexpected voyage
 - AA Fire
- Non-arrival of Polar Bird
 - AA Shaft Failure



An Unexpected Voyage



Xue Long “Snow Dragon”

Aurora Australis Shaft Failure



Shirase towing Aurora Australis

Aurora Australis Shaft Failure



South African Rescue Tug *John Ross*

Voyage Leading Challenges



MV *Polar Bird* 2001-2

Voyage Objectives:

- Resupply Davis and Mawson
- Position Lambert Glacier summer science program



Logistic Challenges



Over-Ice Logistics (Ice-edge) Davis

Polar Bird in a **Blizzard**



Besetment



Polar Bird Beset

Besetment - Challenges



Polar Bird Olympics

Mawson East



Mawson East

“What could have been a very unpleasant experience became a memorable one”.



“Real” Mawson

Besetment - Breakout



Following a 'lead'

Breakout



Tow lines attached

л/к Капитан Хлењников 2002

Voyage Objectives:

- Transfer Expeditioners and Cargo to Mawson, Davis and Casey
- Support CHINARE Zhong Shan Station

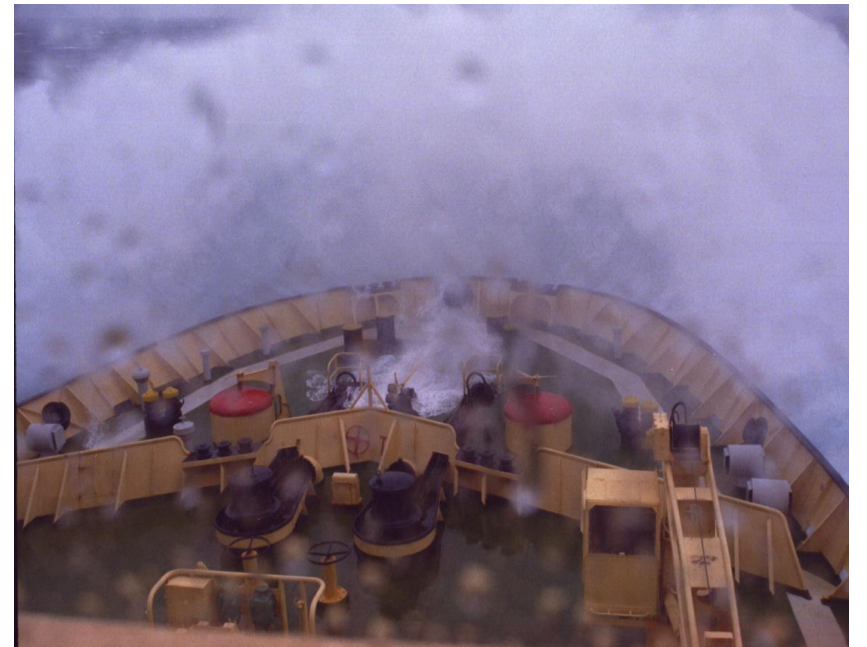


Voyage Challenges

A chartered 'cruise ship'

Language difficulties

Very rough seas



Very Rough Seas

1 October 2002

Wind NNW gusting 70 kts

Seas 12 metres +

Vessel rolling 50°

No hot meals





A Chartered Cruise Ship



Logistic Challenges



Long range fly-off - Mawson

Logistic Challenges



Over-Ice Logistics (Ice-edge) Davis

Logistic Challenges



Close Range Fly-off - Casey

Homeward Bound



My last day in Antarctica



Voyage's End

Observations & Conclusions



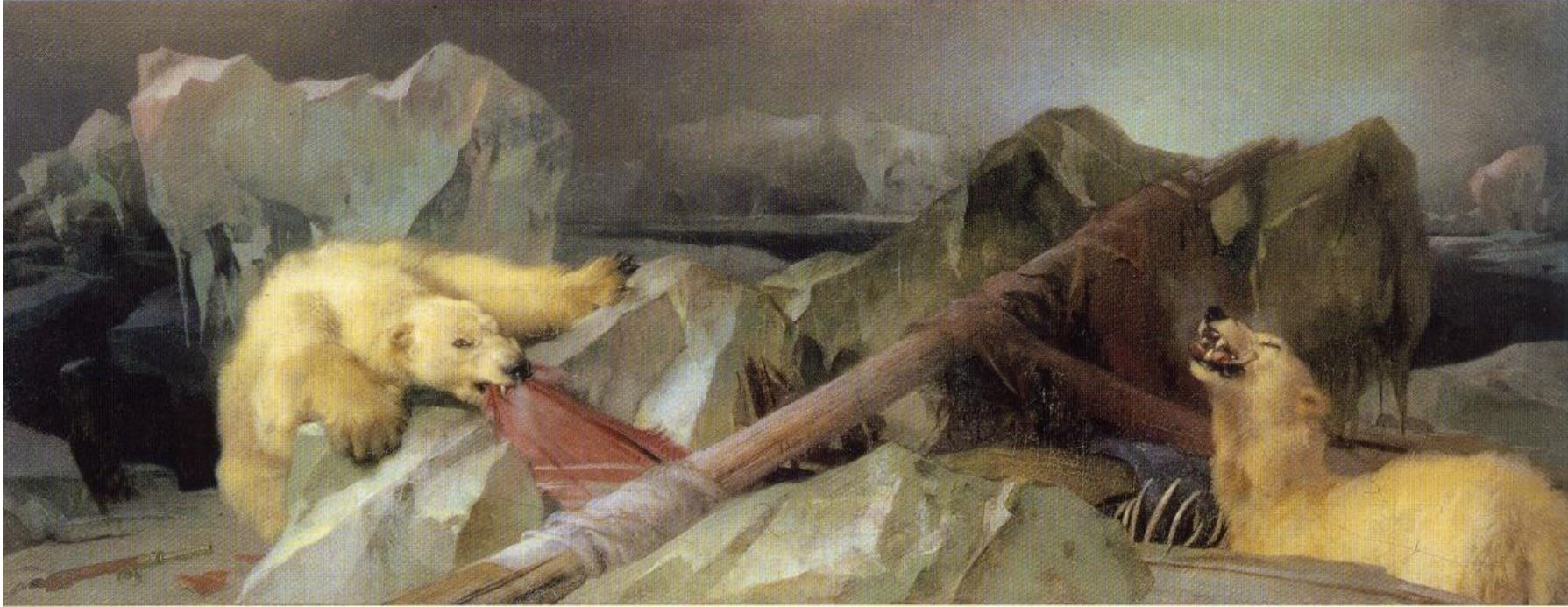
Polar Leadership requires a degree of Isolation

Observations & Conclusions



It is essential to lead by example

Observations & Conclusions



Edwin Landseer

Man Proposes, God Disposes

A Place of Great Beauty

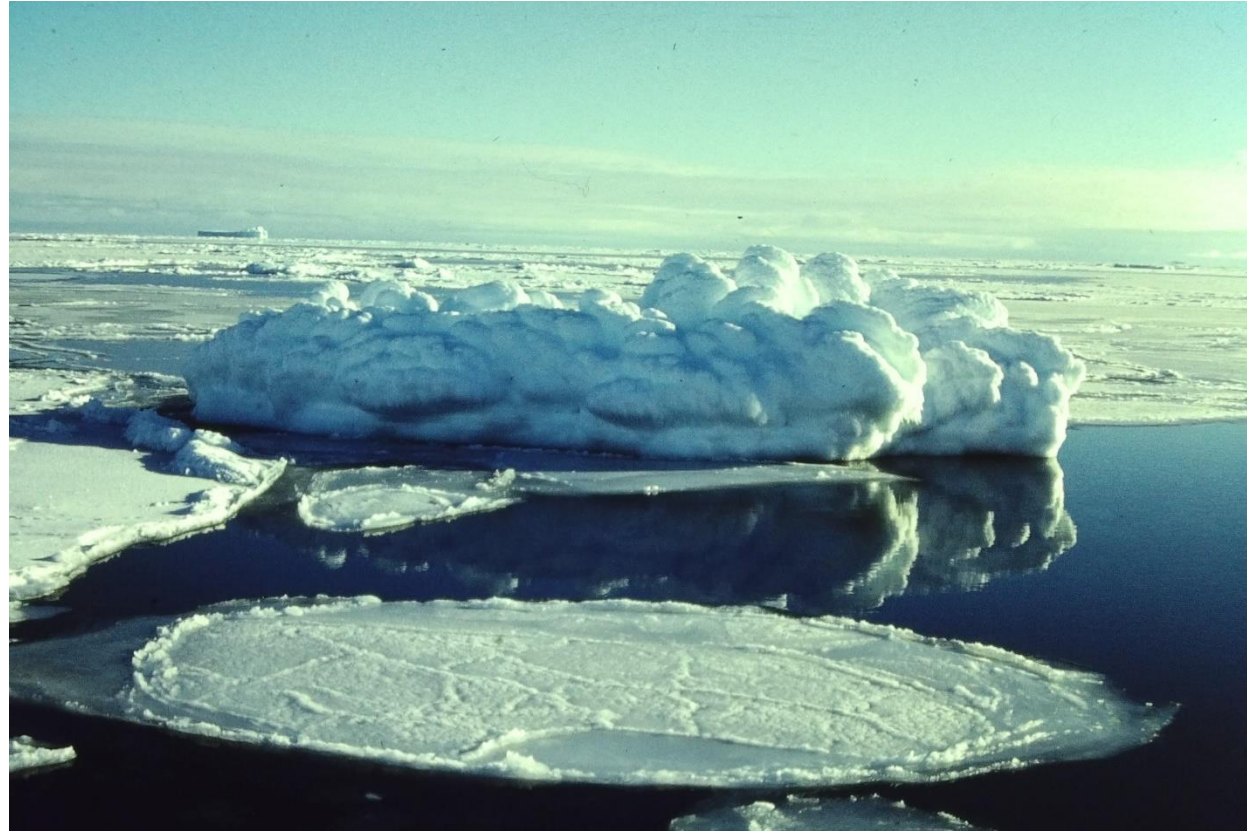


A Place of Deep Spirituality



”And the Spirit of God moved upon the face of the waters”.

Thank You



Any Questions ?

