

# TSE 2012 outcomes

## And thoughts for 2017

SEC 25 Oct 2014  
Terry Cuttle

**Total Solar Eclipse**  
**Queensland**  
**14 Nov 2012**

**Resources for teachers:**

- How do eclipses occur? Types of eclipses. What happens during an eclipse? Details of the eclipse in Queensland in November 2012. Eclipses in history. How to observe the eclipse safely. Information on the Sun and the Moon.
- Classroom activities and lesson plans, referenced to the National Science Curriculum.
- Website access to PowerPoint presentations, posters and images to assist teaching.
- Resources on the associated website [www.eclipse.aqa.org.au](http://www.eclipse.aqa.org.au)

**Plus information on another rare astronomical event:**

- Annular Solar Eclipse in North Queensland 10 May 2013.

Department of Justice and Attorney General [www.fairtrading.qld.gov.au](http://www.fairtrading.qld.gov.au)

Office of Fair Trading

### Steps for safe viewing of a solar eclipse

A solar eclipse occurs when the Moon fully or partially blocks the Sun as it passes between the Sun and the Earth.

On 14 November 2012, parts of Queensland will experience a total solar eclipse.

The following are tips for viewing this rare phenomenon safely:

1. Never look directly at the Sun without proper eye protection. It is possible to suffer serious and permanent eye damage by looking at a solar eclipse. The only time that the Sun can be viewed safely with the naked eye is during a total eclipse, when the Moon completely covers the disk of the Sun. It is never safe to look at a partial or annular eclipse, or the partial phases of a total solar eclipse, without the proper equipment and techniques.
2. Always use solar eclipse glasses, or filters that have been made specifically to attach to hand-held glasses, telescopes or binoculars for safe solar eclipse viewing.
3. Look for filters that have been appropriately certified against the European Standard for personal eye equipment (EN 1836:2005+A1:2007) or the Australian Standard for welding shields and goggles with a lens category higher than 12 (AS/NZS 13382:1992 & AS/NZS 1338.1:1992).
4. Before using solar eclipse glasses or filters, check to see if they are scratched or damaged. If so, do not use them as they will not fully protect your eyes.
5. Do not use solar eclipse glasses or filters that do not show compliance with the Standards listed above – they may do you more harm than good.
6. Do not look directly through binoculars, telescopes or camera optical viewfinders. It is not safe to use regular sunglasses, exposed film or x-ray film to view a solar eclipse.
7. Alternative safe viewing methods include using pinhole, binocular or telescope projection. Visit <http://aasa.qld.gov.au/2012/11/01/using-pinhole/> for details on how to do this safely. For information on filters for telescopes or binoculars visit <http://eclipse.qst.csiro.au/SThelp/safety2.htm>



# TSE 2012 Outcomes

1. Why did I get involved?
2. Public Information
3. Safe Viewing Advice
4. Education Program
5. Local Authorities, Emergency Services
6. Media
7. The day of the eclipse
8. Thoughts for TSE 2017

# 1976 TSE

- Government committee
- Education program
- Message: WATCH ON TV
- Media distorted message
- unsafe to be outside
- Many denied TSE experience
- Public hysteria
- Only 2 people, <5% vision loss
- No traffic accidents or crime

**Parents warned**

CANBERRA. — The National Health and Medical Research

**Lock up children during eclipse**

— expert

**REMINDER — watch**

PEOPLE are again reminded not to watch the eclipse of the Sun with the naked eye. It is risky attempting to view the phenomenon with certain viewing devices on sale in some shops.

But it is perfectly safe to watch the eclipse on television. All four Melbourne channels have special programmes to show the eclipse.

The Melbourne Hospital switchboard has been jammed with calls from parents who are worried about their children watching the eclipse.

**The way of today's eclipse**

**Results show success**

**Warnings against looking at the solar eclipse appear to have been heeded. Major eye damage reported from other areas.**

**only one case, that of a four-year-old Melbourne girl, is causing any concern. She had been jammed with calls from parents who are worried about their children watching the eclipse.**

**NO other safe way to watch the eclipse.**

The eclipse begins at 3.43 pm in Sydney, reaches its maximum at 4.47 pm and ends at 5.45 pm. The phenomenon will turn day into night over most of south-eastern Australia. Sydney is outside the blackout belt but will still have 90 per cent darkness. ABC reporters will interview some of the scientists gathered at Ballarat today and give their account of the eclipse. Channels 9 and 10 will cover the spectacle as well.

Anyone who suffers eye damage from looking at the eclipse should go to Sydney Eye Hospital, Sir John Young Crescent, Woolloomooloo.

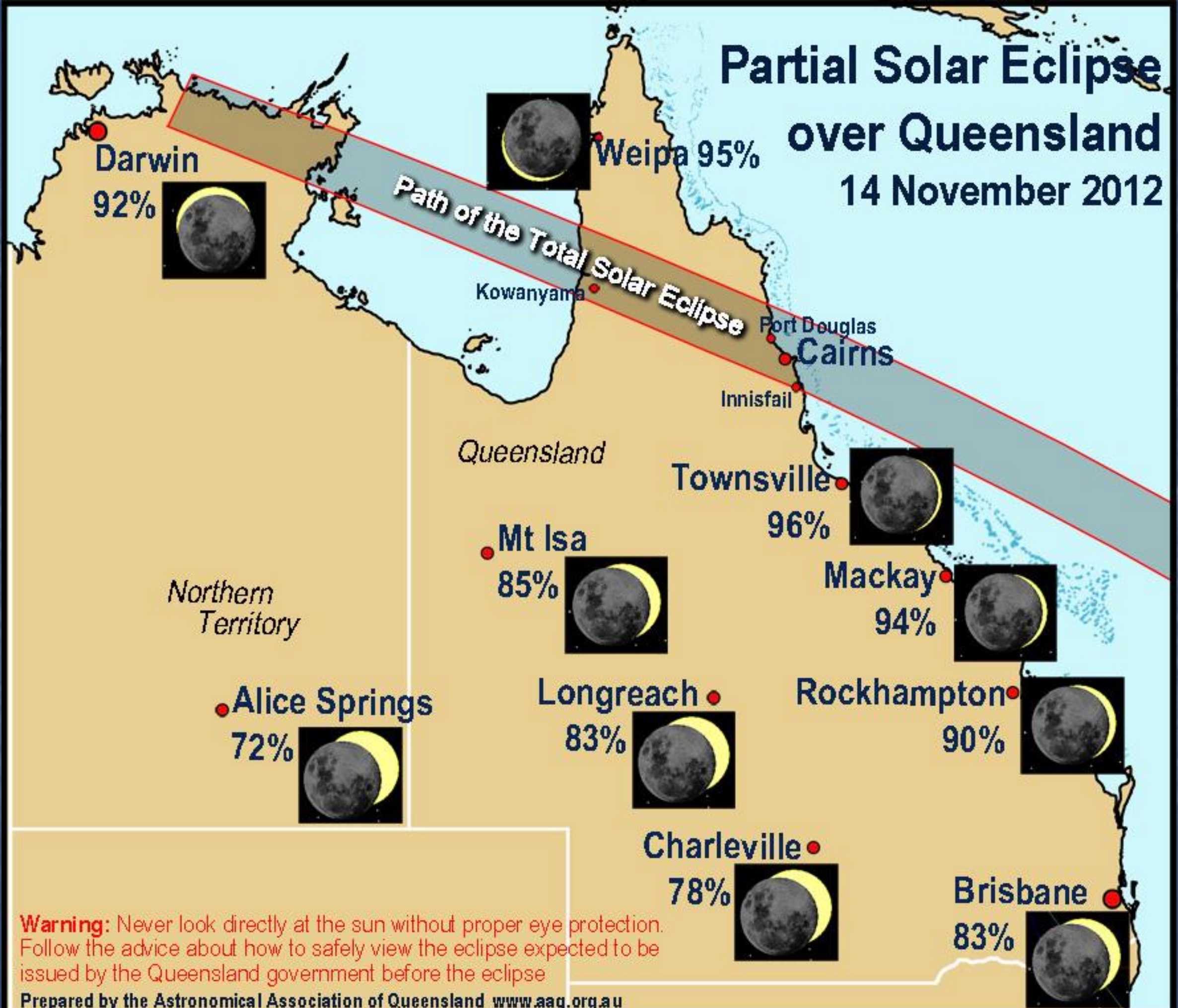
The hospital is open 24 hours a day; phone 230 0111.

# 2002 TSE

- Eclipse through remote areas
- No pre planning by SA Gov't
- CSIRO advise no AUS standard for eclipse glasses so do not recommend
- ASO advises eclipse glasses may not be safe - watch on TV or web
- SA Gov't endorses ASO advice
- WA Gov't – fines for selling solar filters
- No safe viewing advice issued
- Many again denied TSE experience



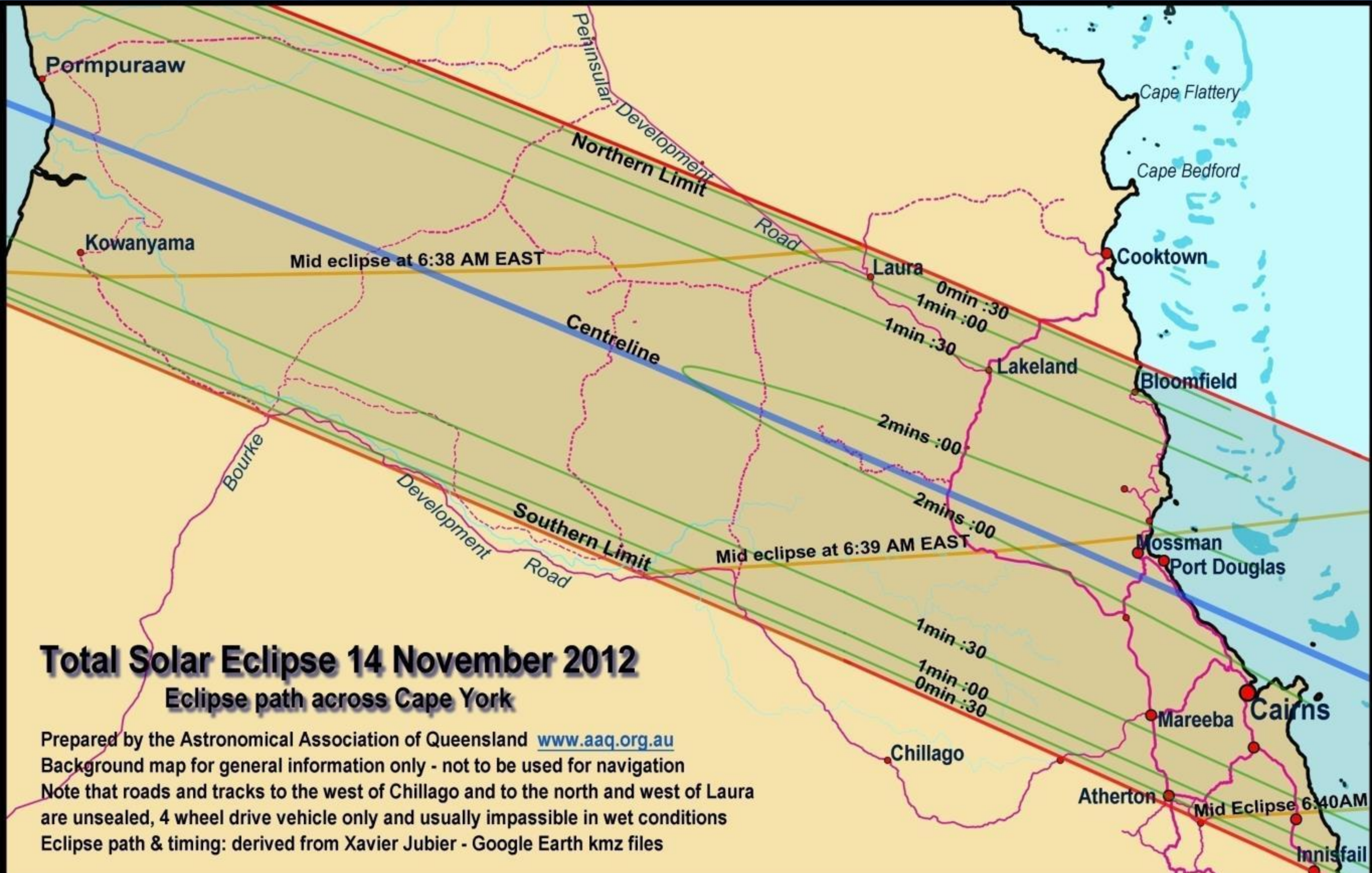
# Partial Solar Eclipse over Queensland 14 November 2012



**Warning:** Never look directly at the sun without proper eye protection. Follow the advice about how to safely view the eclipse expected to be issued by the Queensland government before the eclipse

Prepared by the Astronomical Association of Queensland [www.aaq.org.au](http://www.aaq.org.au)

# The Eclipse across Qld



# What to Do?

- I wanted TSE 2012 to be different
  - Public deserve to experience nature's grandest spectacle
- I wanted to help those people whose local info I had relied on for previous eclipses
- Needed good public advice & education
- Searched for previous good examples of a similar program
- Nothing obvious - start from scratch

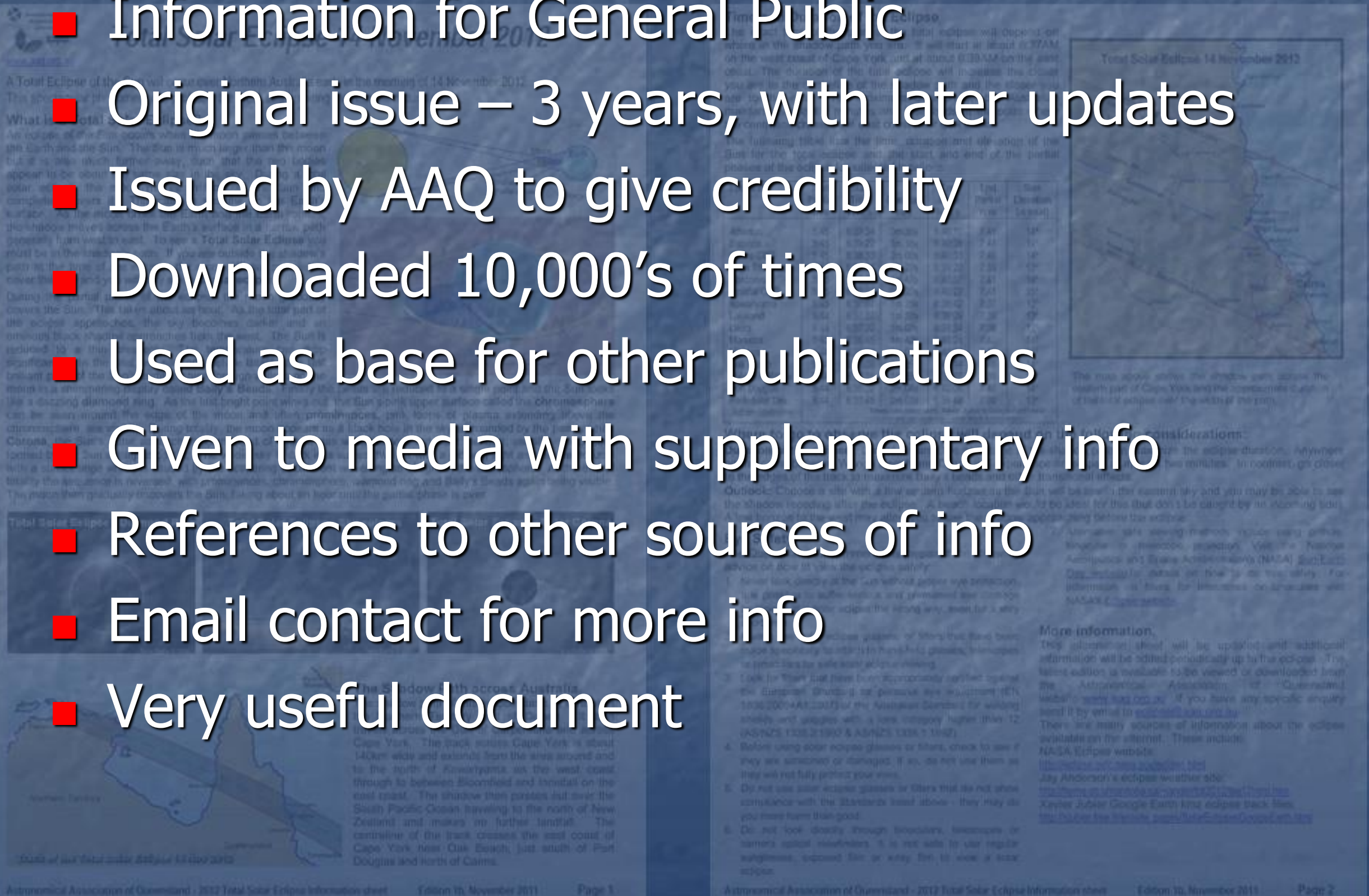
# My Objectives for 2012 TSE

1. Ensure there is good public information
2. Assist Government to issue advice encouraging safe viewing including partial & total phases
3. Education program for schools
4. Good info readily available to media
5. Assistance to individuals



# 2 Public Information

- Information for General Public
- Original issue – 3 years, with later updates
- Issued by AAQ to give credibility
- Downloaded 10,000's of times
- Used as base for other publications
- Given to media with supplementary info
- References to other sources of info
- Email contact for more info
- Very useful document



# 3. Safe Viewing advice

- Getting the correct message from Govt was vital
  - Govt advice gives **credibility** and solves **liability** issue
  - Needed to support the education program
  - if any hope of countering alternative messages
- Problems with previous eclipses
  - Australia, UK, USA, etc.
- Key components of the ideal message
  - Safe to view partial if using proper filters
  - Advice on how to select safe filter and safely use them
  - Safe to view totality naked eye
- No good examples of government messages available
- Fresh start – maybe a different approach

# 3. Safe Viewing advice



1. Never look directly at the Sun without proper eye protection. It is possible to suffer serious and permanent eye damage by looking at a solar eclipse. The only time that the Sun can be viewed safely with the naked eye is during a total eclipse, when the Moon completely covers the disk of the Sun. **It is never safe to look at a partial or annular eclipse, or the partial phases of a total solar eclipse, without the proper equipment and techniques.**

3. Look for filters that have been appropriately certified against the European standard

3. Look for filters that have been appropriately certified against the European Standard for personal eye equipment (EN 1836:2005+A1:2007) or the Australian Standard for welding shields and goggles with a lens category higher than 12 (AS/NZS 1338.2:1992 & AS/NZS 1338.1:1992).

how to do this safely. For information on filters for telescopes or binoculars  
<http://eclipse.gsfc.nasa.gov/SEhelp/safety2.html>

# It was not easy

- Difficult process – easy to get the wrong result
- Governments no interest in exposing themselves
  - How to frame simple advice that cannot be misunderstood
- Issues with health authorities & organisations
  - Fail safe approach - ensuring NO ONE is injured
  - No interest in people experiencing natural event
  - Public cannot be trusted not to injure themselves
  - Result is risk avoidance – don't watch!
  - Their priorities are different from ours

# Process

- Initial approach to government – no interest
- Treat it as a product safety issue
  - Need due TSE and Transit of Venus
  - People WILL watch. Need to tell them which products are safe and how to do it safely
  - Product safety issue rather than health warning.
  - A simple question of which solar filters are safe
- Submission to Qld Gov investigate safety of eclipse glasses & issue safe viewing advice
- 2 years for initial advice to be issued
  - Support Ralph Chou & Jay Pasachoff
  - Initial approach for AUS to adopt the EU standard - failed
  - Continuous follow up – additional advice
  - Appeal to Minister to issue - possibly cancel education program
  - Detailed legal review -Justice & Attorney Gen Dept

# Process cont

- Initial advice placed on Gov't website Mar 2012
  - prior to Transit of Venus
- Problem with identifying Standards
  - Solved with suppliers (thanks Mark)
- No reference to viewing totality
  - Additional submission on viewing totality
  - Need as people would not know what to do
- Final advice issued 6 weeks prior to eclipse
  - Including safe to view totality
- Rare for such advice to be issued

# Advice from others

- CSIRO – old advice that no AUS standards on eclipse glasses so do not know if they are safe
  - Requested to reflect Government advice
  - Webpages removed
- Astronomical Society of Australia fact sheet
  - Initially repeated CSIRO advice
  - Reissued with similar advice to government
- Australian Society of Ophthalmologists
  - Website advice – “Turn your back on the eclipse”
  - Acknowledged that “CE” glasses could be used
  - Media attention to ASO view in week before the eclipse caused considerable confusion

# 4. Education Program

1. Use a dramatic natural event to stimulate an interest in Maths, Science and the natural world
2. Great way to get the message out to all residents
  - Tell the kids and they will take the messages home
  - 4.5M people in Qld; 750,000 students; 1,800 schools
- AAQ / STAQ partnership working group
  - 2+ years to produce materials
- Qld Govt grant to print & send resources to schools
  - 28 page book on eclipse,
  - activities with lesson plans
  - PowerPoint presentations & Posters
  - Website with all information for download and enquiry email address



# 28 Page Resource Book



## Resources for teachers:

- How do eclipses occur? Types of eclipses. What happens during an eclipse? Details of the eclipse in Queensland in November 2012. Eclipses in history. How to observe the eclipse safely. Information on the Sun and the Moon.
- Classroom activities and lesson plans, referenced to the National Science Curriculum.
- Website access to PowerPoint presentations, posters and images to assist teaching.
- Resources on the associated website [www.eclipse.aaq.org.au](http://www.eclipse.aaq.org.au).

## Plus information on another rare astronomical event:

- Annular Solar Eclipse in North Queensland 10 May 2013.

- A resource for teachers
- Contents
  - What are Eclipses?
  - What Happens During a Solar Eclipse?
  - The Eclipse on 14 November 2012
  - How to Observe the Sun Safely
  - The Sun
  - The Moon
  - Eclipses in History
  - The Scientific Aspect of Eclipses
  - Annular Solar Eclipse 10 May 2013
  - List of Activities
  - Glossary
  - Acknowledgements

# PowerPoint Presentations

- Available on CD and download from website
- Similar content to resource book
  - PP02 How eclipses occur
  - PP03 What happens during a solar eclipse
  - PP04 The eclipse of 14 November 2012
  - PP05 Observe the eclipse safely
  - PP06 The Sun
  - PP07 The Moon
  - PP10 Annular eclipse 10 May 2013

# Classroom Activities

Eclipse simulation using balls

Model of Earth, Moon and Sun to demonstrate eclipses

Use similar triangles to investigate apparent sizes of Sun and Moon

Tutorial on using Stellarium

Use Stellarium to investigate eclipses

Crossword puzzles with eclipse terminology

Use Stellarium to investigate the 2012 eclipse

Use websites to investigate the circumstances of eclipses

Historic eclipses investigation

Make a pinhole projector for indirect viewing

Binocular or telescope projection

Timing of eclipses comparing observations to predictions

Investigate spectroscopy

Investigate Moon phases

Use Stellarium to simulate and investigate an Annular eclipse

# Posters

**2012**  
WHERE WILL YOU BE?

**TOTAL SOLAR ECLIPSE**  
TROPICAL NORTH QUEENSLAND 14 NOVEMBER 2012

Go to [eclipse.aq.org.au](http://eclipse.aq.org.au) for more info

6:38AM 14 NOVEMBER

Designed by A. Wagner-Platt

## TOTAL SOLAR ECLIPSE TROPICAL NORTH QUEENSLAND 14 NOVEMBER 2012

**What is a Total Solar Eclipse?**  
A Solar Eclipse occurs when the moon passes between the Earth and the Sun and obscures at least part of the sun. The Sun is much larger than the moon but it is also much further away, such that the two bodies appear to be about the same size in the sky. During a total solar eclipse, the moon moves in front of the Sun and completely obscures (or eclipses) it. This casts a shadow on the Earth's surface. As the moon orbits the Earth, the shadow moves across the Earth's surface from west to east in a narrow path, called the path of totality. To see the total solar eclipse you must be in this path. If you are outside the path of totality at the time of the eclipse, the moon will not completely cover the Sun and a partial solar eclipse will occur.

**Timing details of the total eclipse**

LOCATION	Start Partial hour:min	Start Total hour:min	Duration Total min	End Partial hour:min
Atherton	5:45 am	6:39:43 am	0:29	7:41 am
Babinda	5:45 am	6:39:23 am	1:19	7:41 am
Caïms CBO	5:45 am	6:38:36 am	1:58	7:40 am
Gordonvale	5:45 am	6:38:52 am	1:47	7:41 am
Innisfail CBD	5:45 am	6:40:10 am	0:19	7:41 am
Kuranda	5:45 am	6:38:28 am	1:59	7:40 am
Kowanyama	5:45 am	6:37:08 am	1:35	7:37 am
Lakeland	5:44 am	6:37:40 am	1:30	7:39 am
Laura	5:44 am	6:37:33 am	0:57	7:38 am
Mareeba	5:45 am	6:38:45 am	1:41	7:40 am
Hossman	5:44 am	6:38:01 am	2:03	7:40 am
Palm Cove	5:45 am	6:38:21 am	2:02	7:40 am
Pompuraw	5:44 am	6:36:26 am	1:54	7:36 am
Port Douglas	5:44 am	6:38:03 am	2:03	7:40 am

**Timing details of the partial eclipse for selected locations**

LOCATION	Start Partial hour:min	Max Eclipse hour:min	Max % of Sun covered	End Partial hour:min
Brisbane	5:56 am	6:54 am	83%	7:59 am
Charleville	5:56 am	6:51 am	76%	7:51 am
Cooktown	5:44 am	6:38 am	99%	7:38 am
Longreach	5:52 am	6:47 am	83%	7:46 am
Mackay	5:48 am	6:45 am	94%	7:48 am
Mt Isa	5:51 am*	6:43 am	85%	7:41 am
Rockhampton	5:51 am	6:48 am	90%	7:52 am
Toowoomba	5:57 am	6:54 am	82%	7:58 am
Townsville	5:47 am	6:42 am	96%	7:44 am
Wells	5:42 am*	6:35 am	95%	7:34 am

\* before sunrise

**How to observe the eclipse safely**  
The Queensland government has issued the following advice on how to view the eclipse safely:

- Never look directly at the Sun without proper eye protection. It is possible to suffer serious and permanent eye damage by looking at a solar eclipse the wrong way, even for a very short time.
- Always use solar eclipse glasses, or filters that have been made specifically to attach to hand-held glasses, telescopes or binoculars for safe solar eclipse viewing.
- Look for filters that have been appropriately certified against the European Standard for personal eye equipment (EN 1836:2005+A1:2007) or the Australian Standard for welding shields and goggles with a lens category higher than 12 (AS/NZS 1338.2:1992 & AS/NZS 1338.1:1992).
- Before using solar eclipse glasses or filters, check to see if they are scratched or damaged. If so, do not use them as they will not fully protect your eyes.
- Do not use solar eclipse glasses or filters that do not show compliance with the Standards listed above - they may do you more harm than good.
- Do not look directly through binoculars, telescopes or camera optical viewfinders. It is not safe to use regular sunglasses, exposed film or x-ray film to view a solar eclipse.
- Alternative safe viewing methods include using pinhole, binocular or telescope projection. Visit the National Aeronautics and Space Administration's (NASA) Sun-Earth Day website for details on how to do this safely. For information on filters for telescopes or binoculars visit NASA's Eclipse website.

**Things to see during a Total Solar Eclipse**

- The eclipse begins with partial phases as the moon gradually covers the Sun over a period of about an hour. (Use appropriate eye protection)
- Immediately before totality, the last part of the Sun shines through a lunar valley to make a diamond ring.
- During totality, the corona can be seen streaming out from the sun in a pattern formed by the Sun's magnetic field.
- During totality, the Moon's shadow can be seen in the sky and there are sunset colours around the horizon.

Go to [eclipse.aq.org.au](http://eclipse.aq.org.au) for more info

# CD of Resources

- Sent to all schools
- Contents
  - Booklet
  - Activities
  - PowerPoint pres
  - Posters



# Eclipse Education website

[www.eclipse.aaq.org.au](http://www.eclipse.aaq.org.au)

**TOTAL SOLAR ECLIPSE 2012** TEACHER RESOURCES ▾ DOWNLOADS ▾ CONTACT US HELP ▾

©Terry Cutler

You are here: Home

A Total Solar Eclipse (total eclipse of the Sun) will occur over Northern Australia early in the morning of 14 November 2012. This rare and spectacular phenomenon is probably the most awe inspiring event in the natural world. At the same time the whole of Australia will experience a Partial Solar Eclipse.

**WARNING: Never look directly at the bright surface of the Sun without suitable eye protection or permanent eye damage may result. This applies at any time and especially during the partial phases of a solar eclipse. Refer to the safe viewing advice towards the bottom of this page.**

### WHAT IS A TOTAL SOLAR ECLIPSE?

The Sun and Moon appear in the sky to be roughly the same size but their sizes are actually very different. By a fortuitous coincidence the Sun is about 400 times larger than the Moon but the Sun is also about 400 times further away. So the Moon is able to just cover the Sun completely during a total solar eclipse.

An eclipse of the Sun occurs when the Moon, in its orbit around the Earth, passes between the Earth and the Sun and casts a shadow on the Earth. This can only happen at new moon. There are two parts to the Moon's shadow. The dark cone shaped part of the shadow is called the **umbra**. From any location within the umbra, the Sun will be completely obscured ("eclipsed"), its bright light will be cut off, the sky will go dark and a **total solar eclipse** will occur. The lighter part of the shadow is called the **penumbra**. From locations within the penumbra the Sun is only partially hidden and from these locations there will be a **partial solar eclipse**, as the Sun will only be partly obscured. The period during which an eclipse is total is called **totality**.

**RESOURCES FOR TEACHERS**

- ▶ ECLIPSE INFORMATION
  - ▶ FOREWORD
  - ▶ WHAT ARE ECLIPSES?
  - ▶ WHAT HAPPENS DURING A SOLAR ECLIPSE?
  - ▶ THE ECLIPSE ON 14 NOVEMBER 2012
  - ▶ HOW TO OBSERVE THE SUN SAFELY
  - ▶ THE SUN
  - ▶ THE MOON
  - ▶ ECLIPSES IN HISTORY
  - ▶ THE SCIENTIFIC ASPECT OF ECLIPSES
  - ▶ ANNULAR SOLAR ECLIPSE - 10 MAY 2013
- ▶ CLASSROOM ACTIVITIES
  - ▶ ECLIPSE ACTIVITIES
  - ▶ TSE 2012 ACTIVITIES
  - ▶ SAFE VIEWING ACTIVITIES
  - ▶ SOLAR ACTIVITIES
  - ▶ LUNAR ACTIVITIES
  - ▶ ASE 2013 ACTIVITIES
  - ▶ OTHER ACTIVITIES
- ▶ ECLIPSE PRESENTATIONS

# 5. Local Authorities

- Eclipse preparations managed by “Eclipse Taskforce”
  - Local authorities, emergency services, tourism groups commercial and event organisers etc
- 3 year effort coordinating plans for the eclipse
  - Planning for services & infrastructure constraints
    - Limited busses, beach and road congestion etc
  - Coordination of major events (Marathon, Music Festival etc)
  - Website with eclipse related info
  - Fact sheet – observing sites, timing, road conditions, dangers etc
- Motivation to capture economic benefits and give positive visitor experience to encourage repeat visitation
- My role: advice as to what to expect, tech info, circumstances, safe viewing etc
  - Able to advise on issues that might arise, what people would want etc, but also gave me good access to the media
- Major problem – no significant funding

# 6. Media

- Media loved the eclipse
- Leadup, newspaper, radio, TV
- Generally positive stories -2 yrs, -1 yr and weeks before
- Supplied the info brochure to numerous outlets supplemented by local info, circumstances etc.
- Other material developed & supplied:
  - Previous and future eclipses in the region
  - Contact with local astronomers
  - Contact with eclipse chasers
  - Series of possible eclipse stories with a contact person
  - Images after the event
- Possible insert of eclipse glasses in newspapers
  - Excellent commercial opportunity not taken up
- Social Media (FB & Twitter) used by Task Force



# Webcast

- Based on success of ToV webcast
  - Huge worldwide audience
- Opportunity to showcase the region using the eclipse
  - Live crosses to areas of scenic attraction: the reef, rainforest, beaches etc.
  - To be a feed for NASA Sun Earth Day
- Limited budget & borrowed untried equipment - technical problems - limited success

# 7. The Day of the eclipse

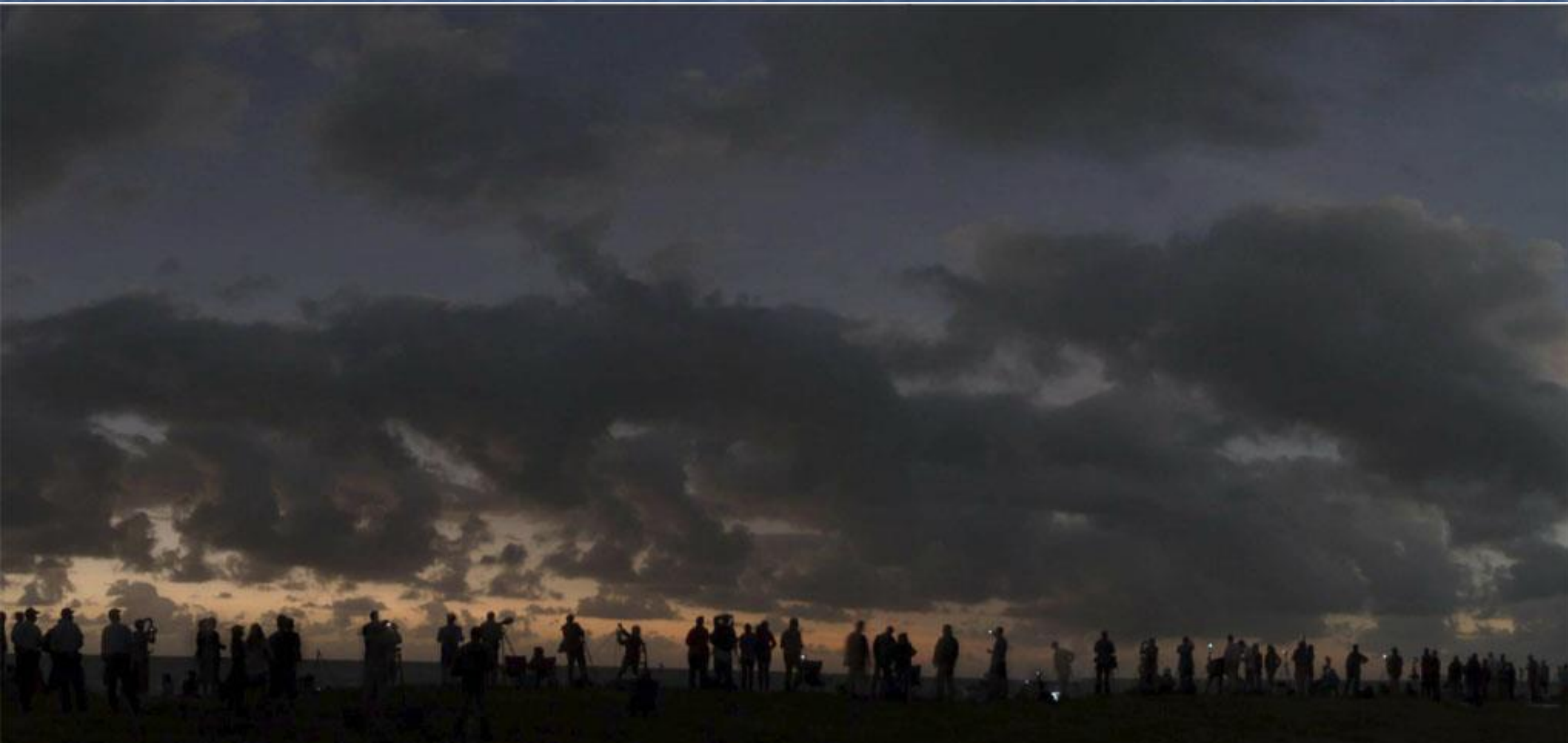
- 220,000 local residents, 60,000 visitors
- Estimated \$140M economic impact
- Task force planning achieved good results with
  - no significant: road congestion, beach overcrowding or impact from Marathon or Music Festival
  - Key messages out to the public (Website social media)
    - Best place to watch the eclipse is from home
- Miscellaneous issues generally isolated
  - Access to busses, accommodation bookings, closed areas
- Weather as expected with patchy cloud on coast, clear inland
  - BOM forecast reasonably accurate



**Total Solar Eclipse** Palm Cove, Qld 14 November 2012

*Terry & Leila Cuttle*

# Wangetti Beach



Daniel Fischer

Image courtesy "Totality" by Kate Russo

*Observers at Wangetti Beach at 'untotality', with clouds obscuring the view.*

# Oak Beach



# Port Douglas Beach



Simon Furlong Tourism Queensland

Image courtesy "Totality" by Kate Russo

# Pormpuraaw – west coast



*A stunning view of the cone of the Moon's shadow during totality taken under the clear skies on the far west coast of North Queensland, near Pormpuraaw. © 2012 Geoff Sims.*

Geoff Sims

Image courtesy "Totality" by Kate Russo

# Eclipse music festival



Jonathan Davis

Image courtesy "Totality" by Kate Russo



# Eclipse music festival



Jonathan Davis



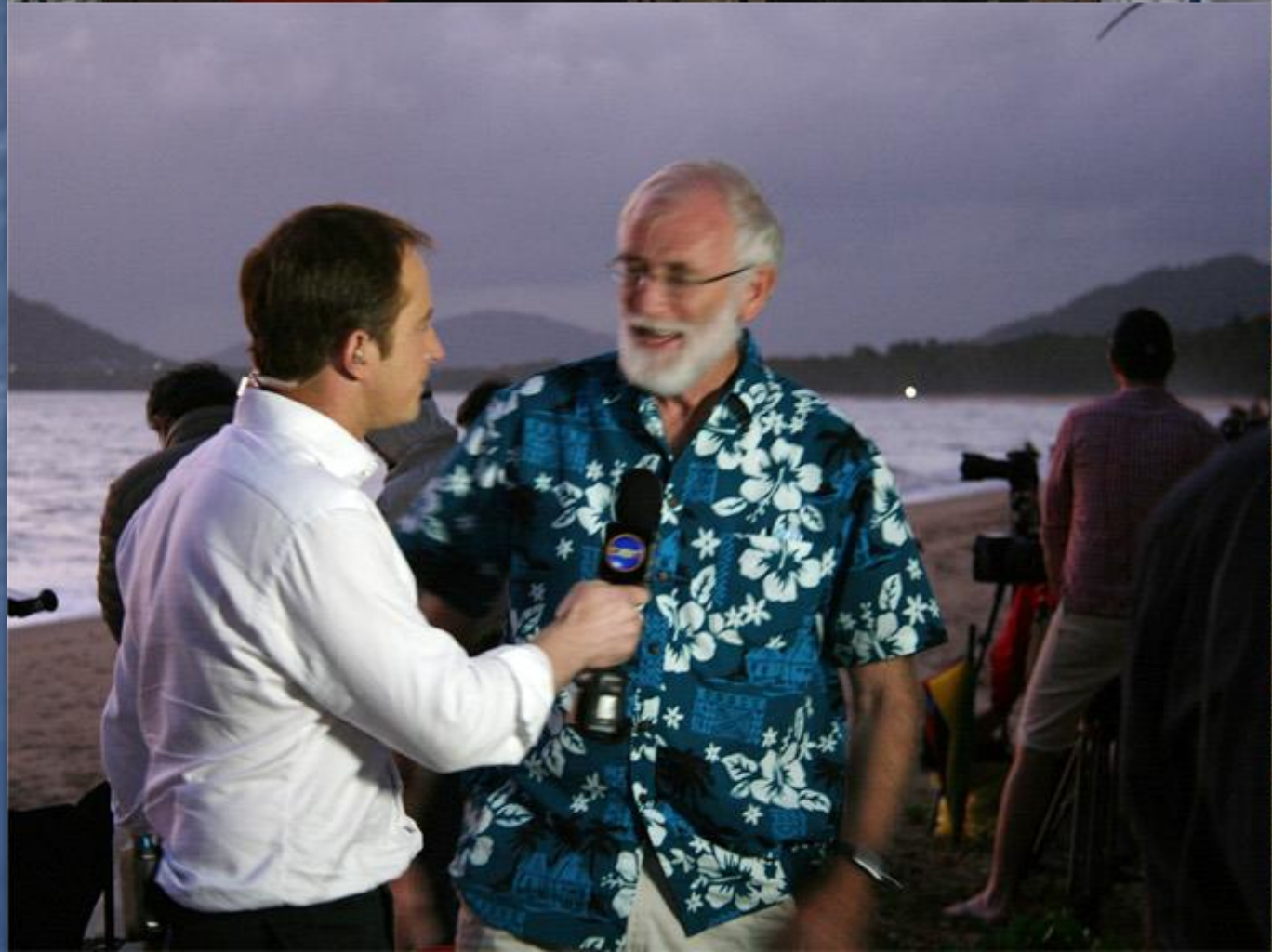
Image courtesy "Totality" by Kate Russo

# Eclipse Marathon



# Media on the Eclipse

- Wide local TV coverage on the day with 3 out of 4 networks basing their breakfast program on the eclipse
- Tourism Queensland good job in distributing material to the media (images & video) with local attractions as backdrop
- My relationship with the task force gave me excellent access to the media:
  - many radio and TV interviews in lead up to eclipse
  - Official media briefing on the day before the eclipse
  - Live TV interviews on eclipse morning



# Eye Safety Issues

- Government safe viewing message received reasonable publicity
  - No \$\$ for advertising – only what was published by media & Task Force
- A week before the eclipse ASO promoted the “Don’t look” message claiming eclipse glasses may be unsafe
  - Media contacts allowed this message to be generally corrected
  - Generated concern / uncertainty with public and schools
- Eye safety outcome
  - Only 3 people reported to health professionals with possible eye damage
  - Clear that most people used eclipse glasses
  - ASO message caused uncertainty – more harm than good



# Education Program outcomes

- Widely used by schools
  - especially in the path of totality
- Many schools had eclipse program for all school
  - including eclipse viewing on eclipse morning
  - Impacted by ASO warnings
- Prepared lessons and PP presentations especially useful
  - Minimise prep needed
  - Consistent with new curriculum
- Benefits may only be realised in the long term







# Overall

- Opportunity to experienced nature's grandest spectacle and many saw at least part of totality
- Good credible safe viewing message
  - Issues with the "don't look" perspective
- Positive economic benefits to the region
  - Direct returns & future visits expected due
    - most visitors left the region with a good impression and hoping to return
    - Positive projection of the region
- Long term education benefits

# 8. Thoughts for 2017 TSE

- TSE 2012 activity was in one area
  - I was one person driving it
  - If I didn't do it no one else would
- TSE 2017 covers the whole country
  - But you have many people to cover these areas
- You have opportunities to work together sharing information and developing common material
  - The prep work for 2017 is encouraging
  - Websites Planning workshops etc
  - Programs must be in progress ASAP

# Thoughts for 2017 TSE

- Information Brochure good asset to have
  - 2 page fact sheet wide use as a base
  - Can be supplemented for specific applications
  - Issued under auspices of some credible body
- Develop an education program
  - Opportunity too good to miss
  - Use a dramatic natural event to stimulate an interest in maths, science and the natural world
  - Excite the kids about the eclipse and they will take that home to their family – great way to spread the good word
  - Constructed to assist teachers not add to their work.

# Thoughts for 2017 TSE

- Government issued safe viewing message has credibility
  - Solves the liability issue
  - Suggest refer to ISO std and include how to safely view
  - Get this as early as possible to include in every document
  - Saturate the market - spread the message widely to counter the "don't watch" perspective.
  - On or link from every eclipse website
  - Check competing messages for accuracy
  - Wide coverage is best defence from alternative views

# Thoughts for 2017 TSE

## ■ Local Authorities

- Approach early and sell them on the economic benefits
- Not just a one off but opportunity to market the region and encourage return visits
- Good news story backdrop to showcase the region
- Provides “official” access to media

## ■ Establish good contacts with the media

- Contribute info at before milestones -2 years, -1 year etc
- Contact Local Authority media liaison people

# Thoughts for 2017 TSE

- TSE 2012 information and resources available
  - Material prepared to encourage experiencing a TSE, engage the public and students with astronomy, stimulate an interest in maths, science and the natural world in young people
  - AAQ and STAQ happy to share the material to further that aim
  - I am happy to share our experience and provide any information that was generated
  - For non-commercial purposes and acknowledge source
- TSE 2017 is a fabulous opportunity not to be missed
  - Encourage all to participate in planning and preparation

