

**Africa eclipse**

From : "Nives Schabot" <nives@iafrica.com> To : <patrick\_poitevin@hotmail.com> Date : Fri, 13 Sep 2002 13:05:13 +0200

Hi Patrick, I see you still have people looking for accommodation in Africa. Have a read over the following and let me know if you have any takers.

**ECLIPSE EXPERIENCE IN STYLE****EXPERIENCE THE TOTAL ECLIPSE AND AFRICA IN THE WILD TOGETHER WITH NEW DEVELOPMENTS IN CONSERVATION**

A safari to the Limpopo Valley to experience the total eclipse in seclusion while taking in the African bush with all its beauty, being preserved in a new National Park and a TransFrontier Peace Park incorporating Botswana, Zimbabwe and South Africa in the making. This is away from the madding hordes a truly unique trip.

A five day, four night safari to attend the total eclipse in the Limpopo Valley with the following programme:

Day 1: Fly to Gateway International Airport at Polokwane.

Collected and driven via Alldays to stay at the new MOPANE BUSH LODGE.

A relaxing evening will be spent with dinner in the boma under a sky of brilliant stars.

Day 2: A visit to the new Vhembe/Dongola National Park, Mapungubwe and the San Rock sites. An afternoon bush drive on Mapesu Ranch, followed by a bush braai.

Day 3: Early morning coffee and rusks before travelling to the private viewing site for the Eclipse. This is followed by a champagne breakfast, after which return to the lodge for a swim and drinks by the pool. Evening drive to sundowners at the confluence of the Limpopo and Shashe rivers, where three different African countries are in full view. Dinner in the boma.

Day 4: A visit to the Northern Tuli Game Reserve to get introduced to elephant and lion and other plains game. Lunch at Mashatu Lodge.

Day 5: Return to Gateway International and flight back to Johannesburg.

**Information on:**

Total Eclipse  
Mopane Bush Lodge  
Mapesu Farm  
Vhembe/Dongola National Park  
Mapungubwe Archaeological site  
San Rock Art sites  
NORTUGRE  
Mashatu Lodge  
Limpopo/Shashe Peace Park

All inclusive package for five days and four nights including internal flights from and to Johannesburg International Airport, all meals and drinks and all transport; US\$1740 incl. VAT, per person sharing. Best regards, Gordon Turner



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2**Accommodation**

From : "Cosa Nostra" <cosanostra@absamail.co.za> To : <eclipse@hydra.carleton.ca> Date : Sun, 22 Sep 2002 16:34:22 +0200

We've got accommodation left in Alldays in the Limpopo province of South Africa for the next total eclipse on 4 December 2002. Contact us for more info.

**Short eclipse trip**

From: heinzscs@pop3.ccc.at To: SOLARECLIPSES@AULA.COM Date: Wed, 25 Sep 2002 22:22:28

Hello, a short trip to the eclipse on 2002.12.04 is offered by Astronomy Travel for 1452 Euro (all inclusive): starts at Vienna airport (Austria) on Dec. 2nd, 21h.00 return to Vienna airport on Dec. 5th about 5h.00

for details see: <http://www.astronomy-travel.com>

The same company organized a very successful trip to Zambia last year (some results at: <http://www.lcm.tuwien.ac.at/scs/sofi01e.htm>). Heinz Scsibrany

**Animation**

From: klipsi@bluewin.ch To: SOLARECLIPSES@AULA.COM Date: Sun, 29 Sep 2002 06:31:03

have you noticed that High Moon, Woomera, Kangaroo, Boomerang, (and also Koolymilka, Andamooka and Coondambo ) all have one thing in common ? The double "o" . check out my animation at <http://eclipse.span.ch/eclipse.htm> ;-) Klipsi

**Who's going to Africa?**

From: Bill Kramer To: SOLARECLIPSES@AULA.COM Date: Tue, 10 Sep 2002 13:20:20

Greetings fellow eclipse chasers! I was wondering who else is planning to be in Africa for the December eclipse. We'll be in Victoria Falls after the eclipse and would enjoy getting together with other SEML members to celebrate another wonderful show. If you are going to be in the area, please drop me a note (off the list of course) so we can make some plans. Bill (going for #10!) Kramer [www.eclipse-chasers.com](http://www.eclipse-chasers.com)

From: [solareclipsewebpages@btopenworld.com](mailto:solareclipsewebpages@btopenworld.com)

Joanne and I booked a flight to J'burg in SA and will use public transport to travel into the path. We do not have accommodation yet, but any recommendation is welcome. Best regards, Patrick (Patrick and Joanne Poitevin [solareclipsewebpages@btopenworld.com](mailto:solareclipsewebpages@btopenworld.com) <http://solareclipsewebpages.users.btopenworld.com>

From: Crocker, Tony (FSA)

We're in Victoria Falls before the eclipse 27 and 28 November, at Chobe Safari Lodge 29 and 30 November, Cape Town 22-25 November, and with Peter Tiedt and Fred Espenak in Kruger 6-9 December.

Patrick, I think you know about Kruger already since you had some discussions with Peter. The missing days above we are at private safari lodges.

From: KCStarguy@aol.com

Joanne and Patrick Perhaps this company (see below) can help get accomodations etc for you all. Dr.Eric Flescher ([kcstarguy@aol.com](mailto:kcstarguy@aol.com))

Q2Travel.com is a tour operator into the Southern African region. We offer accommodation, car hire, tours including dive safaris, flights, luxury trains, and adventure activities throughout South Africa, Namibia, Mozambique, Reunion, Zambia, Botswana, Zimbabwe, Swaziland, Tanzania and Lesotho. Please advise soonest. Kind Regards Duane Steyn Managing Director Q2Travel.com +27 12 346 8378 +27 12 460 8682 fax >>

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From: Govert Schilling

Patrick/Joanne and others -- I will arrive in Johannesburg on the morning of 3 December on flight SA235 from London Heathrow, and will leave Johannesburg again on the evening of 6 December on flight SA234 to London Heathrow. (Yes I know it's a short trip - I will just go visit a Dutch group and be their eclipse specialist for a day or so). If our plans overlap in Johannesburg, I'd certainly like to meet you there! --Govert <http://www.govertschilling.nl>

From: Assoc Prof J R Huddle

You might try UTc in Zimbabwe. UTc operates in many countries in Africa, and has a generally good reputation. I found them to be very professional and trustworthy in Zimbabwe. Contact Portia Kandemiri at [pkandemi@utc.co.zw](mailto:pkandemi@utc.co.zw), and tell her I sent you. Jim Huddle

From: Assoc Prof J R Huddle

Here is a message from Portia Kandemiri of UTc Zimbabwe. They will be observing the eclipse from sites in the Marula area in southern Zimbabwe. I hope those who need accommodations in southern Africa find this helpful. Jim Huddle

From: Portia <[pkandemi@utc.co.zw](mailto:pkandemi@utc.co.zw)> Dear Govert, This is Portia Kandemiri from UTc Zimbabwe. I got your email address through the copy that was sent by Professor Huddle. UTc Zimbabwe is prepared to assist in every way possible,

please advise your requirements and I will come back to you by email accordingly. We do have accommodation space blocked in Bulawayo and have a site that is about 115kms from Bulawayo. We have visited the site with a specialist and it is a good one. We will be doing day trips to these sites. What would be best is that you fly into Bulawayo from Johannesburg and stay in one of the hotels there and on the day, UTc will pick you up and take you to the site and back to the hotel.

We will also transfer you from the airport on arrival and back on departure.

Please advise how many people are in your party. Best Regards Portia Kandemiri Manager - Conferences & Incentives UTc Zimbabwe - Best Tour Operator, 2000 and 2001, as voted by the Association of Zimbabwe Travel Agents, AZTA. Tel: +263-4-770623-34/Direct +263-4-770652 Fax: +263-4-770641, 43-46 Mobile: +263-11 601 392 Email: [pkandemi@utc.co.zw](mailto:pkandemi@utc.co.zw) Website: [www.utc.co.zw](http://www.utc.co.zw)

Kruger map



**Messina accommodation**

Dear SA eclipse chasers, For those who think there is no accommodation available near Messina in South Africa, please find following lists from Messina Tourism, PO BOX 1300, MESSINA, 0900, Tel: 015 534 3500, Fax: 015 534 3503, E mail: messinatourism@hotmail.com

We tried many and we had more than enough replies and options.

No.	NAME	PHYSICAL ADDRESS	TELEPHONE	E. MAIL	CELL./AH
	BUSHBABY LODGE	Alicedale Estates, Tshipise	015-539-0763 / 64	peter-	
	nic@lantic.net 015-539-0791				
	COEN VERMEULEN KOSHUIS	Irwin Street, Messina	015-534-0706	eri-	
	clouw@limpopo.co.za 083-514-6688				
	CONSTANTIA GASTEHUIS	Farm Tshipise MT105, Tshipise	015-539-0829/0600	lguth-	
	rie@yebo.co.za 083-761-3653				
	COLINTON GAME FARM	Colinton Farm, Alldays	015-575-1543		
	gerik@mweb.co.za	015-575-1543			
	CRIMEA FARM	Bevledere Farm, Messina	015-5342724	015-5342994	
	015-5342994				
	DEN STAAT GUEST HOUSE	Farm Den Staat, Pontdrift	015-575-1367	denstaat@lantic.net	
	015-575-1435				
	DONGOLA RANCH	R572, Pontdrift	015-533-1948/9	don-	
	gola@iafrica.com 015-533-1068				
	EVELYN GAME FARM	Pontdrift Road, Messina	013-243-3868	loanda@mweb.co.za	
	013-243-3868				
	GAME LODGE KLEIN BOLAYI	20KM on Pontdrift Road	015-5340975	le m-	
	pertz@gamelodgebolayi.com 015-534-0975				
	GREATER KUDULAND SAFARIS	4km East of Tshipise	015-539-0720		
	gksaf@mweb.co.za 015-539-0720				
	HANLEY WILDLIFE SERVICES	Farm Hanley, Messina	082-3206576/082-4914787		
	goose@limpopo.co.za 015-5340258				
	KOEDOE REST CAMP	Farm Ostrolenka, Messina	015-534-0085	015-534-0085	
	KWANGULULE SAFARI LODGE	Farm Albasini, Messina	012-804-3536		
	admin@corprid.co.za 083-327-0517				
	LIMPOPO RIVER LODGE	6 National Rd, Messina	015-5340204/5	libert@limpopo.co.za	
	015-5343340				
	LINTON GAME FARM	Farm Linton, Messina	015-534-3227	015-534-3227	
	MANANGE SAFARIS	Denlynian District, Beit Bridge	083-3255925	09263-862613	
	09263-862613				
	MOPANE BUSH LODGE	65km from Messina, Pontdrift Rd	015-534-1054	mapesu@limpopo.co.za	
	083-679-8884				
	MATOPPI GUEST LODGE	45 Kerk Str, Messina	015-534-2669	phillipr@lantic.net	
	083-630-1117				
	MUDSWIRI LODGE	Iverson Place, Messina	015-5341131	015-5341131	
	MUNNICHAUSEN SAFARIS	Farm Munnichausen, Messina	015-534 2702	pietlee@cybertrade.	
	co.za 015-534-2687				
	NARI DANGA SAFARIS	Farm Papenbril, Messina	015-534-1135	naridanga@iafrica.	
	com 015-534-1135				
	NEWMARK	Farm Newmark, Messina	121 015-534-3613	015-534-2271	
	RIVER GUEST HOUSE	River Farm, Messina	015-534-2445	maroi@lantic.net 015-534-	
	2445				
	RIVERDISDE NURSERY	Malalahoek 13, Messina	015-534-1145	015-534-1152	
	SAMARIA SAFARIS	Samaria Farm, Pontdrift	015-575-1390	sally@samaria.co.za	
	015-575-1390				

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THE GUEST HOUSE	22 Irwin Str, Messina	015-5343517/0703
ellis@limpopo.co.za	082-7800579	
FAR NORTH SAFARIS	Aventura Tshipise	015-534-3500 farnorth@lantic.net
MOHO LELE	Moho Lele Farm, Alldays	014-757-1681 alan@moholele.co.za
014-767-1681		
NEHEMIAH BUSHVELD PARK	Watson Laan, Messina	015-534-3361/0400
pakama@lantic.net	015-534-3367	
TIM&LA GAME LODGE	Plaas Verloren, Waterpoort	015-575 1663 www.timela.co.za
015-575-1663		
Temporary accommodation		
Mr. KM Suter	011-849-9605 / 015-534-2778	3 X Farm Houses, Fully Equipped
Mr. & Mrs. Bothma	015-516-0871 / 082-375-7437	Semi-Luxurious Private Farm House, 3 bed-
rooms, Fully Equipped		
Arina Esterhuyse	015-533-3045	Farm House, Next to Limpopo River, Fully Equipped
Mr. & Mrs. Chimusi	082 -698-5926 / 073-155-0144	Private Home
Andre Swanepoel	082-903-5851 / 012 349 1404	Bush Lodge, 3 Chalets
Noël van Rensburg	015-534-2372 / 083-254-3016	Private Home, Fully Equipped
Olga Mutamba	015-534-0426 / 015-575-2231	Private Home
Annatjie Dzebu	015-534-3248 / 015-575-2038	Private Home
Gina Sebe	015-534-0586 / 083-342-4006	Private Home
David Mutshinya	015-534-3586 / 082-432-8125 / 082-299-9810	Private Home
Geraldine Ramunenyiwa	015-534-0471 / 015-534-2749 / 082-720-0712	Private Home
Rahaba Mamabolo	015-533-0095 / 082/806/8745	Private Home
Frans Manyathela	072-416-8433 / 082-704-0519	Private Home
Breslau Game Farm	083-408-9420 / 082-459-2906	Game Farm Accommodation, Chalet
Sannie Kauta	015-533-1043 / 015-575-2011	Private Home
Koos Snyder	015-534-2343	Private Home, Fully Equipped
Deon Botha	toyotashowroom@limpopo.co.za	Private Home, Garden Flat, Fully Equipped
Lizette Roets	toyotashowroom@limpopo.co.za	Private Flat, Fully Equipped
Jacominah Mokoditsoa	015-533-0356	Private Home
Mr. SD Dannhauser	015-534-2803 / 058-924-0796	Tented Camp
Reinette Mentz	015-534-0759 / 015-534-1092	Private Home, Fully Equipped
Rosina Mabuya	072-342-4967	Private Home
Billy & Jorika Cawood	015-539-0770	Farm House, Fully Equipped
Eaglet Musina	015-533-0363 / 083-975-4620	Private Home
Lydia Ndhlwayo	015-533-0166 / 083-442-2832 / 083-345-3437	Private Home
Nicholas Leonsins - Travkor Africa	011-883-7803 / nicholasl.travkor@galileosa.co.za	Professor Block Solar Eclipse Tour
Nic Roets	015-534-0312	Riverside Rest Camp
Charmaine Fourie	015-539-0827 / 868 / 082-940-6975	Private Thatch Home, Fully Equipped
Andy Miles	083-455-7716 / ahmiles@mweb.co.za / amiles@angloplat.com	Private Farm Home
Mr. Kruger De Beer	015-534-3334	Bush Camp Chalets
Billy Mofati	082 534 6098 / 015 575 2276 (w)	Private Home
Nic Fourie	082 322 5528	Private Hunting Camp
Wessel Vorster	015-781-6376 / 083 227 3694	Private Camp / Chalets
Fanie & Elize Pretorius	015-534-0746 / 083 968 1227	Tented Camp
Philna & Kobus van der Walt	082 781 9063 / 015 534 2358	Bush / Hunting Tented Camp + Campsites
Doreen / Robert Moyana	084 350 4995 / 082 810 0810	Private Home
Liziana & Johan Louw	015-534 0557 (w) / 072 485 5617 / 015-534 3674 (h)	Private Home
John Wannenburg	082 457 0081	Private Home on holiday resort
Marc Lindsay	bookings@solareclipse.co.za	Solar Eclipse Village / www.solareclipse.co.za
Irene Venter	082 499 5874 / 015-534 2256 (H)	Private Home

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Mr. Ahlers	015-534-0668 / Hendle@ananzi.co.za	Bushcamp + Guest House
Lizet Joubert	015-517 7022 (w) / 083 442 0428 / 015-516 4707 (H)	Private Home, Private Cottage, Campsites
Wilson Manyoga	015-530 0146 (H) / 083 532 8098 / 015-530 0071 (w)	Private Home
Ronnie Mulea	015-534 0806 (w) / 082 820 6034	Private Home
Martin De Klerk	082 871 0640 / Martin.DeKlerk@debeersgroup.com	B&B Accommodation + Caravan Hire + Private 1 Bedroom Cottage
Gilbert Mashaba	015-533 0512 / 082 840 5913	Private Home
Limpopo Safaris - Isobel	015-534 2403 / 0314 / office@limpopo-safaris.com	2 X Luxury Hunting Lodges (24 people)
Mr & Mrs Vorster	015-309 9560 / 082 829 4027	Bush Camp
Frans Engelbrecht	015-534 2934	Fully Equipped Luxury Chalets
Kranenburg School	015-534 0975	Rooms Available, to supply own beds and bedding.
Maryna & Stephen Fick	015-534 0509 / 015-516 1989 / 083 226 1115	Fully Equipped Private Home (in town) + Farm House, Flat & Guest House (out of town)
JP Strydom	015-534 1256(w)/ 015-534 3682(h)/ 082 515 1707	Campsites
Gordon & Loraine Matundu	015-533 0796(h)/ 015-530 0097(w) / 082 218 7083	Private Home
Joss Netshiozwi	082 420 3339 / 8	Private Home - Tours of surrounding area
Unice Matundu	015-533 0242 / 083 353 4001	Private Home
Joey Wallis	015-534 3626 / 082 977 5785	Private Flat, Lapa and campsites
Christina Manganye	082 958 4735 / 015-533 0199 / 082 414 6996	Private Home
Ian & Patty Cooper	015-534 0681 / ian@cargoservicesmsa.co.za	Private Home & Campsites on Game Estate
Hans Calitz	082 809 3851 / 015-297 5374	Bush Camp Chalets

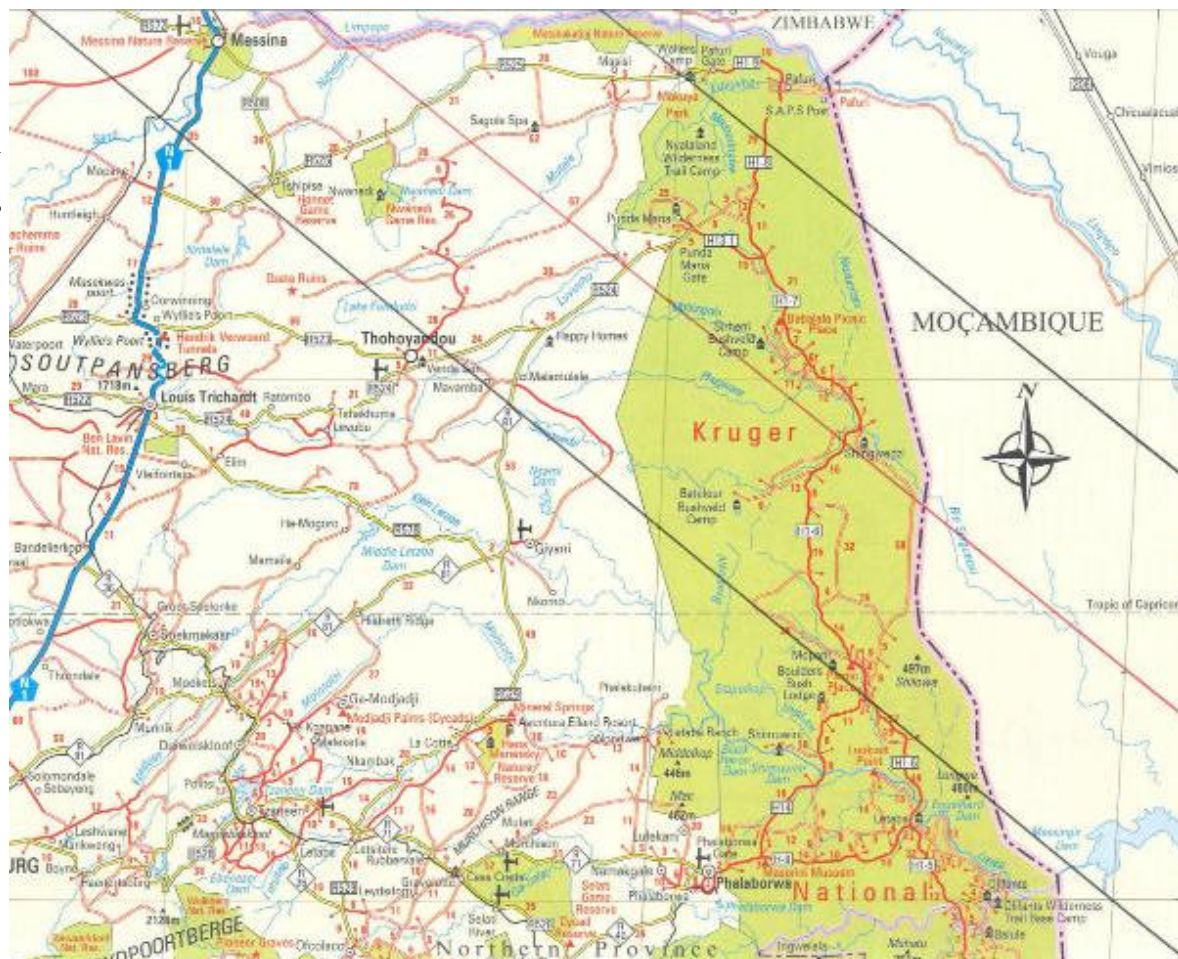
Success,  
Patrick

From:  
Vic & Jen  
Winter -  
ICSTARS  
Astronomy

I wonder how nice  
this place is?

At 03:36 PM  
9/21/02 +0100,  
you wrote: Mr.  
Kruger De Beer  
XXX-XXX-  
XXXX Bush  
Camp Chalets

**Kruger Park  
map**



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2**Site visits to Lyndhurst & the Woomera Prohibited Area**

From: Fraser Farrell To: eclipses <SOLARECLIPSES@AULA.COM> Cc: ASSA-chat <assa-chat@assa.org.au> Date: Tue, 24 Sep 2002 04:58:16

To all, I spent my weekend in the Outback investigating the Lyndhurst region and the Woomera Prohibited Area for the December eclipse. What follows will eventually appear as Location Reports, similar to the ones already online at <http://astronomy.trilobytes.com.au/2002/eclipse.htm>.

But I have a busy fortnight coming up - including a trip to Ceduna - and some of you may need to know this stuff immediately because it will affect your eclipse plans. So here's the story of my weekend.

First, some updates to the existing Location Reports:

(1) On the Roxby Road, there is a second (much smaller) off-road public parking area, which has been recently enlarged from a roadworkers' gravel-dumping site. Not yet formally signposted as a parking area. It is about 22km from Roxby Downs, at the northern end of the stony ridge described in <http://astronomy.trilobytes.com.au/2002/roxby-road.htm>. The parking is to the east of, and lower than, the Road itself; therefore not ideal for eclipse viewing. But you could get a dozen or so buses parked there, and then walk across the Road to the slightly higher and treeless ground to the west. Unfortunately the powerlines (for Roxby Downs) come fairly close to the Road here and may spoil wide-angle photos. Walk a few hundred metres south and the powerlines descend into a valley and below the line of horizon.

(2) The Andamooka Track between the Roxby Road and the Andamooka homestead is now CLOSED to casual visitors. A gate has been installed about 200 metres east of Roxby Road. I walked up the Track for a couple of kilometres and encountered a lot of recent sand drifts on it. The Track south from Andamooka itself to the eclipse's North Limit is passable, with care, to ordinary vehicles; but once it passes the last of the opal diggings (not far inside North Limit) it degenerates to an unmaintained four-wheel-drive track.

(3) The authorities in charge of Woomera airport have decided to begin their total rebuild of the main runway in October. This work will take many weeks (months?), so anyone flying in will need to land on the old dirt airstrip instead. I've asked for more information, including expected date of completion.

(4) The Pimba roadhouse continues to sell the most expensive petrol: \$1.14 per litre for standard unleaded. The same litre costs \$0.93 at Port Augusta, \$0.99 in Woomera, \$1.00 in Roxby, \$1.07 in Marree, \$1.03 in Leigh Creek, and \$1.01 in Hawker. In Adelaide the price was \$0.97 on the day I left, and discounted to \$0.86 when I returned. LPG varied between \$0.45/litre (in Adelaide) and \$0.73/litre (Pimba).

Now onto the new stuff: My plan for the weekend was to check out the Lyndhurst region on Saturday, and then travel via Marree and the Borefield Road to continue the investigations around Andamooka and Woomera on Sunday. This plan entailed a 266 km drive on dirt roads from Lyndhurst to Roxby Downs, through the driest region in Australia. Having done this route before - and being well prepared for it - I wasn't overly concerned. If all else failed, at least 3 of my relatives knew my itinerary and could raise the alarm.

Lyndhurst is about 600km by road from Adelaide if you use the most direct route (Adelaide --> Port Augusta --> Quorn --> Hawker --> Leigh Creek --> Lyndhurst). The drive north was uneventful except for the 100 or so cattle standing on the road near Parachilna. Who refused to move off the bitumen until I started driving (very slowly) through them.

Leigh Creek is located to the west of the road and accessed via a turnoff. It was for a long time a "company town" - in this case for the local coal mine - and the promotion of tourism there is a fairly recent idea. The local school manages the visitor information centre (located in the heart of town), where I spent about an hour talking to Jane, who was rostered on duty for the day. Her boss - who is the lady organizing all eclipse-related matters in Leigh Creek - was actually in Adelaide. Note to self: don't visit these places unannounced.

The local motel is small and was booked out long ago. There will be a tent city on the Leigh Creek football oval, and the golf course will be available for people bringing their own tents. Although no significant rain has fallen there this year, the vegetation

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in the town is healthy and the trees are thriving, so there's shade. A large reservoir in the nearby hills supplies water to Leigh Creek.

As with most of the communities in and near totality; Leigh Creek are having a public barbecue/party/celebration. If you are there on Saturday December 7, then enjoy the local christmas pageant too.

Jane is also one of the local schoolteachers, and mentioned that the Department of Education had (so far) said nothing to the school about the eclipse. I gave Jane some copies of the ASSA Eclipse Brochure, and sources for eclipse shades & sun filters. She reckons the schoolkids are already eager for eclipse day - probably because school will be closed for the day!

It's unclear what the Leigh Creek open-cut coal mine will be doing on eclipse day, because it is in the process of changing ownership. From my own experience in the mining industry, I would think the worker distraction (and light loss) due to a 99.6 percent partial eclipse would constitute a significant Occupational Health & Safety issue. On the other hand, the new owners may simply cancel the afternoon shift for that day.

Driving north from Leigh Creek you quickly reach the tiny town of Copley. This is where the dirt road from Arkaroola and the northern Flinders Ranges comes in. North of Copley the road makes a wide detour to the west around the mine. A turnoff 14.5km north of Leigh Creek leads to a visitor's lookout over the mine; where your kids can also have some fun clambering around a decommissioned dragline excavator.

The eclipse's South Limit crosses the road 28.5km (road distance) north of Leigh Creek turnoff. Or just 8.0km south of Lyndhurst. The terrain here is treeless and almost flat, and 15 months of practically no rain has exacted a heavy toll on the sparse vegetation. It has also made the ground by the road very hard and easily trafficable with any vehicle - so no parking trouble here. There is a cattlegrid 0.7km inside South Limit.

The bitumen ends at Lyndhurst (official population ~20) and the road - now dirt - continues northwards to Marree. The Strzelecki Track (another dirt road) begins at Lyndhurst and goes ~400km northeast to Innamincka and beyond to the Moomba gasfields.

Rick and Anne Speight run the Elsewhere Hotel on the east side of Lyndhurst. They will be hosting 600 people from various tour companies for an Outback barbecue dinner during the eclipse. A grader was due tomorrow to begin clearing an area north of the hotel for this event. The hotel has a few basic rooms and a very small tent/caravan area. Rick & Anne expect most of their visitors will be sleeping at Leigh Creek, or be moving in & out on buses to other accommodations in the northern Flinders Ranges.

Although water is piped to Lyndhurst from Leigh Creek, visitors are advised to bring their own water anyway. The pipeline isn't very large apparently.

Rick told me that the three eclipse viewing areas designated by the Lyndhurst community are (1) at South Limit, (2) at centreline, and of course (3) at the hotel's barbecue dinner. I left a few more copies of the ASSA Eclipse Brochure at the hotel.

outbackeclipsefestival.com are setting up their events in a barren floodplain about a kilometre east of Lyndhurst. I am told they will be entirely self-sufficient for water and other supplies. And that their organisers intend to keep things quiet during the eclipse itself.

The Lyndhurst airstrip, on a low plateau to the northeast of the town, is a typical Outback dirt-with-rocks-in-it airstrip intended for use by the Flying Doctor. There are zero facilities - and no parking places for aircraft. Unless you're prepared to "drive" off the strip itself. It does offer an unobstructed view to the west.

I did go up the Strzelecki Track as far as Mt Lyndhurst, about 25km east of the town. No problem doing this in my old car, but keep an eye out for potholes filled with sand and dust. The Track is quite wide here and passes through almost treeless terrain. As long as you don't park in one of the obvious low spots such as floodways or creeks, there should be no trouble parking on the roadside and seeing the eclipse.

Returning to Lyndhurst, I continued north on the Marree road. A turnoff 5.2km north of Lyndhurst leads a short distance west-



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wards to one of the world's oldest mining sites: the Lyndhurst ochre cliffs. Ochre from here has been found all over Australia, in archaeological sites up to 20,000 years old, and it is still (occasionally) mined here today for ritual uses. However the carpark could only contain a few buses, and there would be nowhere to watch the eclipse unless you want to stand near the edge of the cliff itself.

Fortunately the eclipse centreline crosses the road 9.1km (road distance) north of Lyndhurst; in slightly undulating treeless terrain about 200 metres south of a microwave relay tower. The road here is bordered by hard-packed ground almost devoid of vegetation; making off-road parking for hundreds of vehicles simple! A low embankment east of the road marks the remains of the original Port Augusta to Alice Springs railway, or "the old Ghan" as it's known here. Running alongside this is what's left of the Overland Telegraph, one of the 19th century's great engineering feats.

The eclipse North Limit crosses the road by the ruins of Farina, 24.8km (road distance) from Lyndhurst. Farina was the rail-stop and telegraph station for some naïve 19th century wheat farmers; eventually driven from their farms by the realities of climate here. It was also the embarkation point for an unusual railway consignment - the 1.2 tonne Murnpeowie meteorite (now in the SA Museum).

Farina is now a sheep station. The homestead, a few hundred metres outside North Limit, has a camp ground. I'm told that it has been booked out by an eclipse tour already.

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Marree is 55km drive north of North Limit; and when I drove through was showing obvious signs of major drought and water shortages (I discovered later that they have had no significant rain since mid-2001). From Marree you can either drive north-northeast on the Birdsville Track, or follow the old railway line & telegraph west then northwest on the Oodnadatta Track.

The latter follows a long line of Mound Springs, which mark a major geological fault along the edge of the Great Artesian Basin. Mound Springs form where the hot artesian waters force their way up along the fault from deep underground. When they emerge onto the surface they deposit their dissolved mineral content. After millions of years of this leakage the result is hills and ridges up to 60 metres high, made entirely of precipitated minerals. The mother of all "kettle scale"...!

Nevertheless the water from these Mound Springs allowed a major aboriginal trade route to exist across the desert; which was later followed by the Stuart Expedition, the Overland Telegraph, and the steam engines of the original Port Augusta to Alice Springs railway. The Telegraph was still in use until the age of communications satellites began, and the last "old Ghan" ran on this railway in 1980.

My intended campsite was on the shore of Lake Eyre near Curdimurka. After an hour of driving over the swathes of loose sand & gravel, and corrugations, of the Oodnadatta Track; I arrived at the lowest point of this trip: seven metres below sea level. The bed of the Lake itself is 12 meters below sea level, but between me and the shoreline was ~100 metres of soft, dry sand. I knew driving on that would be stupid so I walked to the shoreline instead. The last time I was here - in 1992 - the Lake was full of floodwaters. Tonight it was totally dry, with a salt crust as hard as concrete.

Because of the full moon and a strong wind raising dust, the sky on Saturday night was nowhere near as dark as it can get out here. But with a chart of the recently discovered Nova Sagittarii 2002 #2 in hand I decided to get the 8x42 binoculars out anyway. Found #2 at magnitude 7.9. Looked at a few other variable stars too. Then while hunting down some of the fainter Sagittarius blobs shown in Sky Atlas 2000, I noticed the star pattern east of M22 was a bit odd...there was a new 6th magnitude object visible. Assuming it was an asteroid, I sketched its position. After 3 hours, sketched its position again, noticed it hadn't moved; wrote myself a reminder to email VSNET about it as soon as I got home, and went to sleep. It had been a long day, and there was another long day tomorrow.

This object turned out to be my independent discovery of the \_third\_ Nova Sagittarii 2002. My first nova discovery, and Murphy's Law had prevailed....oh well. It's certainly the first nova discovered from Lake Eyre, and probably the first one ever discovered from below sea level. Should I call Sky & Telescope about this? Or Guinness Books? ;-)

Woke up shortly before sunrise on Sunday. Thermometer inside the car was showing 6 degrees C. Outside the chill factor would have lowered this - the wind speed had increased overnight. I don't know how fast it was blowing, but it kept blowing my car's

(Continued on page 40)

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doors shut while I was packing up camp.

Drove a few kilometres back down the Track to get onto Borefield Road. This was originally made during the 1980's as a service road to the artesian bores that supply Roxby Downs and its huge mine with their water. A few years later it was opened for public use; providing a nearly direct route from Roxby Downs to Marree and Lake Eyre.

The borefield and desalination plant are nowadays surrounded by tiger wire fences - Western Mining Corporation's response to the assorted "friends of the environment"-type groups, who sabotaged these vital facilities on several occasions. Probably the same idiots who have defaced all of the signs - and many other flat surfaces here - with graffiti protests.

The official length of Borefield Road is 115km. By the time I reached the other end my car had clocked 120km, thanks to the cumulative wheelspin from driving through long swathes of loose rocks, gravel and sand. The underside of the car has some new dents and scratches too. This was somewhat worse than my previous trips on Borefield Road so I presume it's due for a re-grading.

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The Arid Lands Reserve is coming along well. A few years ago Western Mining - and some genuine environmentalists - enclosed a huge area to the north of the Olympic Dam mine with a vermin-proof fence. Exterminated all of the rabbits, cats and other ferals inside the fence, re-introduced some native animals, and waited for nature to do its thing. It's working: on the inside of the fence the plants are subtly but definitely healthier than their rabbit-chewed counterparts outside. And there are young trees & shrubs in there too.

Met some yuppies in shiny expensive four-wheel-drives at the Roxby Downs petrol station, all worrying aloud about the perils of their impending journey to Lake Eyre. My comment to them: "See that old Datsun I'm driving? Two hours ago it was parked by Lake Eyre". Incredulous responses from the yuppies. Hmph....

The Roxby Downs tourist information centre apparently isn't open on Sunday mornings; and neither the petrol station attendant nor the supermarket workers knew anything about the eclipse or the town's plans for it. I had heard rumours about a French group hiring an entire "tourist village" here. Roxby doesn't have a tourist village. But I did notice evidence of tidying-up & refurbishment at the disused Single Persons Quarters #1.

Hmm...apportez quelques prises d'oreille si vous voulez dormir. Les murs entre les salles a SPQ1 sont minces!

The first few km of the bitumen road from Roxby to Andamooka offers plenty of dark astronomical viewing sites. All you need to do is drive off-road a short distance and get a few trees between you and the road.

I was going to Andamooka's Bottle House Hotel to see Margot Duke, who is organising eclipse-related activities for Andamooka. Must stop making these unannounced trips: Margot was also in Adelaide for the weekend! I spoke to her mother and some of the other locals instead.

Andamooka is planning a big eclipse celebration in the main street. Many locals thought the eclipse was going over the town itself, and were surprised to see my map showing North Limit passing about 8km south of main street - at the southernmost end of the opal diggings. I hope Margot knows this. Main street is also down in an east-west trending gully, so there may be some obstructions for eclipse watchers. I left a few more copies of the ASSA Eclipse Brochure in Andamooka.

I then went south on the Andamooka Track - a rough drive on my car's old suspension - to about 5km inside North Limit. Here there is a large flat region offering ideal eclipse viewing. And space for a huge outdoor party; should the locals decide to relocate it to inside the eclipse path. The Track south from here appears to be four-wheel-drive only so I turned around and returned.

Drove next to Woomera to a prearranged meeting with Linda Biddau, who is organising the eclipse-related activities there. Linda had got permission for me to visit their designated eclipse viewing site in the Woomera Prohibited Area. I now have a 360-degree panoramic photo series of the place. No obstructions in the direction of the eclipse, and a flat horizon. The Roxby Downs tour buses will be kept busy ferrying visitors to this site; and Linda has arranged transport for any heavy telescopes or equipment.

She also told me that the main runway at Woomera airport is about to be rebuilt (see above). Also despite some rumours to the contrary, at least 100 illegal immigrants will still be in the Woomera detention centre on eclipse day. So this infamous accommo-

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ation is not available for eclipse tourists - unless our Navy or Customs intercept them in an overcrowded boat in the Timor Sea ;-)

Fortunately for astronomers, the detention centre lights now comply with Australian Standard 4282. The CANGAROO consortium's complaints about the original lights evidently succeeded.

I had mentioned to Linda that a lot of visitors will want to look at the night sky afterwards. This will not be done inside the Prohibited Area. The most likely venue at this time is south of Woomera.

Linda would like to know about any heavy equipment that needs to be taken to the designated viewing site. She also wants to know about any aircraft that intend landing at Woomera (so that they can be parked and/or refuelled). Email [linda.biddau@baesystems.com](mailto:linda.biddau@baesystems.com)

On the way home detoured to Quorn for dinner with the Botts, and finally arrived home in the early hours of Monday morning. Total driving distance of 1677km. cheers, Fraser Farrell

From: Maxine & Michael

Dear Fraser, the Roxby council has decided to reserve a viewing area at the Purple Downs Station Maxine

From: Fraser Farrell

APOLOGIES everyone...I got it completely wrong about the Woomera airfield!

> The statement concerning the Woomera airport is absolutely incorrect. I asked Fraser to wait until I had more information concerning this before publicising some inaccurate and incorrect information. In actual fact we are negotiating for works not to commence until after 4 December and there may be absolutely no interruptions to the Woomera airfield! Could any enquireis concerning the use of the Woomeraq airfield be directed to me in future please. Regards Linda Biddau Development Manager Woomera Commercial Support Contract Phone: 08 8674 3259 Fax 08 8674 3308 Mobile: 0418 851 490 E-Mail: [linda.biddau@baesystems.com](mailto:linda.biddau@baesystems.com)

cheers, Fraser Farrell

From: [rybrks1@cs.com](mailto:rybrks1@cs.com)

Thanks to Fraser for such a great road condition report. Invaluable for us Yanks. Thanks a ton. Ray Brooks

From: Chris Malicki

Also extremely valuable to us Canadians who have preparing for 5 years to view this eclipse and who are going indepently. Thank you Fraser Chris Malicki

**From Metro newspaper  
"TOTAL ECLIPSE in  
Africa"**

## DEPARTURE POINTS

**BACK TO BUSINESS:** VLM Airlines ([www.vlm-airlines.com](http://www.vlm-airlines.com)) launched a new route from London City to Manchester last week. With five flights a day and two on Sundays, the route should prove popular. Meanwhile, independent flight information source OAG has launched an executive flight guide. Essentially a timetable for worldwide business-class flights, it has been designed as a safety net for business travel ([www.oag.com](http://www.oag.com)).



**TOTAL ECLIPSE:** Farside Africa is offering the trip of a lifetime to see this year's solar

eclipse in Africa. Travelling by helicopter, you visit Botswana, South Africa and Mozambique. Departure is on November 31 and all-inclusive prices start from £7,000 per person. Tel: 0131 315 2464 or visit [www.farsideafrica.com](http://www.farsideafrica.com)

Compiled by Vicki-Marie Cossar.  
Prices correct at time of going to press and subject to availability.

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## Eclipse safari between Botswana and Zambia

From: Gernot Meiser To: SOLARECLIPSES@AULA.COM Date: Mon, 30 Sep 2002 12:07:07

Is somebody still looking for a nice organised short total solar eclipse tour around december 4th 2002?!

Gernot Meiser and I just wanted to recommend warmly a short solar eclipse tour between Botswana and Zambia organized by Karien and Peter Kermer; we met this very dynamic german-dutch couple (who is working since many years as tour operators in Livingstone, Zambia) by chance last year on the occasion of our travelling by road the 16.000 km or so separating Germany from the totality zone in Central Africa and our ultimate goal in the north of Kafue national park in Zambia. We stayed after a beautiful eclipse more than two months in Livingstone next to the Victoria Falls and could experience as we became friends with Karien and Peter how special, interesting and personally the tours they are organizing are.

Here is the address of their website: <http://www.wildsidesafaris.com> You will find details about their short solar eclipse tour around december 4th under "specials", or in a short version below.

Best regards Pascale Demy & Gernot Meiser

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Tour from Karien and Peter kermer:  
Total Solar Eclipse - December 4th 2002.

Experience amongst true Wilderness this Natural Phenomenon and feel at the same time the heartbeat of Africa We have very carefully designed a combination of the most spectacular highlights a traveller could wish for.

The German Astronomy expert 'Markus Ludes' will be on the eclipse site to enlighten you with lectures and assistance for an ultimate eclipse viewing experience in Botswana 'Sandy McNab' and his knowledgeable rangers and camp crew will be your hosts in The 'Chobe National Park' one of the best game parks in Africa. The Victoria Falls, the Zambezi River and Livingstone are home terrain for Wild Side Tours. You experience just the right mixture of Historical Livingstone, The Victoria Falls and the relaxing harmony between you and nature on Bovu Island in the Zambezi. There will also be some time for a little adrenalin activity for the more adventurous.

### ITINERARY

29.11.02. International flight to Johannesburg, South Africa

30.11.02. Arrival at Johannesburg airport and onward flight with Nationwide to Livingstone/Zambia. Transfer to Bovu Island, approximately 50 km upstream from The Victoria Falls. The afternoon can be spent relaxing; being poled along in a moko ro (dugout canoe) to watch the hippo and the profound birdlife, a walk in a nearby typical Zambian Toka Leia village. D

01.12.02. The African morning call of Hiippo's and birds awakens you and after a leisurely breakfast you will be transferred to Kazungula, the border with Botswana where Thanda Manzi welcomes you for a 2 day wildlife safari in Chobe National Park. For the next 5 days you will experience the perfection of an excellently managed mobile safari camp.

Thanda Manzi's Vision is to offer the more adventurous and discerning Traveller an exciting holiday in the wild, with the emphasis on the past by traveling through the bush and establishing camps in areas not frequented by the average visitor.

Wherever it might be, right in the eclipse line, or a preferred spot in the National Park.

There is a bustle of activity as guides and camp staff prepares for your arrival. The heavily loaded "back-up truck" treks along sandy or muddy tracks through the bush to your private campsite. Cheerful camp staff erect a canvas camp in the middle of nowhere, consisting of comfortable tents with bedrolls and bed linen, a dining tent, kitchen area and ablution block (hot shower!!!). Wine and drinks are placed on ice. Your first meal is prepared

B/L/D

02.12.02. The sounds of the bush as well as the preparations for early morning coffee will waken you. Take something warm to wear, dawn game drives can be chilly, even at this time of the year. Don't forget your sunscreen and a wide-brimmed hat. Binoculars are essential. Chobe B/L/D

03.12.02. It is a long drive (three to four hours) to the eclipse site, south of Pandamatenga. The rest of the day is reserved for set-



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ting up eclipse viewing material. Markus our expert will assist you and by the time the sun has set, there will a lot of time for a lecture around the campfire.

B/L/D

04.12.02. The just over 1 ½ minutes you have all been waiting for come at 8.00 in the morning. The first post-eclipse talks will take place over breakfast. In the afternoon game viewing is planned. Elephants are especially plentiful in this region. B/L/D

05.12.02 After the last breakfast, prepared by your camp crew with a lot of cheer and care, It is time to say goodbye to the now very familiar staff that have been looking after you so well during the last 5 days. Your journey to Livingstone Zambia will take four to five hours. In the afternoon you will take a leisurely sunset cruise on the Zambezi River. Accommodation in Namel's Guesthouse. A small and very friendly guesthouse just outside the center of Livingstone. B

06.12.02. Today is a day for sightseeing in Livingstone. The Victoria Falls is first on the itinerary as well as a visit to the small Mosi O Tunya National Park, along the Zambezi River. This National Park has amongst Giraffe, Zebra, Warthog, Buffalo, Gnu, some species of antelope, a population of 5 Rhino and we will take you on a Rhino drive. There is also the opportunity to visit The Livingstone Museum, a market or a typical Zambian village.

B/L

07.12.02 Day at leisure to take part in one of the many optional activities offered in Livingstone, such as Rafting, Canoeing, Microlighting, Helicopter Flips, Bungi Jumping or an Elephant ride just to name some. B

08.12.01 In the early afternoon return flight to Johannesburg and return flight to Europe.

We run this safari with two groups of 10 - 12 passengers in each group. The first group travels exactly as per above itinerary and the second group the same itinerary in reverse starting with three nights in Livingstone and ending with a stay on Bovu Island. On the eclipse site the two groups are together.

B = Breakfast - L = Lunch - D = Dinner

Tour Cost €3300 based on 2 people sharing. Single on request.

Inclusive: Flights from and to Germany, Holland, or England

Activities as per itinerary

Meals as per itinerary

All drinks in Botswana

Park Fees

Astronomy expert on eclipse site

Guide/Safari crew during safari

Accommodation as per itinerary

Not inclusive: Meals not mentioned in itinerary

Airport taxes

Personal expenses

Gratuities

Tour Costs from other countries on request.



**Near-annular eclipse 2003 in Aberdeen**

From: Olivier "Klipsi" Staiger To: SOLARECLIPSES@AULA.COM Date: Thu, 05 Sep 2002 11:12:38

dear friends, I've been looking into Jay Andersen's weather info <http://home.cc.umanitoba.ca/~jander/ann2003/intro03.htm> and his maps, too. Thanks, Jay, very useful info !

Then I compared the cost of flying from , say, Amsterdam, to Iceland, vs. flying to Aberdeen Scotland.

KLM has a nonstop flight to Aberdeen. It is only 01:30 h duration, vs 3h for Iceland (Icelandair has a nonstop flight Amsterdam-Reykjavik)

It is also half the price, roughly, of what a flight to Iceland costs. ;-)

And even if you stay in Aberdeen, the almost-annular eclipse is quite spectacular , see what Cybersky predicts : <http://eclipse.span.ch/aberdeen044320.gif> this is what should be seen from Aberdeen about 15 minutes after sunrise , 1.5° over the NE horizon !

Looks like I am going to fly to Aberdeen next spring... ;-)

From Richard Monk

Dear Olivier I can't remember when I last saw the horizon at dawn in Aberdeen. Good luck. Richard

From: Sheridan Williams

My web site has lots of simulated and real views of the annular in 2003. See: [www.clock-tower.com/eclipse2003](http://www.clock-tower.com/eclipse2003) Best wishes Sheridan Williams

## TSE 2003

**Sigma 5.53**

From: rybrks1@cs.com  
To: SOLARECLIPSES@AULA.COM Date: Wed, 04 Sep 2002 16:08:03

A name for the Antarctic trip Nov 2003 ??

103 people on the Klebnikov ice breaker are 5.53 standard deviations from normal in a population of 6.34 billion using the Binet values of "normal distribution" and the projected population of 6.34 billion in Nov 2003.

99.999998 percent are staying home.

**Antarctica site inspection ?**

From: Olivier "Klipsi" Staiger To: SOLARECLIPSES@AULA.COM Date: Mon, 16 Sep 2002

howdy friends, as I am getting ready to fly from Switzerland to Australia in late November, and have booked the "normal" route via Southeast Asia.

But, another thought here:

I could fly on November 21 from Europe to Johannesburg South Africa. Stay one night in Jo'burg. And then, a very special flight:

On November 23 evening, exactly one year before the Antarctic eclipse.

Quantas (and also South African Airways in codeshare on the Quantas flight) flight QF64 flies nonstop from Johannesburg to Sydney, flying closer or grazing over East Antarctica !

It leaves at 5:50 PM local time.

With summer daylight saving time and 2 hours ahead of GMT, this means it is leaving at 14:50 U.T.

That is 8 hours before the 22:50 UT eclipse time.

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The flight lasts 11hours 45 minutes.

But the path of totality lies roughly halfway between Johannesburg and Sydney. see Fred's mapg at <http://sunearth.gsfc.nasa.gov/eclipse/TSE2003/TSE2003gif/TSE2003-2b.GIF>

So if I took that flight, I would fly over the total eclipse area a couple of hours before the eclipse occurs (next year ). At 22:50 I think the aircraft should be somewhere between Antarctica and Tasmania, 3 h 45 m before landing (Hobart-Sydney is 1h 50m)

Still, it would be nice to see with my own eyes what the weather might be down there a year later on same date.... Does this qualify as a site inspection ? ; -)

On December 9 I would then fly back Sydney to Johannesburg, nonstop , QF63. It flies again over Antarctica. That flight is a whopping 13h50m in time !!!!

So..... is anybody else on this list going to take QF64 on November 23 from Johannesburg to Sydney ? Klipsi

From: Cliff Turk

Sorry "Klipsi," but there is no daylight saving time in South Africa. 5.50 p.m. in Johannesburg (or anywhere else in SA is 15h50 UT. This should make you a bit nearer exactly a year before the eclipse. Cliff Turk (Cape Town)

From: Crocker, Tony (FSA)

Shouldn't somebody be trying to convince Qantas to time this flight with the eclipse next year? I recall reading that Joe Rao got a scheduled commercial flight from Honolulu to San Francisco to intercept the July 1990 eclipse.

From: Vic & Jen Winter - ICSTARS Astronomy

I believe that Glen S. has been working towards this goal. We would all like to hear if there is any progress in this department.

One concern I do understand that makes this difficult is that the regulations regarding flights to, from, and over Antarctica require a very high margin for overage in fuel that includes calculating the possibility that "everything that could go wrong does" and still having fuel left over.

Does anyone have any news on the status of this goal? jen

From: Gerard M Foley

In my experience:

(1) Airplanes are rarely on time.

(2) Flights follow the winds, not great circles.

Good Luck! Gerry

From: Olivier "Klipsi" Staiger

WOW, that is great news ! Now we're getting even closer. Flight QF64 leaves at 17h50 local time, this is 15.50 UT. The flight is 11h45m (scheduled) in duration, and centerline is -very roughly - halfway between Jo'burg and Sydney. Halftime of 11h45m flight is 5h52m30s. So, we arrive halfway around 15h50 + 5h52m = 21h42m. That is one hour 7 minutes before maximum eclipse ( 22h49). And the flight probably does not fly smack right over that point of greatest eclipse, but further north near the Indian Ocean, which brings us even closer in time , as Mirny on the coast gets totality around 22:38. And if that plane even misses Antarctica, flying over the Kerguelen-Heard Island route, it still crosses the centerline and eclipse occurs at 22h25. Just 43 minutes after QF64 ar-

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rives there... So do you realise that there actually is a commercially scheduled flight , on a B-747, flying accross the centerline within less than an hour ? Over the coast of Antarctica ? If that flight still exists next year in November 23, and provided it does fly on November 23 in 2003 (important: that flight QF64 does not fly every day of the week ! It flies on Thursday, Saturday, Sunday, Monday. November 23 in 2003 is a Sunday... excellent !) ... THAT would be my target ! Of course, as you know by now , I will be on the KK icebreaker, and I really look forward to this once-in-a-lifetime trip. But I am sharing my thoughts here for all of those who cannot make it on our expedition (almost sold out , just 3 cabins left, see [www.astronomicaltours.net](http://www.astronomicaltours.net) !). You should all write to Qantas to make it happen. They don't even have to charter a special flight. Just ask for guaranteed window seats and that the pilot will "hang-on" over the area to be sure to see the eclipse. Even if you only get 10 seconds of totality .... hey ! ;- ) Jen, I think you should contact Qantas ;- ) I have now booked myself a seat on QF64 THIS year on November 23 (next year, no way, I'll be hugging Emperors ! ) , will decide tomorrow if I will do it. There's a good chance I will. In such case I will have a nice trip report to share even before December 4... ;- ) Klipsi

From: Gerard M Foley

Since the flight is eastward, you should get a lot more than 10 seconds!

From: Olivier "Klipsi" Staiger

yes, I know. I just meant 10 seconds in case of bad calculation. But the shadow , just like the annular on May 31, "shoots over the hill", moving westward. Now even without flying over the Antarctica continent, but nearby, you should be able to get way over a minute. And if the plane changes direction, from east to south, flying in same direction as the shadow sweeps over Earth, you would win a few seconds even in subsonic speed. In such case you would need to have a window seat on the left side. I think you could even get over 2 minutes in subsonic B747 speed, since on the ground we get almost 2 minutes on centerline. Klipsi

From: Evan Zucker

Bear in mind that the duration of totality as viewed from an airplane depends upon the plane's ground speed, not the airspeed. An airliner's airspeed will always be subsonic (except for the Concorde), typically no more than 600 mph. However, with a good tail wind the ground speed could actually be supersonic, which obviously would extend the duration of totality if the plane is traveling in the same direction as the umbra. Evan H. Zucker

From: Fraser Farrell

Actually you should write to "QANTAS", which is an acronym for their original name of Queensland And Northern Territory Air Services. This specific exception to the "always a U after a Q" rule is taught in Australian schools before third grade... ;- )

The Johannesburg-Sydney direct flight QF064 leaves at 17:50 local time for a nominally 11h 45m journey. There is also a Johannesburg-Perth direct flight QF304 (but run by South African Airways) leaving 20 minutes earlier for a nominally 9h 10m journey. Both of these flights use long-range 747s with a nominal flight endurance of about 16 hours.

The great-circle routes for both of these flights go through Antarctic skies and across the 2003 Nov 23 eclipse path.

If I were you I would be investigating both of these flights.

Although QF064 has better timing for the eclipse, its pilots may be less willing to hang around over Antarctica because of their inherently lower fuel margins. The weather (and high altitude winds) over the Antarctic Ocean are notoriously unpredictable - that's why I kept saying "nominal" earlier. And the pilots will be well aware that Sydney airport is very busy and that they may not be able to land immediately. The last couple of times I've flown there my (domestic) flights circled Sydney for 30-40 minutes....

If QF064 is forced to divert because of fuel shortage post-totality then its only real options are Melbourne, Canberra or Adelaide airports. A skilled pilot might be able to land a 747 on Hobart airport's shorter runway - with full reverse thrust, maximum brakes etc - but the plane would have to be emptied before it could take off again.

By contrast QF304 could easily hang around for a couple of hours waiting for the umbra, fly an optimal heading during the two min-

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utes or so needed for viewing, and still get to Perth safely. Another alternative is a special eclipse-chaser's flight duplicating QF304. South African Airways may have enough passengers to fill the non-window seats of a second aircraft. Possibly by rescheduling their Saturday flight to the Sunday? A lot of South Africans have migrated (or are migrating) to Western Australia in recent years; so the demand for the QF304 flights certainly exists.

A third alternative is a dedicated eclipse flight from Perth due south to totality and return. A quick calculation suggests this is doable with a 747, or a long range 767 or Airbus. Tourist flights to Antarctica from Australia are already popular so I don't think there will be any problems finding suitable aircraft, flight crew, or selling the tickets.

Speaking of tickets, the Qantas website ([www.qantas.com.au](http://www.qantas.com.au)) quotes \$Aus 2025 for the economy class one way trip Sydney-Johannesburg via direct flight. Presumably it's the same price going the other way.

Another issue I've glossed over is the navigational problem of getting the aircraft and the umbra to meet each other, despite all the constraints mentioned above. In particular, the need to avoid spending days in a liferaft in the Antarctic Ocean, waiting for the Australian Navy to rescue you, if you stuff it up.... cheers,

From: rybrks1@cs.com

Regarding these flights from Africa to Australia:

The only region of this eclipse path where a plane's velocity is advantageous (essentially traveling with the umbra) is near the point of greatest eclipse. Yes, a plane could fly with the umbra near the start and end of the path but it would have the "eclipse view" at the rear or front of the plane where passengers have no windows. (the pilot could see it near the start of the path) In order for the passengers to see it near the path endpoints the plane would need to basically travel perpendicular to the major axis of the ellipse footprint which for this eclipse is also roughly perpendicular to the path. Duration just happens to be about 2 minutes for that intercept.

The flight from Africa to Australia is in the wrong direction near greatest eclipse, so QANTAS would need to execute roughly a 120 degree turn to run with the umbra and then after C3 turn back around to resume course to Australia. Ray Brooks

From: klipsi@bluewin.ch

>The only region of this eclipse path where a plane's velocity is advantageous (essentially traveling with the umbra) is near the point of greatest eclipse. Yes, a plane could fly with the umbra near the start and end of the path but it would have the "eclipse view" at the rear or front of the plane where passengers have no windows.

sorry, I disagree. Put an aircraft at lat. 60°S and long. 90°E, fly southbound, and you will fly in the same direction as the shadow sweeps over Earth, from Indian Ocean towards Antarctica, and you will have the windows leftside to view it, at right angle to your travelling direction. Of course that will impose a right turn shortly before, changing the normal Africa-Australia route.

>The flight from Africa to Australia is in the wrong direction near greatest eclipse,

yes but not completely opposed, just a bit more than a right angle.

>so QANTAS would need to execute roughly a 120 degree turn to run with the umbra and then after C3 turn back around to resume course to Australia.

I see it this way: you fly southeast towards Antarctica. Doesn't have to be the point of greatest eclipse, there's not much difference between the coastline / Mirny and deep inside the continent on the point of GE. So, shortly before the eclipse occurs, arriving near centerline, do a right turn and fly along the centerline. You will have the Sun at your left window now. The Moon will appear at left side of Sun and move to the right of Sun. The shadow will catch up from behind of you, engulf you, then release you and hurry in front of you towards the point of GE. Once it is over, you do a left turn and continue to Australia. If it is problematic to obtain permission to fly over Antarctica, the area offshore around 90°E/60S is perfect enough. Also, jetstream and weather systems may force to fly in that area rather the point of GE, but I think it is good enough (and less a detour on the fuel-sharp longhaul).

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Now, as the Sun is low, you must compute the area where to be , 10km above the ground, provided the aircraft is at 10'000m elevation. To make it simple, not including the Earth's curvatures, suppose Earth is flat, you can count

$a = 10 \text{ km} \tan 14^\circ$  (elevation of Sun over horizon)

$b = \frac{a}{\tan \alpha}$

thus  $b = 10 / \tan 14^\circ = 40.1 \text{ km}$  . So you have to fly about 40km towards the Sun to stay in phase with centerline. I know this is VERY rough, but anyway there's no big difference as the shadow is very oblong. Whether you are on the centerline or a few miles away is no big deal.

The further north you are in the path, away from coastline, the lower the Sun , the further away from ground coordinates you must fly , towards the Sun, parallel to centerline. Klipsi

From: rybrks1@cs.com

I was attempting to keep the discussion qualitative rather than quantitative. I consider the aircraft viewing angles uncomfortable for times earlier than 22:30 UT and later than 23:00

Klipsi states you can head south with the sun directly off to the side of the plane but my point was that does not take best advantage of the aircraft velocity.

Any particular intercept would not begin and end near centerline but it would go through the centerline. Glenn Schneider's site graphically shows it well. Ray Brooks

From: M&M

Also make sure the passengers are all on the correct side of the plane, or that the others on the wrong side can crowd over to see. Or does that present a problem? :-) Maxine

From: Glenn Schneider @ Home

All, I apologize for my long absence from SEML. "Real life" occasionally intrudes. I should report that I have indeed spent, literally, many hundreds of hours now working toward a 2003 eclipse flight. At the moment there are a number of possibilities (six, actually) with varying degrees of likelihood and expense. I would ask, however, your indulgence for just a bit more time - hopefully not more than a month - to see which of these have a real possibility of solidifying and which will evaporate.

FYI - All but one of the flight options I have been working originate either from Australia (likely a launch from Albany, but also a possibility from Melbourne). Aircraft of sufficient endurance in situ are difficult to arrange. One possibility involves bringing one in from Mauritius (a Dassault 900) and another (a BBJ) from central Europe. But PLEASE standby. There are MANY details up in the air (so to speak) and being sorted out.

Also, I have seen the recent posts concerning a launch out of South Africa. I had considered, but rejected this as Australia or Chile made more logistic sense. With regard to a quick summary of a possible flight option from Punta Arenas (technical feasibility only at this point) see:

[http://nicmosis.as.arizona.edu:8000/ECLIPSE\\_WEB/ECLIPSE\\_03/2310.html](http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_03/2310.html)

If you missed it, some initial thoughts I posted quite some time ago are on:

[http://nicmosis.as.arizona.edu:8000/ECLIPSE\\_WEB/ECLIPSE\\_03/ECLIPSE\\_2003.html](http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_03/ECLIPSE_2003.html)

This has evolved quite a bit, but I haven't had time to update my server yet.

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These two pages, however, should answer some of the questions regarding the viewing geometry and options which have been raised.

Also, if you missed it, you may be interested in:

[http://nicmosis.as.arizona.edu:8000/ECLIPSE\\_WEB/EFLIGHT/EFLIGHT.html](http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/EFLIGHT/EFLIGHT.html)

My work schedule is over-committed in the short term (through mid-October) and I will be on frequent travel. However, I most definitely WILL inform this group of progress, positive or negative, by the end of October at the latest. There IS much to report on now, but I don't want to get anyone's hopes up prematurely. Cheers, -GS- <http://nicmosis.as.arizona.edu:8000/>

From: Glenn Schneider @ Home

rybrks1@cs.com wrote: I was attempting to keep the discussion qualitative rather than quantitative. I consider the aircraft viewing angles uncomfortable for times earlier than 22:30 UT and later than 23:00

Why uncomfortable?

See the links I posted just a short while ago for intercept flight scenarios at 23:15 UT and 23:10UT. Both should be quite comfortable. -GS-

From: Glenn Schneider @ Home

Erratum... Last email in reply to rybrks1@cs.com should have said ...at 22:23:15 UT and 23:10U... -GS-

From: Glenn Schneider @ Home

I think Olivier is a bit optimistic (but PLEASE do stay that way). And I thank him (I think it originated with him) for calling this flight to our attention.

I haven't run any detailed calculations (yet), but as a quick-and-dirty eyeball approximation, see:

[http://nicmosis.as.arizona.edu:8000/ECLIPSE\\_WEB/ECLIPSE\\_03/QF64.gif](http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_03/QF64.gif)

Here I simply reproduced a section of Fred's map (with North up at the longitude of the Kerguelen Archipelago) alongside a map which shows the great circle route from Joburg to Sydney. If you assume that QF64 flies a great circle route, it would go right over Kerguelen - which is at appx 49S, 69E. Indeed, too far north to get even a non-central piece of totality. In detail, the path shifts, of course at 40,000 feet (likely close

to the altitude of QF64) - but without a diversion it looks like QF64 would "miss" clipping the northern limit (closer to the sun) of the path right at sunrise by appx. 400-500km.

Of course, that does not necessarily mean so large a diversion in overall distance. The distance from Joburg to Sydney by great circle is 6860 statute miles. So, by planning the whole route for a bit steeper than great circle curve you COULD get into the path with only a few percent extra flying distance overall.

Tony Crocker wrote: Shouldn't somebody be trying to convince Qantas to time this flight with the eclipse next year?

This is interesting enough to set me off to compute this correctly. And, though I am not sure how serious some were about contacting QANTAS about this, I would certainly do so after the ducks are all properly lined up. So we don't trip over each other, anybody here object if I were to do this? I'll be on travel early next week, and can crank up my laptop to work on this during the flights to/from (a good place to work on this for inspiration).

I STILL, of course, continue working on a dedicated flight, but as an alternate option, you never know... Cheers, Glenn Schneider  
<http://nicmosis.as.arizona.edu:8000/>

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From: klipsi@bluewin.ch

I mentioned yesterday that "tour-du-monde" special airfare with Qantas. As I said, prices vary by country , season, etc. but just for the record: here in Switzerland they advertise on [www.qantas.ch](http://www.qantas.ch) the around-the-world ticket, valid in november till 14 december,

economy CHF 2990.-- ( about US\$ 2000.-- )  
BUSINESS CHF 7380.-- ( US\$ 4920 .-- )  
FIRST CHF 10920.-- ( US\$ 7280.-- )

Ticket valid on Qantas and British Airways flights. 4 stopovers allowed.

So, you might be able to do Geneva-London-Johannesburg-Sydney-Los Angeles -London-Geneva for just \$2000 and see the eclipse. Or upgrade to business or first class to enjoy the trip and get a better view.

If you're a really tough guy, or on a very tight schedule, you do this trip nonstop, spend 2000 bucks and see the Antarctica eclipse. This is probably the cheapest and fastest solution to see this eclipse ;-). In Germany this would qualify as a typical "Dorst-Blitz" ;-). Klipsi

From: klipsi@bluewin.ch

yes but I am convinced that the red line on your map is simply computer-originated but does not at all show the real routing. I was told that the QF64 always flies over Antarctica, thus way further south. Also, your computed track indicates a time of 6h51 ? But Qantas announces 11h45m flight time on QF64 (and 13h40m on way back, QF63 !)

I've used other such programs for airlines and found they don't really show the exact routing . Example: KLM software shows Amsterdam-Los Angeles flying way south of Greenland, but anytime I flew to California I always saw Greenland. Another example: when you look at the red lines showing flight routes in an inflight magazine ("our network"), they often do not precisely correspond with the real routing. The red lines only show connections between 2 cities but the actual route is often very different than what is published on glossy paper.

Anyway, I will fly QF64 on this next november 23 and will tell you, and show you with pictures and videoclips, if Antarctica is overflown or not. I will also talk to the captain and other flight crew right then and there and ask them personally if they always fly over Antarctica on QF64, or just graze it, or really avoid it fully by staying north of Kerguelen.

Jetstream position and speed will influence the chosen route, too. Here's a map showing latest image of jetstream position in southern hemisphere. [http://virga.sfsu.edu/gif/jetstream\\_sohem\\_00.gif](http://virga.sfsu.edu/gif/jetstream_sohem_00.gif)

For the record, I asked very intriguing questions to Qantas (precise flight route, timing, etc. ) and they called me to tell me they can't tell me these details , for security reasons ! Dam 9/11 ! ;-( Klipsi

From: Harvey Wasserman

Klipsi, You could also get an IFR route map which should show the actual airways available for the flight. This shouldn't be thought of as a guarantee, though, as they can also file direct. However route flying over oceans, at least the north Atlantic, is the norm. Still, your conversation with the pilots in Nov. should be your best source of info.

Glenn, I would like to donate my services to help post your info to the web, if it would help to lighten your load. Contact me directly if you would like to pursue this. [eclipsme@bellsouth.net](mailto:eclipsme@bellsouth.net). Harvey Wasserman

From: klipsi@bluewin.ch

>Klipsi,..... your conversation with the pilots in Nov. should be your best source of info.

Glenn, Harvey, everybody involved : I will take images, ask questions, observe, report on QF64. However, I might forget to ask this or that important question. So, if you feel there's an important question YOU would ask the pilot or crewmembers of QF64 , to

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evaluate the feasibility of an umbral intercept next year, or anything special to observe, then please write to me directly (not on the SEMML) to [klipsi@bluewin.ch](mailto:klipsi@bluewin.ch) and I will take that question aboard. Let me be your messenger, your eyes, on this "site inspection" flight ! I am doing this for you. Klipsi

From: [rybrks1@cs.com](mailto:rybrks1@cs.com)

Did not mean to be a party pooper about a Qantas 747 flight but maybe it sounded that way. To recompense, I should be able to find out the typical JBG-SYD route flown by Qantas. If I could get my own personal (very close!!) flyover/360deg turn of a fully passenger laden MD-11 ten minutes after sumitting Kilimanjaro, this should be easy. (In fact, I received some truly wonderful photos from the cockpit recently.) I love my commercial rating more for the friends it has made than for flying.

Back to Nov 2003 I certainly agree you do not need to go to "Greatest Eclipse" point to have a nice eclipse in the air. Just nice to be able to get about three minutes duration there if you could. (Going by memory here, I am at a foreign computer without the calcs I did last year.) Glenn's site agreed with mine within a mile and a few seconds or so but Glenn's site is down right now.

But I do have my GPS in hand. A Great Circle route would reach to south 50Deg 49Min at 94D 42E. Although that is 1048 miles from Antarctic coast that is unimportant. The flight would not need to divert to the coast and even if it did the new course would only add about 200 miles.

Yes it is true that normal path routes do not follow the Great Circle routes since a head wind or a tail wind (or a MOA in other cases) can easily justify going way north into Alaska and Greenland for Japan and Europe flights. (I love the GPS as a passenger also)

And I did not mean to imply that putting the sun/moon full abreast to the side of the plane was not possible (even at the end points of the path). I only meant that to gain the absolute longest duration near the endpoints the viewing angle gets tight; but slightly less duration at a perfect viewing angle is much better than increased duration to the front/rear of the plane. I suppose my point was trivial.

And thirty years ago (when the carriers were used to making ovals in the sky doing holding patterns for an hour or two) it might have been easier to talk Qantas into a diversion. Hopefully it works out and on the Klebnikov we can wave to a few planes above. More likely we will hear them through an overcast as we envy their clear skies. Cheers Ray Brooks

From: Glenn Schneider

Hi Klipsi: As I had said in my e-mail, this map shows the GREAT CIRCLE ROUTE from Joburg to Sydney.

[http://nicmosis.as.arizona.edu:8000/ECLIPSE\\_WEB/ECLIPSE\\_03/QF64.gif](http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_03/QF64.gif)

I do not have any knowledge (yet!) of what route QANTAS may elect to fly which deviates from this. The "red line" is just a projection of a great circle between these two points and is not a "schematic" representation of any particular flight. I would find it very strange if QANTAS did fly a route so significantly different as to reach as far south as overflying Antarctica. That would add substantially to their equipment (and fuel) operating costs for what is normally a routine commercial flight. Transcontinental great circle routes are certainly the most cost-effective.

> Anyway, I will fly QF64 on this next november 23 and will tell you, and show you with pictures and videoclips, if Antarctica is overflown or not. I will also talk to the captain and other flight crew right then and there and ask them personally if they always fly over Antarctica on QF64, or just graze it, or really avoid it fully by staying north of Kerguelen.

Such first-hand information is certainly best! I would be surprised if the flight did NOT go over (or very close to) Kerguelen. But would be happy indeed if it did go further south!

> Jetstream position and speed will influence the chosen route, too. Here's a map showing latest image of jetstream position in southern hemisphere. [http://virga.sfsu.edu/gif/jetstream\\_sohem\\_00.gif](http://virga.sfsu.edu/gif/jetstream_sohem_00.gif)

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I will try to pursue this independently. Cheers, -GS-

From: Matthew Poulton

Klipsi, you could study the effects of the nine other passengers in your row of the aircraft rushing over, all trying to get a view out of the window at the same time!

Seriously, this would be my biggest concern, using a wide-bodied jet, assuming it to be full. How many people (with or without cameras etc.) could comfortably view the eclipse through a single window? Matthew.

From: Michael Gill

The map on Glenn's web page is a computer generated depiction of the great circle distance between Johannesburg and Sydney. The time indicated (6h 51m) merely reflects the value Glenn entered into the ground speed field when filling in the form (1,000mph - fast aircraft Glenn!). No significance should be attached to the time shown.

However, QF64 will need to deviate from the great circle route in order to pass through the track of totality for the November 2003 TSE.

> Another example: when you look at the red lines showing flight routes in an inflight magazine ("our network"), they often do not precisely correspond with the real routing. The red lines only show connections between 2 cities but the actual route is often very different than what is published on glossy paper.

This is true and it is probably because most passengers are not aware of the significance of great circle routings.

In the past I have overheard conversations by other passengers wondering why the aircraft's position as shown by the 'Airshow' display did not correspond with the 'routing' rendered in the in-flight magazine. Michael Gill

From: Glenn Schneider

> Glenn's site agreed with mine within a mile and a few seconds or so but Glenn's site is down right now.

No it's not! Just checked though. Please try again, maybe you are having DNS or local problems... Write me off-line if you still have problems.

> But I do have my GPS in hand. A Great Circle route would reach to south 50Deg 49Min at 94D 42E. Although that is 1048 miles from Antarctic coast that is unimportant. The flight would not need to divert to the coast and even if it did the new course would only add about 200 miles.

Ray, I agree the "coast" is irrelevant. I am just looking at a necessary diversion to get into the path with a "reasonable" flight plan. That might (likely) entail a non-central totality of somewhat shortened duration.

> Yes it is true that normal path routes do not follow the Great Circle routes since a head wind or a tail wind (or a MOA in other cases) can easily justify going way north into Alaska and Greenland for Japan and Europe flights. (I love the GPS as a passenger also)

You USE GPS as a \*commercial\* passenger??? Please don't get hung up on my zero-order assumption of a great-circle route. This will be investigated. Cheers, -GS-

From: Glenn Schneider

Not as fast as a Concorde (sigh). -GS-

From: Assoc Prof J R Huddle

... and would everybody moving over to one side of the jet affect its trim? I imagine it could be a serious problem, if everyone tried

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to look out the windows on one side of the jet at the same time. I think you'd have to ask the pilot to turn around so the unfortunate side of the aircraft could have a turn. And that could mean an unacceptable waste of fuel, but I'm not a pilot; you'd have to ask. Jim Huddle

From: rybrks1@cs.com

Glad to hear Glenn's website is up..must be a temporary problem with my firewall. I will try at home later.

Glenn wrote You USE GPS as a \*commercial\* passenger???

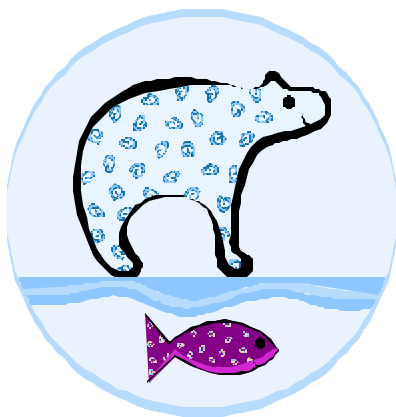
Yup..it is great since they removed the error signal. I have been able to log points over Greenland, deep into Alaska and off Scotland on some commercial flights. He lps being near a wing (but not over a wing since I lose the nice view)

Glenn wrote: Please don't get hung up on my zero-order assumption of a great-circle route. This will be investigated.

It sounds like we are all violently agreeing...sorry I nit-picked Ray

From: Dale Ireland

Jim How about a one G roll, this would use less fuel. Dale





Joanne & Patrick

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