

1-12 LSAFC	Basic Avalanche Awareness at the MIC	Max and Dave
1-20 WRT	Snowmobile Training by Utah State Parks -- Saturday	Tony White
1-25 GCSAR	Ready Packs / SAR Equipment overview	Frank
2- 5 WRT	WRT meeting at the EOC	Paul Frank
2-13 GCSAR	CPR	Paula Fuller
2-22 GCSAR	Land Navigation - Maps - FUNSAR 10	Bego
3- 1 to 4 LSAFC	AIARE Level 2 class	Max and Dave
3- 3 GCSAR	Rock Rescue	Jim, Bego, T-Berry
3- 5 WRT	Meeting at the EOC	
3- 10, 11 GCSAR & NPS	Arches Rock: Tech Rock Rescue	T-Berry, et. al.
3- 13 GCSAR	Land Navigation - GPS, Compass - FUNSAR 10	
3- 22 GCSAR	Air Ops- Direction Finder for ELTs and PLBs	
3- 24 MSR	La Saloppet Ski Race - GCSAR and EMS in support	
4- 2 WRT	Winter Rescue Team - final meeting of the season	
4- 10 GCSAR	Land Navigation - field	
4- 26 GCSAR	ATV Training	
5- 8 GCSAR	River Rescue - classroom, with Fire Dept Dive Team	

Captains => Medical - Margy River - Duckie Tech Rescue - Jim Equipment - James Mc
The Grand County Insurance Company => Wear **EAR and EYE PROTECTION and SEAT BELTS**

Equipment that needs repair: Tell Dave, Tell Dave, Tell Dave.....

You know you are from Utah if you can make Jello without a recipe.
Pope John Paul II used to sneak out of the Vatican to go skiing. A lot.

Median elevation of Utah is 6100'

First Ascent of Empire State Building by King Kong and Fay Wray, 1933.

Stokes Litter by Charles Stokes in 1895 for the US Navy.

Incident Tally by Month

Average J-1.6 F-2.7 M-8.9 A-11.1 M-12.3 J-6.9 [44.1] J-5.7 A-5.1 S-7.0 O-8.3 [70.8] N-5.0 D-1.8 [77.9]

2007 - J-3 F-2
2006 - J-1 F-4 M- 6 A-12 M- 14 J-10 [47] J- 8 A-2 S- 6 O-17 [80] N-9 D-2 [91]
2005 - J-4 F-3 M-13 A-12 M- 15 J- 5 [52] J- 9 A-7 S-13 O-16 [97] N-5 D-2 [104]
2004 - J-1 F-1 M-15 A-13 M- 9 J- 6 [45] J- 2 A-5 S- 5 O- 3 [60] N-3 D-5 [68]
2003 - J-2 F-1 M- 6 A-12 M- 11 J- 6 [38] J- 7 A-5 S-11 O- 9 [70] N-5 D-0 [75]
2002 - J-0 F-3 M- 9 A- 8 M- 10 J-12 [42] J- 5 A-7 S- 7 O- 9 [70] N-5 D-3 [78]
2001 - J-0 F-2 M- 5 A-11 M- 8 J- 6 [32] J- 6 A-3 S- 2 O- 2 [45] N-5 D-1 [51]
2000 - J-2 F-4 M- 9 A-13 M- 14 J- 7 [49] J- 3 A-2 S- 9 O- 7 [70] N-0 D-0 [70]
1999 - J-1 F-1 M-15 A- 4 M- 11 J- 8 [40] J- 6 A-9 S- 9 O-13 [77] N-7 D-2 [86]
1998 - J-0 F-1 M- 5 A-18 M- 15 J- 3 [42] J-10 A-2 S- 4 O- 9 [67] N-3 D-1 [71]
1997 - J-4 F-6 M-10 A- 8 M- 16 J- 9 [53] J- 4 A-6 S- 5 O- 9 [77] N-8 D-0 [85]

07- 1 1- 5- 07 Agency Assist Arches NP Rimrocked Hiker

A photographer walked across a slippery ledge to get THE shot. Then he decided he couldn't make it back safely. He waited in the chilly morning air for someone to appear in his scene. This happened and help was summoned.

Two of the rescuers used those slip-on- your-boots metal cleats for ice walking. Worked well on the snowy, inclined, slick slickrock.

He was lowered by rope to the ground.

Responders: Gary, Jacob, Murray, Bego, Tom Johnson

1- 6- 07 Mesa County Training 3 Counties Mesa Lakes Lodge el
10,000 ft

Larry Bullard of Mesa County SARC extended an invitation to all GCSAR for this training up in the snow. Four different scenarios. Two involved a PLB. The CAP airplane had to find it and a snowmobile ground team had to find it using a Vecta DF like the one we now have. There was an avalanche beacon search and an injured ice climber. Three of the four incidents were run by peoples new to incident management. There was also an ice dive, chain sawing a hole in the ice on one of the lakes up there. Brr. In the middle of all this was a real incident when a snowmobiler hit a rock, injured his shoulder and had to be transported out.

Chili lunch. Good day.

"Winter Aware"- High School assembly featuring Dave Madera, Max Forgenci and Bego.

"Know Before You Go" video, Dave's avalanche primer slide show, Bego's skiing pix, Max does real time internet of Avalanche Center stuff and Max performs a beacon search in the auditorium.

Principal Tom Brown started this idea in December. Student Council President introduced us.

Bradley Hines said it was good.

07- 2 1- 17- 07 Recovery Hwy 191 Car Wreck

Assisting Highway Patrol Troopers and Deputies with the recovery of car wreck victim.

Responders: Dave, Barbara, Bego

Snowmobile 101 by Tony White and Brody Young from Utah State Parks

2 hours classroom and 3 hours up in the snow.

GCSAR: Bego, Mike, Dave, Barbara, Jim, John, Melissa

NPS: Jim Herbaugh, Frank Hayde

Winter Rescue Team: Dana Witwicki, Mathew Van Scoyoc, Sascha Anastas

This will go over like a lead rappel rope with most, however, fitness standards are out there-

GCSAR Fitness Stuff (studiously avoiding the word "test").

This is NOT a race--> Hike up the Moab Rim Jeep Trail. At a nice comfortable pace. Hike up to the wood fence at the top. E-mail me your time. I will publish the results with no names in a future issue of Silt. So far I know of times of 30, 35 and 40 minutes. If anyone has any more ideas for the Fitness Stuff, let me know. Like the Portal Vista Trail- 40 minutes. It is well known that heart attacks kill the most firemen.

From the Museum of Moab newsletter: "Our hero, Dorothy" (In reference to 06- 91)

Museum employee Dorothy Rossignol is our hero for the very important role she recently played in helping to rescue

a Moab woman from a dangerous outing.

Early in December, Dorothy noticed that her neighbor, Danelle Ballengee, seemed to be missing, so she called the woman's parents, who then called the police. Authorities subsequently launched a search, and the story that unfolded made national headlines.

Danelle was found near a popular recreation trail, miles from her vehicle with a broken pelvis and severe frostbite after spending two nights in below freezing weather. What was most interesting was the fact that Danelle had been on the outing with her dog. After her vehicle was spotted at the trailhead, search and rescue personnel began combing the area and spotted her dog. Although the animal was elusive, the canine ultimately led the searchers to Danelle.

Following the incident, Dorothy described herself as a nosy neighbor, but her observations may have saved Danelle's life. Thank you Dorothy.

This is hilarious:

-Happy Solstice, Happy Hanukkah, Merry Christmas, Happy Kwanzaa, Feliz Navidad

-Our Legal Council just approved the following Holiday Greeting:

-To All Our Friends:

Please accept with no obligation, implied or implicit my best wishes for an environmentally conscious, socially responsible, low stress, non-addictive, gender neutral, celebration of the winter solstice holiday, practiced within the most enjoyable traditions of the religious persuasion of your choice, or secular practices of your choice, with respect for the religious/secular persuasions and/or traditions of others, or their choice not to practice religious or secular traditions at all and a fiscally successful, personally fulfilling, and medically uncomplicated recognition of the onset of the generally accepted calendar year 2007, but not without due respect for the calendars of choice of other cultures whose contributions to society have helped make America great, (not to imply that America is necessarily greater than any other country or is the only "AMERICA" in the western hemisphere), and without regard to the race, creed, color, age, physical ability, religious faith, choice of computer platform, or sexual orientation of the wishee.

[This message does not advocate the exploitation of working class elves, or other handicapped persons and is respectful to the rights of reindeer and other animals, and does not advocate the use of fur.]

By accepting this greeting, you are accepting these terms: This greeting is subject to clarification or withdrawal. It is freely transferable with no alteration to the original greeting. It implies no promise by the wisher to actually implement any of the wishes for her/himself or others, and is void where prohibited by law, and is revocable at the sole discretion of the wisher. This wish is warranted to perform as expected within the usual application of good tidings

for a period of one year, or until the issuance of a subsequent holiday greeting, whichever comes first, and warranty is limited to replacement of this wish or issuance of a new wish at the sole discretion of the wisher.

(from Rope Rescue Discussion Area SARBC)

From Rope Rescue Forum SARBC--

"Re: Who pays the bills" Where a government agency pays or you are covered by OSHA in the US the heavy gear seems to be standard.

Ah, yes. It's the "don't bite the hand that feeds you" standard, rather than the "which gear is most appropriate for the situation" standard.

Volunteer, non-governmental, persons tend to use lighter, cheaper, gear. While lighter gear may be less expensive, your statement makes it sound as if highly competent back-country rescue teams use gear because it's "cheap" rather than because it's appropriate and safe.

If I had to make a distinction between which of the two rescue communities were making inappropriate decisions about gear, I would have to say it's the one basing its decisions on funders and lawyers rather than upon scenario-specific determination of best use. Robert

"Re: Who pays the bills" Where a government agency pays or you are covered by OSHA in the US the heavy gear seems to be standard. The VFC is not covered by OSHA but uses NFPA gear because it is "best practice" even when ASTM standards are tougher or tests more thorough. Volunteer, non-governmental, persons tend to use lighter, cheaper, gear. More often than not there is no regulatory rule about what you use--just a bunch of insurance companies and lawyers waiting for something to go wrong. Irv Lichtenstein

OSHA, NFPA1983, 1006, and 1670, ASTM standards, FEMA SAR, DHS E.O.P. EMAC response SUSAR teams' I hope that I didn't leave an abbreviation out that someone is particularly fond of. One of things that should drive everyone crazy is when somebody brings up "lawyers" or says that its "best practice" to use heavy regulated gear. That is actually why the equipment manufactures have spent so much money lobbying. Virginia Fire Department Rappeller falls five stories rappelling. Was he using NFPA regulated carabiners? Do they roll out twist out the same as the lighter cheaper carabiners? Even though my gear might be lighter and as you say cheaper the principles of its use are the same. Experience, Knowledge, and judgment along with skill and ability, will never be regulated. Ken

"NFPA Standards" The primary difference in the past between NFPA gear and recreational gear has been that NFPA gear is steel, and sized to match the larger diameter (12.5 v11 MM)ropes most people think are mandated by NFPA standards. NFPA does NOT specify that carabiners - or any other gear - has to be steel, only that they meet minimum strength requirements. In the case of light use carabiners, it's 27 kN. Many aluminum carabiners can meet this standard and are

stamped NFPA compliant. But NFPA does mandate the diameter of life safety ropes, and general use ropes must be at least 1/2". NFPA 1983 (2006)

Handout for all the High School students :

° Winter Aware °

Before You Go

Tell someone where you are going and when you will be back.

Check the weather forecast, assemble the correct equipment, eat breakfast.

In Your Car

Have enough clothes with you to stay warm if your car gets stuck.
Carry a shovel to dig yourself out.
Carry matches for starting a fire.
Take food and water.

On Your Body

Dress in layers. Synthetics are best. Wool is good. DO NOT WEAR COTTON.

Good wind protection. Good footwear. Good hat. Good gloves. Sunglasses.

Frostbite and hypothermia can happen in a few minutes in the unprepared.

If any part of you gets cold, WARM UP. Do not use car exhaust to warm up.

Skiing and Snowboarding

At a Resort:

Stay inbounds. Out of bounds is backcountry where you are on your own.

Backcountry: Wait a day or two after a storm for the snowpack to settle.

Know where you are going. Learn map reading.

Take an avalanche and winter travel skills class.

Look on the web for an avalanche forecast report. Talk to locals.

Wear an avalanche beacon, carry shovel, probe. Practice using them a lot.

Travel well spaced apart. One person in the danger zone at a time.

Being too social can distract you from watching, feeling for danger zones

Avalanches happen on slopes of 30¼ to 45¼- the perfect angle for skiing.

Look for avalanche clues like recent avalanche activity, wind slab, whoomp.

YOU will probably trigger the avalanche you are caught in.

YOU are the rescue party if an avalanche, or anything else, happens.

Snowmobiling

All of the above advice applies. High Pointing starts avalanches.
You will get stuck. Take a shovel. You will get stuck.
You will break down. Take skis or snowshoes so you can travel out.

Lost? Several options depending on weather and preparedness.

Realize you are lost early. This is important.
Turn around, follow your tracks out if you can see them.
Find shelter OUT OF THE WIND. Start a fire with those matches you have.
Insulate yourself from the snow. Use tree branches.

Your Brain

STOP = Stop... Think... Observe... Plan... This will save your life.

Manti- La Sal Avalanche Center

<www.avalanche.org/~lsafc> 259-SNOW

From: Margy Baker

Jan 14, 2007-----Hiker rescued after a month. Woman was unable to cross swollen river.

ALBUQUERQUE, N.M. - A camper who became stranded nearly five weeks ago in a national forest because she could not cross a swollen river was rescued Sunday, more than two weeks after the search for her was called off. A New Mexico National Guard crew waded across the icy Gila River to rescue a dehydrated and weak Carolyn Dorn of South Carolina, who entered the Gila National Forest alone on Dec. 6 for a two-week camping trip. She was found by two brothers, Albert and Peter Kottke, as they hiked an area they had visited several times in the past two years without ever seeing another human being. They realized Dorn was too weak to get out of the wilderness with them and left her Tang, almonds, dried apples, hot soup and cheese. They also filled her water bottles and left her a book - Michael Connelly's "Chasing the Dime." The brothers hiked 20 miles over the next day and a half, then hitchhiked into Silver City, where they contacted the National Guard. "We got her prepared to spend another couple of nights while we went upstream to get help," Albert Kottke, 25, a doctoral student in civil engineering at the University of Texas at Austin, said Sunday from his parents' home in St. Paul, Minn. Dorn told the brothers she was warm enough at night, but her eyes lit up when they offered her the book, he said. He felt comfortable leaving her after that because "you could tell she had a positive outlook," he said. Dorn was hospitalized in Silver City and should be fine, said search and rescue coordinator Frankie Benoist of Silver City. Dorn's condition was unavailable. "We needed a large helicopter ... one with night vision and a hoist, and we also needed a medic on board because of her condition," Benoist said. Dorn, who travels often to Silver City, had

planned to camp for two weeks. But five days into her trip, it rained and snowed and the Gila River rose, trapping her, Benoist said. "The river got big, as she put it, so she did not want to cross it again," Benoist said. "It had become too dangerous and also she did not want to get her clothes wet and get hypothermic. By the time the river went down, she had run out of food and was starting to get weak. "Dorn had a tent, a sleeping bag and enough food and water for two weeks. After she became stuck, she drank from the river, kept warm by building fires and "used very little energy," Benoist said. Temperatures have dropped into the low teens overnight in recent weeks, according to the National Weather Service. Dorn's car was spotted 2 weeks after she left and reported to authorities. Benoist said her group conducted an intensive search, "but we never considered that she traveled so far" into the forest. The search began Dec. 24 and ended Dec. 26. On the third day, after a large group of searchers with all-terrain vehicles, dogs and horses failed to find any clues, the search was called off, Benoist said. Dorn's brother-in-law, Stan Cornine - who traveled to Silver City from South Carolina during last month's search - told the Las Cruces Sun-News at the time that Dorn was an experienced camper who was at home in the outdoors. Cornine, who described Dorn as "very much a free spirit," said he and his wife sometimes would go for more than a year without hearing from her. But he said she had called before she headed to Silver City to let her family know. The National Guard used coordinates provided by the hikers to fly to Dorn's camp 20 miles northeast of Silver City, said Chief Warrant Officer Dave Burrell. The crew headed out Saturday night, but bad weather grounded the helicopter for about five hours in Las Cruces, Burrell said. The crew reached the forest about 5:30 a.m. Sunday and used night vision goggles to spot Dorn's camp near the river in a steep ravine, Burrell said. He could not land the helicopter on her side of the river, so the crew lowered a medic, Staff Sgt. Greg Holmes, into her camp. Burrell then found a place to land across the river. Burrell, Holmes, Sgt. Ian Weigner and Maj. John Fishburn carried Dorn across the knee-deep river while a second pilot, Chief Warrant Officer Race Baker, waited. They then flew to Silver City with Dorn, who was dehydrated and hypothermic, Burrell said.

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<http://www.msnbc.msn.com/id/16628390/>

07- 3 1- 31- 07 Lost Jeoper Poison Spider Mesa

In the middle of the night 3 guys out jeeping decided they were lost and cell phoned for help.

We responded with 2 rangers and 4 folks, located the jeepers and led them to safety.

Responders: Dave, John, Steve, Duckie, Mike, Barbara, Steve

"... also brought with them those personal qualities so crucial to a happy expedition: persistence, a willingness to suffer and a sense of humor."

"Money trumps Peace, sometimes." GWBush

Overheard: "These are indeed hard times for the dim."

Glen Canyon Dam Operations

Releases from Glen Canyon Dam in February 2007 will average 10,900 cubic feet per second (cfs) with a total of 605,000 acre-feet scheduled to be released for the month. Releases from Glen Canyon Dam in March 2007 will be somewhat lower than February. A total of 600,000 acre-feet (an average of 9,800 cfs) are scheduled to be released. Releases for April 2007 are also scheduled to be 600,000 acre-feet for the month (an average of 10,000 cfs).

Upper Colorado River Basin Hydrology

Limited precipitation reached the Upper Colorado River Basin in January 2007. Estimated basinwide precipitation in January is less than 50 percent of normal. While water year 2007 (which began on October 1, 2006) started out "wet," with October precipitation over 200 percent of average, precipitation in the Colorado River Basin since October has been below average. Basinwide snowpack above Lake Powell is currently 75 percent of average (as of February 2, 2007).

Forecasted April through July unregulated inflow to Lake Powell in 2007 is 5.9 million acre-feet, 74 percent of average. This is a 1.3 million acre-foot reduction from the forecast issued last month. This reduction reflects the limited amount of moisture received by the basin in January.

The current elevation of Lake Powell (February 2, 2007) is 3,599.4 feet, 100.6 feet from full pool elevation of 3,700 feet. Reservoir storage is currently 11.70 million acre-feet, or 48 percent of capacity.

Upper Colorado River Basin Drought

The Upper Colorado River Basin experienced five consecutive years of extreme drought from September 1999 through September 2004. In the summer of 1999, Lake Powell was essentially full with reservoir storage at 97 percent of capacity. Inflow volumes for five consecutive water years were significantly below average. Total unregulated inflow in water years 2000, 2001, 2002, 2003, and 2004 was 62, 59, 25, 51, and 49 percent of average, respectively. Lake Powell storage decreased through this five-year period, with reservoir storage reaching a low of 8.0 million acre-feet (33 percent of capacity) on April 8, 2005.

Hydrologic conditions improved in water year 2005 in the Upper Colorado River Basin. Lake Powell increased by 2.77 million acre-feet (31 feet in elevation) during water year 2005. Unregulated inflow to Lake Powell in water year 2005 was 105 percent of average.

Unfortunately, in 2006, there was a return to drier conditions in the Colorado River Basin. Unregulated inflow to Lake Powell in water year 2006 was 73 percent of average. Over the past 7 years (2000 through 2006, inclusive) inflow to Lake Powell has been below average in all but one year (2005).

Water year 2007 (which began on October 1, 2006) is trending dry. October 2006 featured much above average precipitation, but in the months of November, December, and January, the basin has received below average precipitation. The current projection for spring runoff into Lake Powell is 74 percent of average. It is likely that inflow to Lake Powell will be below average once again in 2007.

From: Nancy

TEAMWORK

It's a beautiful concept and readily achieved when the leader gives the team a vision of something more important than themselves and the members believe, with all their heart, that the vision is their destiny.

If the vision is lost, the concept of individuality fills the void and becomes the cancer that destroys the team from the inside out. But when all individuals are committed, passionately, to a common cause, the team concept thrives and the mission will be accomplished.

Jonni Joyce

"Proven experience" is likely one of the greatest obstacles to advancement.

07- 4 2- 16- 07 Something Happened Mineral Canyon Road

Confusing info at first put us on standby. Canyonlands 525 Jim Harbaugh responded to find 2 people walking out for gas and another back at the car. No problem for us to solve. 10-22, Responders: Bego, Duckie, Rex, Dave, Aug, James, Kris, Steve, Shawn

07- 5 2- 17- 07 Rimrocked Teen "Stranded by Topography" Arches NP

The initial report seemed to indicate he was not very far above the ground. When we got there, it was evident that the 15 feet he couldn't down climb was 60 feet above the ground. Oh my.

Gary and Bego tried to get up there but all we had was a hand drill. So Murray hiked in the electric drill. We were then there in seconds and lowered the teen to the ground.

Responders: Bego, Gary, Murray

Commentary by Bret::

Hey digitized campers,

Google-fired geosynchronized bragging has recently been simplified at about four web sites reviewed or linked from the useful Google Earth-use blog

http://www.ogleearth.com/2007/02/gps_wiki_tierra.html

An example site: <http://www.everytrail.com/index.php>

I anticipate that as gps units become as essential to stepping off the pavement as a metal Sierra Club cup was in the early 70s and as these sites become quick and easy ways to share info/routes/photos and claim bragging rights to the weekend warriors' outdoor exploits, we will see a proliferation of postings. These sites, or sites that aggregate from all such sites, will then provide easy access to Google Earth-based views of any part of the world with ALL posted routes inscribed and links to trip reports. A proper hike will begin and end online. A great hike will be measured by numbers of hits on the trip report. Hiking clubs with high hit rates will sell ads to purchase club hot tubs. Old timers will say kids these days.

[So I asked if I could post this in Silt. The reply:]

Of course that post can go in Silt, the readership should be alerted to the impending cyberfication. One more step into the online future and we are faced with calls to rescue hikers "lost" on Google Mars (which exists in beta, go to Google's "lab" section)!

Your club clairvoyant, Bret

"Safe does not mean risk free." Air Beat Magazine

FREEDOM IS NOT A LACK OF CONTROL BUT AN AWARENESS OF CHOICES.

CONTROL IS NOT A RIGID GRIP BUT AN AWARENESS OF CHOICES.

Survives 24 Days by Hibernating

A Japanese civil servant has described for the first time how he survived for more than three weeks in a mountain forest without food or water in what doctors believe is the first known case of a human going into hibernation. Mitsutaka Uchikoshi went missing on Mt Rokko in western Japan on October 7 after a barbecue with colleagues. Rather than joining them for the return trip by cable car, the 35-year-old decided to walk down the mountain, but lost his way, slipped in a stream and broke his pelvis.
Article continues

"On the second day, the sun was out, I was in a field, and I felt very comfortable. That's my last memory," he said, shortly before being discharged from Kobe city general hospital on Tuesday. "I must have fallen asleep after that."

When a passing climber found him 24 days later, Mr Uchikoshi's body temperature had fallen to just 22C (72F), he had a barely discernable pulse and he was suffering from multiple organ failure and blood loss. Doctors who treated

Mr Uchikoshi believe he lost consciousness after his fall and that his body's natural survival instincts kicked in, sending him into a state akin to hibernation as the temperature on the mountain dropped as low as 10C.

"He fell into a state similar to hibernation and many of his organs slowed, but his brain was protected," Dr Shinichi Sato, head of the hospital's emergency unit, told reporters. "I believe his brain capacity has recovered 100%."

Doctors said they did not expect him to experience any lasting ill-effects.

Mr Uchikoshi said he could not remember anything after the second day of his ordeal on the mountain, a popular spot for hikers and picnickers. One report that emerged while he was still in hospital said he had sipped bottled water and barbecue sauce before falling unconscious. Experts say it remains unclear how Mr Uchikoshi managed his extraordinary feat of survival with his metabolism almost at a standstill.

"This case is revolutionary if the patient truly survived at such a low body temperature over such a long period of time," Hirohito Shiomi, a professor at Fukuyama University, told the Associated Press.

"Researchers would have to clarify whether Uchikoshi's body temperature dropped very quickly, or whether he started losing body heat much later and was in fact dying when rescuers found him."

Mike Grocott, an intensive care specialist at University College London, said: "People can be profoundly hypothermic and survive for moderate periods of time [but] this sounds like an utterly extraordinary case. I haven't heard of one similar with anything like the same length of survival."

However, he added: "How they can say that he'll be completely unharmed I'm not sure. I would be more circumspect about the neurological and general outcome."

Scientists have long said human hibernation is theoretically possible, and could potentially be put to use to slow cell death when treating brain haemorrhaging and other fatal conditions.

In 2001, Canadian toddler Erika Nordby wandered outside at night in sub-zero conditions and was later found by her mother, almost frozen solid. Despite the fact that she was pronounced clinically dead - her heart had stopped beating for two hours and her temperature had dropped to 16C from the normal 37C - Erika made a full recovery.

Deep sleep

Hibernation is widespread in many animals and involves slowing down the activity of cells to almost a standstill, reducing the amount of oxygen needed to survive.

Humans do not hibernate naturally but, technically, it is not impossible: doctors regularly cool people to around 20C

during heart surgery but this is done for a few hours at most. Even then patients can suffer subtle neurological problems. "Whether it leaves you completely normal is less clear," said Dr Grocott.

In 2004, a German research team said lemurs had been discovered in Madagascar that hibernate for many months of the year, offering what they claimed was the first proof of hibernation in primates.

Last year scientists in America used hydrogen sulphide gas to induce hibernation in laboratory mice. This chemical occurs naturally in mammals and researchers said if its use could be adapted for this purpose in humans, it would prove useful for surgery and keeping organs viable for transfer.