

GENERAL GUIDELINES FOR PARTICIPANTS IN THE GEOLOGY PROGRAMME IN ANTARCTICA

At present there is no formal training programme for participants in the South African Earth Sciences Programme in Antarctica. Below are a set of suggestions and general advice to make life a bit easier in some cases, and a lot safer in others.

1. Join the Mountain Club of South Africa if possible in order to learn basic rescue operations, safety rules and simple mountaineering techniques, such as abseiling and the use of prusik loops or jumars for crevasse rescue. A good idea is to purchase a mountaineering text such as Alan Blackshaw's "Mountaineering", published in 1965 by Penguin Books Limited.
2. A first-aid course (Red Cross, St John's, Noodhulpliga) is essential. Your life or your partners' lives could depend on it.
3. BASIC RULES FOR SAFETY AND SURVIVAL IN THE FIELD

- (a) NEVER operate on your own. NEVER go out of sight of your partner(s). Even if you are still in view, remain within speaking distance. Once you have to shout to be heard, you may be too far away for safety. However, common sense should be used, because this last suggestion is not always practical.
- (b) If there is any doubt about the safety of terrain (crevasses, exposed rock faces, etc.) you must be roped up. One person must always be anchored while the second is moving. Learn to tie correct knots, which are illustrated in most standard texts. In crevassed terrain walk on skis and probe surface with an ice axe/rod to detect hidden crevasses. When the front party has successfully crossed a crevasse, do not assume that the same route will be safe for you. The passage of the first party may have effectively weakened the snowbridge due to the development of weight-induced fractures. Narrow (young) bridged crevasses are far more dangerous than wide (old) crevasses where years of snow accumulation has thickened the sagging bridge considerably.

- (h) Even minor frost-bite can be dangerous if unattended. Make sure that you know first-aid procedures and if there is any doubt, contact the doctor at Sanae as soon as possible. Tie gloves, knives, etc. to your person. Losing gloves or mittens may lead to the loss of hands or arms.
- (i) FIRE HAZARDS: One often has to warm a tent with a primus stove. Take extreme care that you don't kick the stove over while it is burning. Once the tent is warm, the stove should be extinguished. Carbon monoxide poisoning occurs very easily. NEVER let the stove burn when you are going to sleep. Do not attempt to dry clothing near an open flame.
- (j) NEVER store fuel of any sort in your tent.
- (k) Brandy is a suitable substitute for methylated spirits for starting a primus stove. It is not advisable to use petrol in primus-type stoves. The chances of soot and clogging, and spewing flames are good!
- (l) Make sure your fuel containers are closed properly during transport. Loss of fuel can lead to loss of life.
- (m) In case of an accident, or breakdown, remain at the site until help arrives. Obviously one must use discretion here. If you have had radio contact, or a party has been sent out for help, you must under no circumstances move away from the accident site.

When lost in a blizzard, use known wind-direction as an approximate direction guide, e.g. when a constant east wind is blowing and you are heading south, you will soon know that you are walking in the wrong direction when you feel the wind blowing from behind. Under such conditions one automatically tends to veer downwind.
- (n) When temporarily abandoning equipment/stores leave marker poles with flags to help relocation after possible burial by drift snow. Always place boxes in contact with each other, to save you much search-digging later and place markers at either end. They should be parallel to wind direction to prevent unnecessary accumulation of drift snow.

- (o) Take along a spare prismatic compass, in case one is lost or damaged, in areas where navigation depends on magnetic bearings.
- (p) Under very low temperature conditions, mittens are better than gloves. Fingers warm one another!
- (q) Don't try to be "brave" - fools rush in where angels fear to tread!. Liewer bang Jan as dooie Jan!
- (r) Get fit beforehand. This will not only make Antarctic work more pleasant, but will increase your personal safety, as well as the safety of your group.

4. ACCESSORIES AND ADVICE TO MAKE LIFE A BIT EASIER

- (a) For the sea cruise you should take a quantity of sea-sick pills, available at most chemists.
- (b) Prestik putty is very useful on the ship to keep small items such as pens, pencils and ashtrays from getting lost or sliding around.
- (c) Lip ice and a hand cream are essentials. Antarctica is the driest place on Earth, and one's hands and face can suffer tremendously.
- (d) Sunburn is a serious hazard. Take great care, and preferably use a cream or liquid that prevents sunburn.
- (e) Cameras: Ultraviolet filters are essential; rather take too much film than too little; an extra battery could be very useful. If you have used your camera in the cold, put it in a plastic bag before entering a warm environment such as the base, your tent, or the helicopter. Condensation inevitably takes place and one ends up with a wet camera if this rule is not obeyed.
- (f) Spectacles: If you normally wear spectacles take a spare pair. Never go into the field without dark glasses. Nylon spectacle "neck chains" prevent loss and ensure availability.
- (g) Wrist warmers are useful. Warm wrist-joints and a warm neck equal a warm body.

- (h) Adhesive plaster such as "Elastoplast" is very useful, e.g. it can be stuck to metal surfaces under very cold conditions.
- (i) Take extra reading matter along. You may be cooped up in a tent for long periods if weather conditons are poor, and a few paperbacks can save you from boredom.
- (j) Most important of all - take along a lot of common sense!

- (c) Most crevasse accidents occur during periods of poor visibility in which surface definition is poor or non-existent (white-out conditions). During these periods crevasse bridges are not easy to find, and if you have to travel during such conditions, the rules in (b) must be applied rigorously.
- (d) It is not always advisable to camp in the lee ("wind shadow") of a nunatak. When the wind velocity increases, turbulence can be pretty fierce. Furthermore, flakes of rock can pierce the tent, thus producing an incipient tear which can extend very rapidly.
- (e) Owing to the short field season, you may have to work for long periods at a time when the weather allows it. However, do not ever become so tired that you become careless or faulty in your judgement. Also remember that your body needs energy to stay warm. If your body's energy supply is exhausted, it is very easy to die of exposure if weather conditions change rapidly.
- (f) DO NOT exhaust yourself over short periods. Two effects can cause considerable harm. Perspiration forming on your skin can freeze when you cool down later. In very cold conditions this can be fatal. Rapid breathing of very cold air can also damage your lungs. Do not allow your body temperature to drop too low. It takes a long time for temperature to be fully restored. Thus, don't try to be tough, rather protect yourself adequately against the cold, in good time.
- (g) If you leave a base camp and there is any possibility that you could be cut off by a change in the weather, you should take a sleeping bag, karrimat, bivouac bag, spare footwear, and extra rations with you. When one party separates from another, always indicate destination, route, expected time/date of arrival and expected date of return. If a vehicle has to be abandoned, leave message in cab. This may be of value to search parties.