

Current status of mountain emergency medicine

ICAR MEDCOM

H. Brugger, Fidel Elsensohn, Dave Syme, Günther Sumann, Markus Falk
ICAR Congress Zakopane 2004



14 ICAR countries

Austria (A)

Canada (CA)

Croatia (CR)

Czech Republic (CZ)

England and Wales (E+W)

Germany (D)

Italy (I)

Poland (PL)

Scotland (SCO)

Slovakia (SK)

Slovenia (SLO)

Spain (E)

Switzerland (CH)

USA

Inquiry 2004



Ground mountain rescue

Rescuers

	Europe	NA	Total
Total rescuers	32150 100%	5385 100%	37535 100%
Governmental	522 2.2%	440 8.2%	962 2.6%
Non-governmental	31628 98.8%	4945 91.8%	36573 97.4%
Paid	3800 11.8%	1050 19.5%	4850 12.9%
Not paid	28350 88.2%	4335 80.5%	32685 87.1%

Physicians in mountain rescue

	Europe	NA	Total
Total physicians	1206 100%	110 100%	1316 100%
Anaesthetists	225 18.7%	0 0.0%	225 17.1%
Other specialists	380 31.5%	77 70.0%	457 34.7%
General practitioners	601 49.8%	33 30,0%	634 48.2%

Helicopter rescue Staff

	Continental Europe	E+W, NA, SCO	Total
Total helicopters	155 100%	592 100%	747 100%
Staffed with Physician	108* 69.7%	183* 30.9%	291 38.9%
Staffed with Paramedic	14** 9.0%	357** 60.3%	371 49.7%
Without medical personnel	33 21.3%	52 8.8%	85 11.4%

*,** P < 0.001

Physicians in mountain rescue

Specific training and abilities

Trained in mountain
emergency
medicine

Yes

A, CH, CR,
D, E, PL

No

CA, CZ, E+W, I,
SK, SCO, SLO,
USA

Trained in mountain
rescue techniques

A, CA, CH, CR,
CZ, D, E, E+W,
PL, SK, SLO, USA

I, SCO

Selected by
mountaineering
abilities

A, CA, CH,
CR, CZ, D, E,
I, PL, SLO, USA

E+W, SCO,
SK

MEDICO
NOTARZT

Paramedics in mountain rescue

Training and abilities

Trained in
first aid

Yes

A, CA, D, E, E+W, PL,
SCO, SK, SLO, USA

No

I

Trained in
mountain rescue
techniques

A, CA, CH, D, E+W, I,
SK, SLO, CH, USA

SCO

Selected by
mountaineering
abilities

A, CA, D, I, PL, SK,
SLO, USA

CH, E+W,
SCO



Mountain rescue

On-site treatment

CA,
USA

CR,
E+W

E, SLO

A, CZ,
D, PL,
SCO,
SK,

CH, I

According to
ILCOR or
ICAR guidelines

<25%

25-50%

50-75%

>75%

100%

The percentages vary significantly among the questioned countries ($P < 0.001$) and are positively correlated to the percentage of helicopters with physicians on board ($r = 0.76$, $P < 0.001$ Spearman rank correlation).

Helicopter rescue Mountain rescue involved

A, CA, D, I

As part of the
air rescue team

CH, CR, CZ, E, E+W,
PL, SK, SCO, SLO, USA

En demand
“picked up”

Keeping experienced rescuers permanently on the helicopter base is considered as the ideal condition for a professional air rescue in mountainous terrain.

1. ICAR MEDCOM recommendation

Physicians and paramedics should receive a standardised education and training in specific, mountain rescue related problems of emergency medicine according to protocols defined by ICAR-, UIAA- MEDCOM and ISMM*

* Peters P. Recent Developments in Mountain Medicine Education. In: Elsensohn F (ed) Consensus Guidelines on Mountain Emergency Medicine and Risk Reduction. Lecco: Stefanoni 2003:89-94.

2. ICAR MEDCOM recommendation

*All medical personnel operating in mountain rescue should be physically trained and selected for their mountaineering abilities according to ICAR MEDCOM recommendations.**

* Rammlmair G, Zafren K, Elsensohn F. Qualifications for Emergency Doctors in Mountain Rescue Operations. In: Elsensohn F (ed) Consensus Guidelines on Mountain Emergency Medicine and Risk Reduction. Lecco: Stefanoni 2003:31-32.

3. ICAR MEDCOM recommendation

Ideally physicians, paramedics and mountain rescuers in a helicopter mountain rescue team should be integrated as part of a regular flying crew, wherever logistically and economically possible. This would enable the highest possible reliability for a safe evacuation of the casualty.*

* Tomazin I. Activation and Rational Use of Rescue Helicopters. In: Elsensohn F (ed) Consensus Guidelines on Mountain Emergency Medicine and Risk Reduction. Lecco: Stefanoni 2003:85.

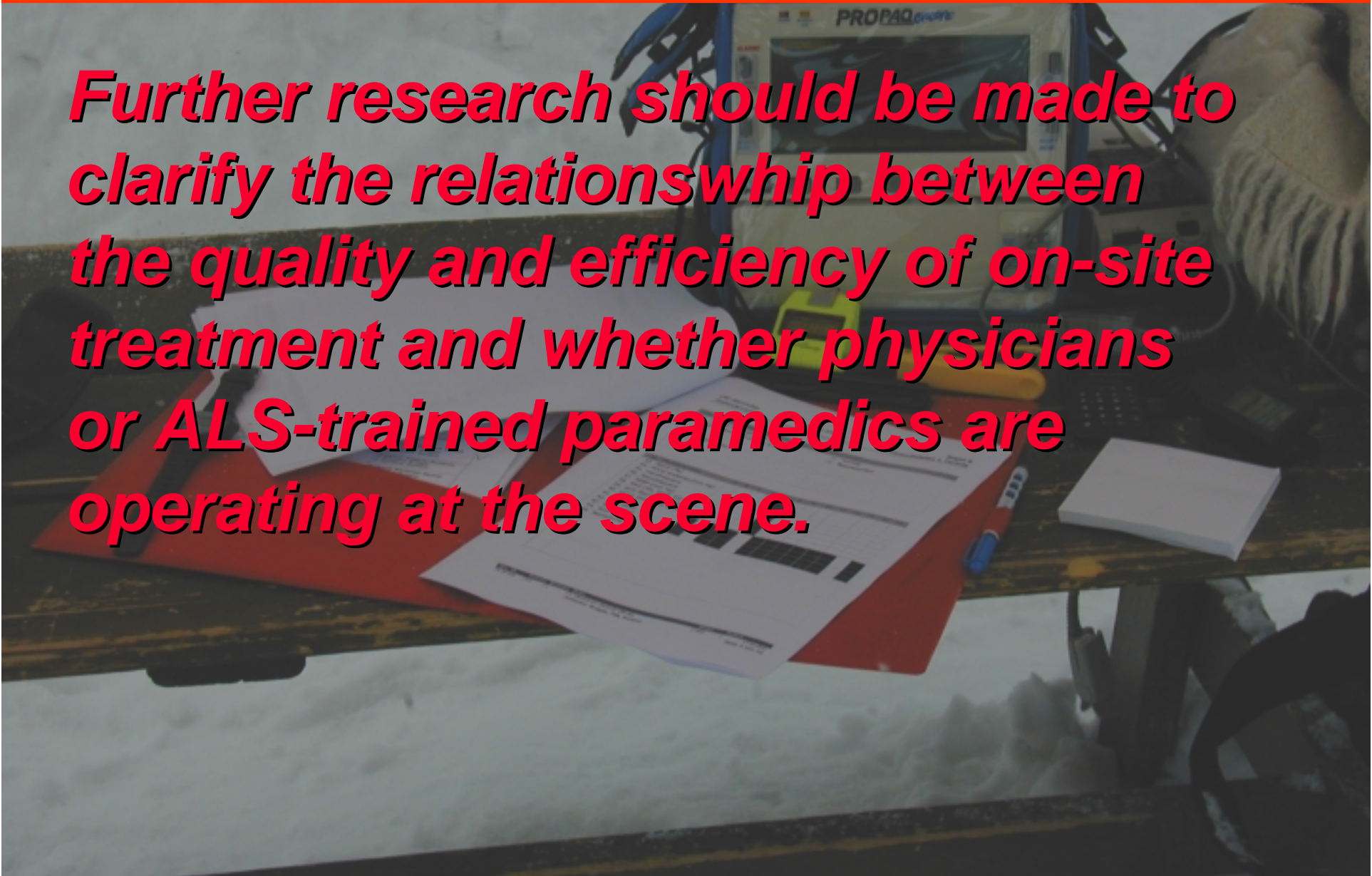
4. ICAR MEDCOM recommendation

The risk of using a helicopter for the evacuation of a casualty in mountainous areas should be balanced with the patient's benefit, according to the standards, approved by the International Commission for Mountain Emergency Medicine.*

* Tomazin I. Activation and Rational Use of Rescue Helicopters. In: Elsensohn F (ed) Consensus Guidelines on Mountain Emergency Medicine and Risk Reduction. Lecco: Stefanoni 2003:85.

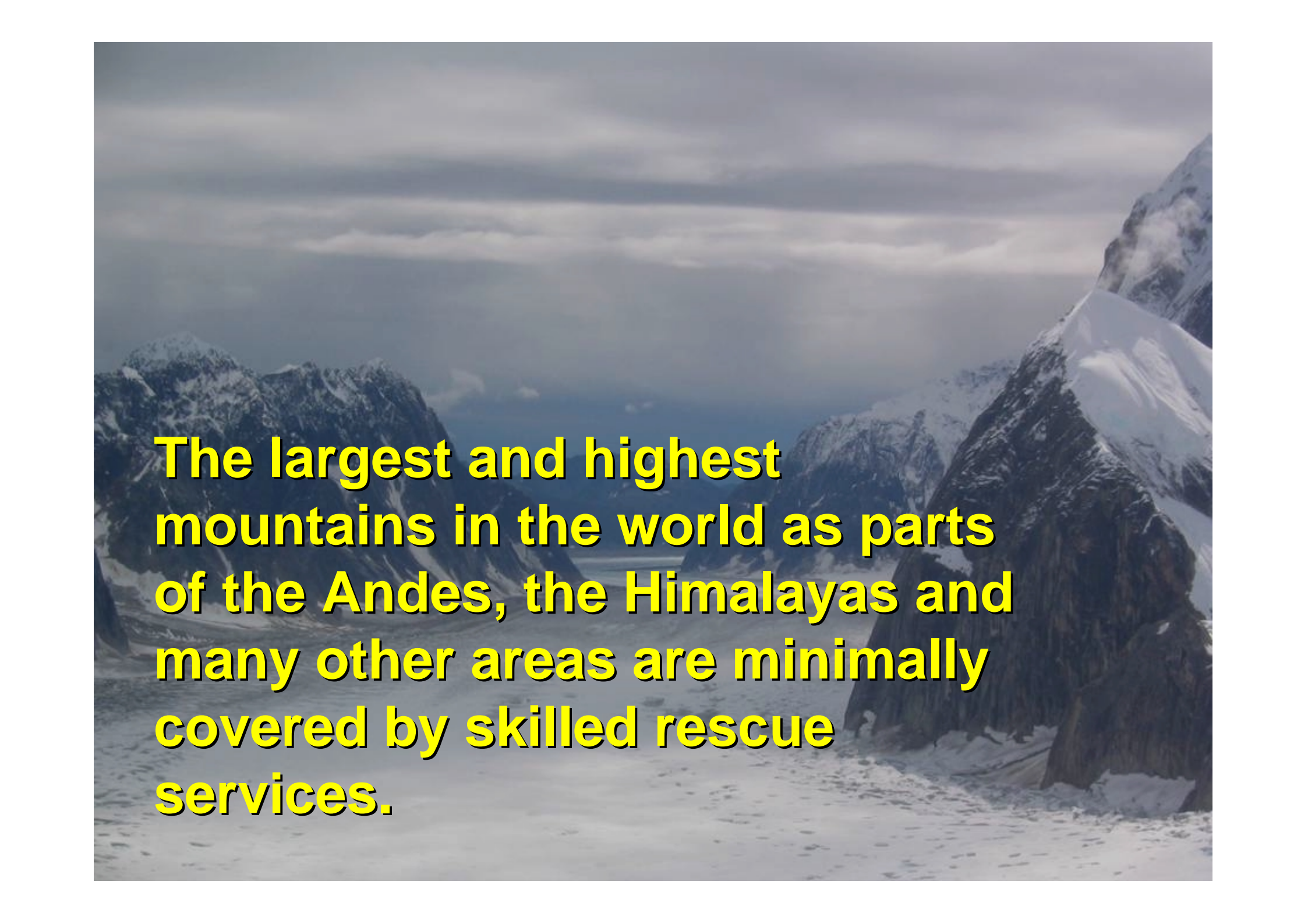
4. ICAR MEDCOM recommendation

Further research should be made to clarify the relationship between the quality and efficiency of on-site treatment and whether physicians or ALS-trained paramedics are operating at the scene.

The background image is a dark, slightly blurred photograph of a medical scene. In the foreground, there are several white papers and forms, some with text and checkboxes, resting on a surface. A red folder or bag is partially visible. In the background, there is a piece of medical equipment with a screen and the brand name 'PROPAQ' visible. The overall lighting is dim, suggesting an indoor or nighttime setting.

A photograph showing two mountain rescuers in white helmets and harnesses attending to a person on a rocky slope. The rescuer in the foreground wears a white helmet with 'HIGH STAR' and 'UIAA' logos. The person being attended to is wearing a red helmet and a purple shirt. The background is a steep, rocky mountain face.

**32.700 rescuers are
volunteering for
mountain rescue
operations without
being paid for their
activities**

A dramatic, high-altitude mountain landscape. The scene features rugged, snow-covered mountain peaks and ridges. The sky is filled with heavy, grey clouds, creating a somber and majestic atmosphere. The foreground shows a snowy, rocky terrain. The overall tone is cold and awe-inspiring.

The largest and highest mountains in the world as parts of the Andes, the Himalayas and many other areas are minimally covered by skilled rescue services.

