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The snow surveys were carried out two times on the slope facing north in Langtang Valley, the one in the winter season and the other in the spring season. The snow depth and the water equivalent of snow cover increased with the altitude. The coefficients which were obtained in the linear relationships between the altitude and these values did not change clearly in the two surveys.

The measurements in this report are one part of the Glaciological Expedition of Nepal/Langtang Project (Watanabe and Higuchi, 1987).

The snow surveys were carried out on the slope facing north in Langtang Valley, which is located 60 km north from Kathmandu, the capital city of Nepal.

The location of the snow survey route is shown in Fig. 1. The lowest and the highest observation points were 3700 m, a.s.l. and 4350 m, a.s.l., respectively. The observation points, where the altitude was 3800 - 3900 m a.s.l., were located in the deciduous forest and the other points were located on the bare land. The measurements were carried out at intervals of about 50 m height. These points were representative of surrounding condition.

The snow surveys were carried out two times, February 7 and 8, 1986 and April 6 and 7, 1986. At each point, a depth of snow cover and a weight of snow core were measured by a snow sampler of a diameter of 4.6 cm. The weight of snow core was not measured at several points in the second surveys, because there were not enough time.

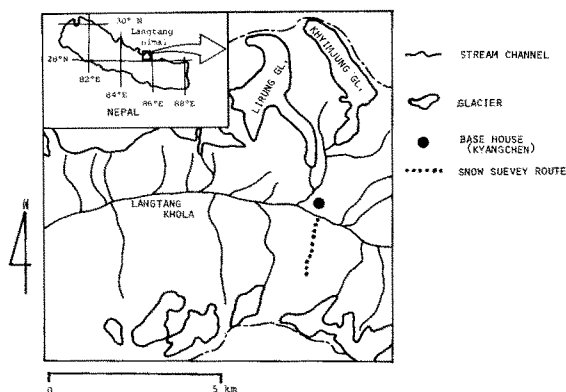


Fig. 1. Location of the snow survey route in Langtang Valley.

Table 1 shows the snow depth and the water equivalent of snow cover. The relationship between the alutitude and the snow depth is shown in Fig. 2. Fig. 3 shows the relationship between the alutitude and the water equivalent of snow cover.

The snow depth and the water equivalent increased with the altitude, but the range of distribution were large, especially on April 6 and 7, 1986.

The relationships on Feb. 7 and 8, 1986 were formulated as follows ;

Table 1. The snow depth and the water equivalent of snow cover on the slope facing north.

Feb. 7-8		
alt. (m)	Hs (cm)	Hw (mm)
3750	43.5	61.5
3800	44.5	67.5
3850	35.0	54.7
3900	40.5	57.3
3950	41.0	55.7
3980	48.5	54.6
4000	55.5	161.0
4050	62.5	181.3
4080	55.0	116.3
4100	65.0	146.5
4150	67.0	155.3
4200	69.0	122.6
4200	67.0	204.9
4250	72.0	167.1
4280	64.0	169.7
4280	78.0	240.6

Apr. 6-7		
alt. (m)	Hs (cm)	Hw (mm)
3700	9.0	25.0
3760	40.0	
3810	46.0	145.0
3850	34.0	90.0
3900	41.5	65.0
3960	36.0	78.0
4000	40.0	142.0
4080	51.0	141.0
4120	70.0	
4130	60.0	
4180	100.0	
4180	35.0	
4220	60.0	
4260	100.0	
4330	85.0	
4350	45.0	

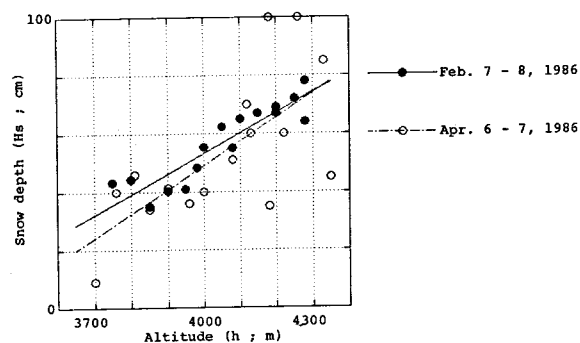


Fig. 2. Relationships between the altitude and the snow depth.

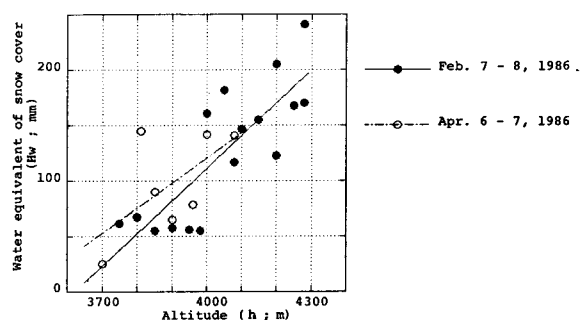


Fig. 3. Relationships between the altitude and the water equivalent of snow cover.

$$H_s = 0.0696 \times h - 225.4, \quad (1)$$

$$H_w = 0.294 \times h - 1066, \quad (2)$$

where  $H_s$  is the snow depth (cm),  $H_w$  is the water equivalent of snow cover (mm) and  $h$  is the altitude (m). The relationships on April 6 and 7 were formulated as follows ;

$$H_s = 0.0826 \times h - 281.6, \quad (3)$$

$$H_w = 0.225 \times h - 778.5, \quad (4)$$

The coefficients in these relationships did not change clearly in these two surveys.

#### 4. Acknowledgment

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#### Reference

- Watanabe O. and Higuchi K. (1987) :Glaciological studies in Asiatic Highland region during 1985-1986. Bulletin of Glacier Research, **5**, 1-10.