

Research on permafrost of Mt. Fuji and long term changes in moss and lichen community

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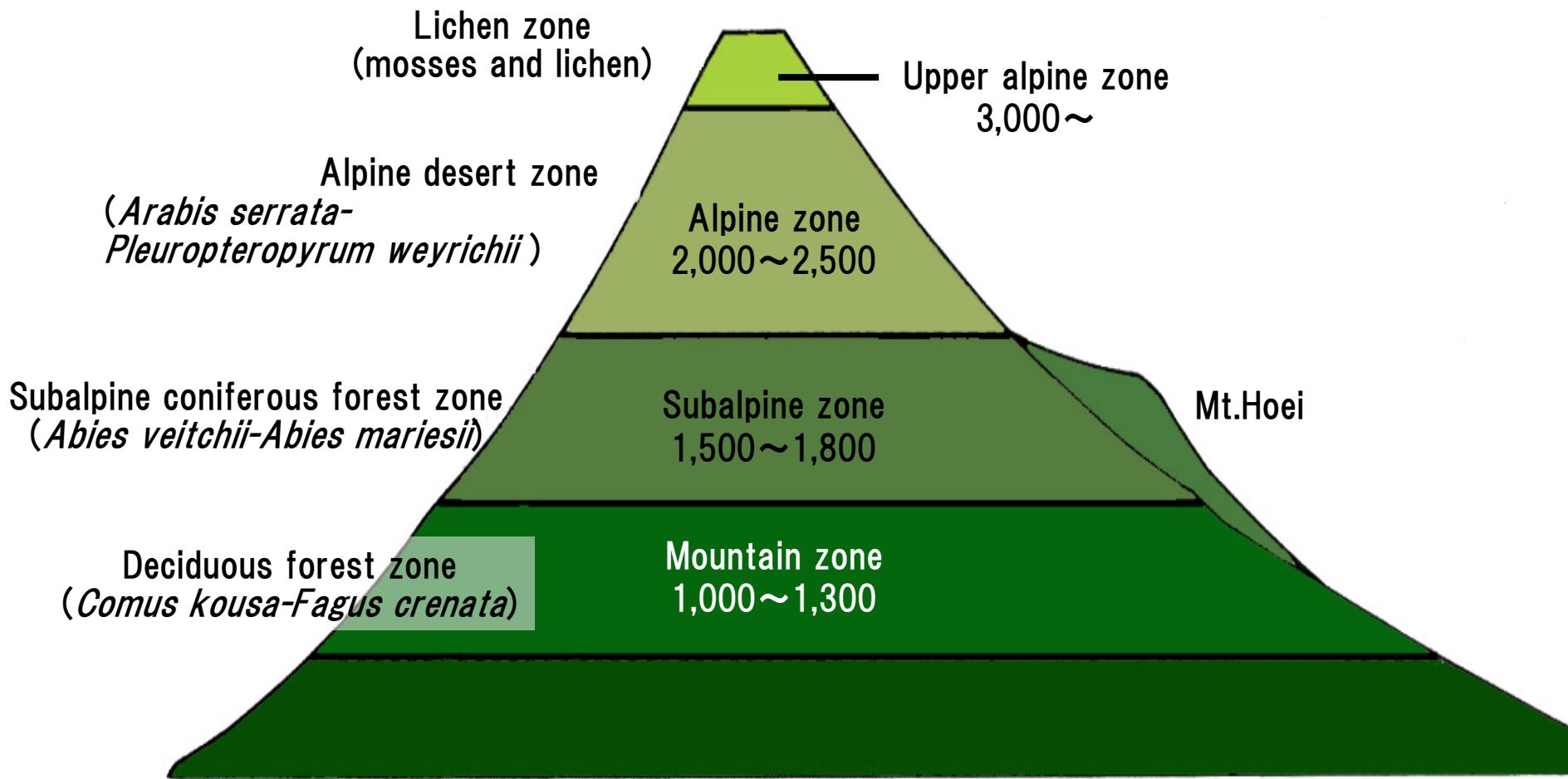


The observations on the active layer of permafrost were carried out at the summit of Mt.Fuji since 1970.



Near the Fuji-san Weather Station where the existence of permafrost was observed on the last of summer.

Vertical distribution of plant community and vegetation zone on Mt.Fuji





The existence of permafrost at the summit of Mt. Fuji was suspected by some of the staff members of the Japan Meteorological Agency who work at the Fuji-san Weather Station located at the summit.



Thickness of the active layer of permafrost was 50~200cm on the end of July.

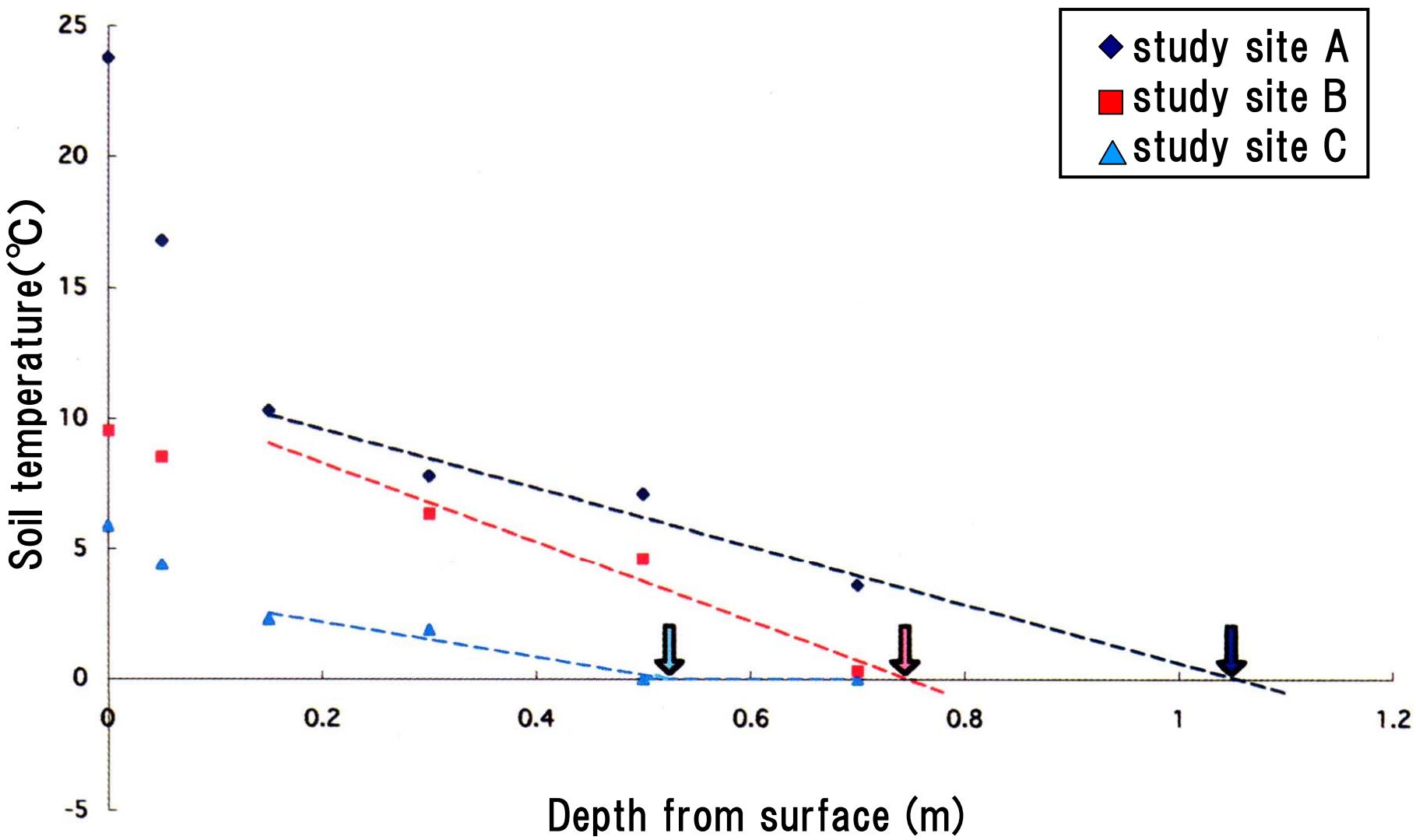
The mean annual air temperature at these elevation is $-1.4 \sim -1.8^{\circ}\text{C}$.

The observations on the distribution of permafrost at the summit have been made during the period on last of August in 1976 and 1998, when the air temperature at the summit is near the maximum.

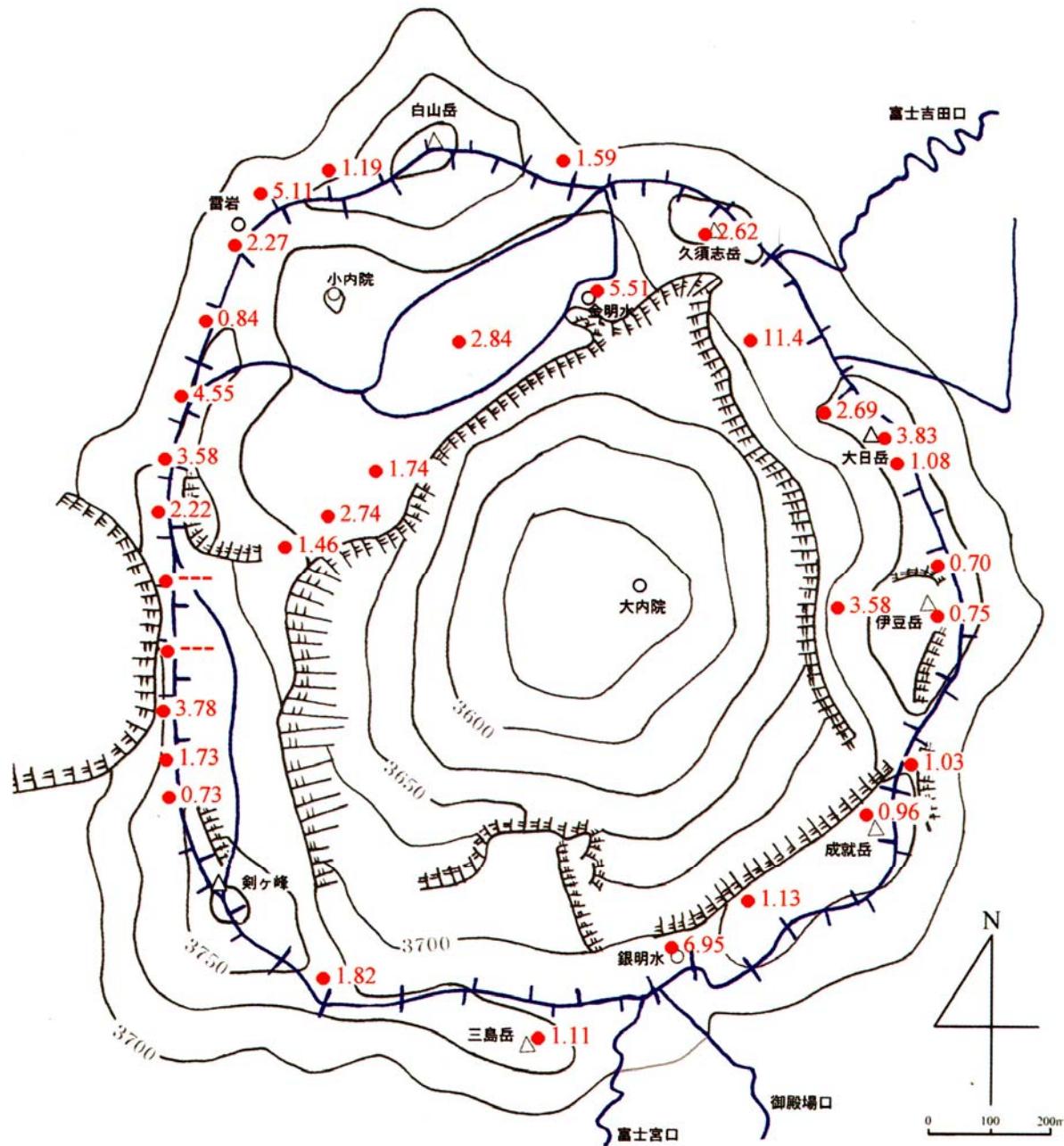




The depth to the permafrost was measured by date logger with long rod sensor.



Estimation of depth of permafrost at 70, 50, 30cm from soil surface.





Distribution of moss community at summit.

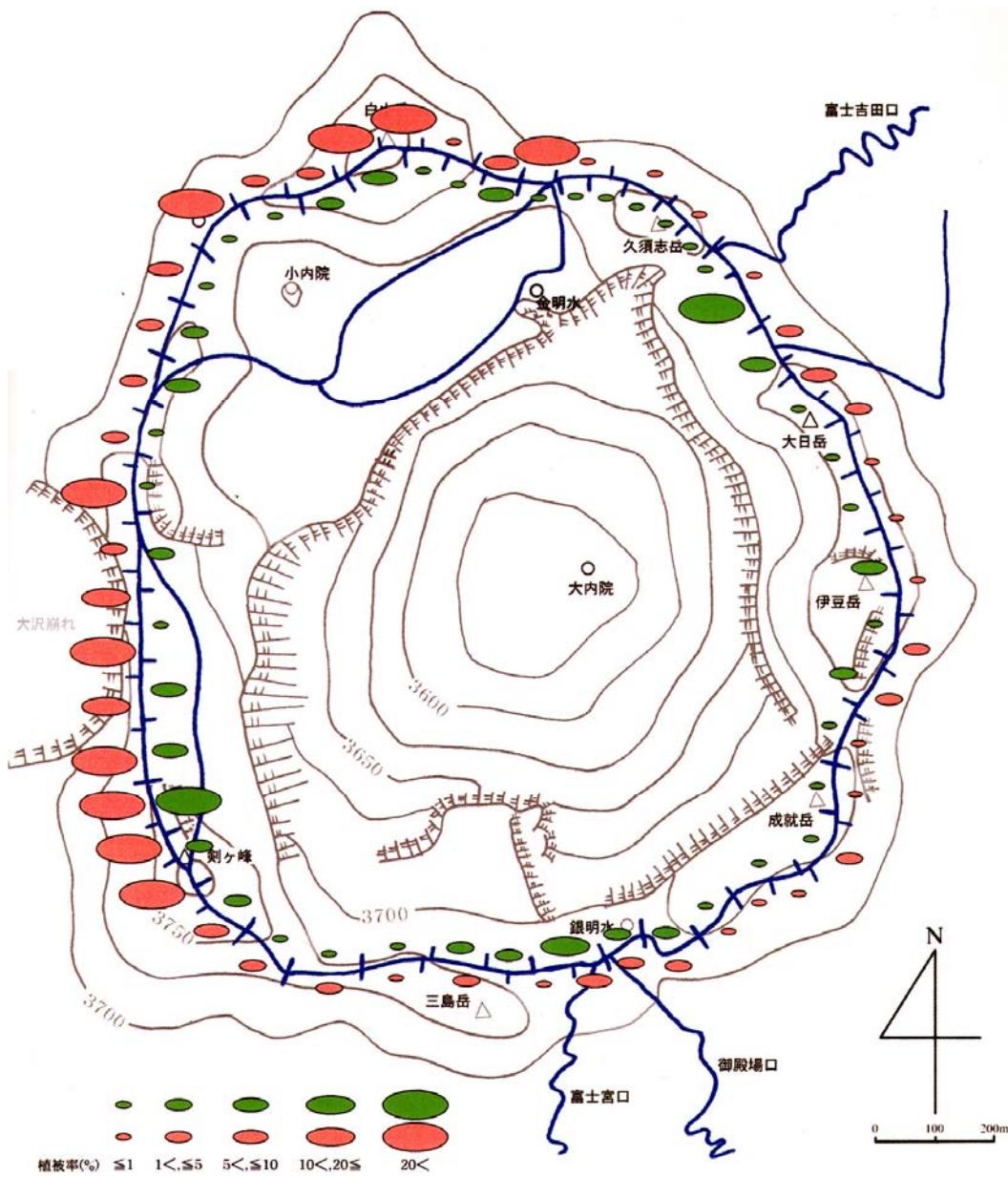


For the research on lichen and moss community, the permanent quadrats were set up.

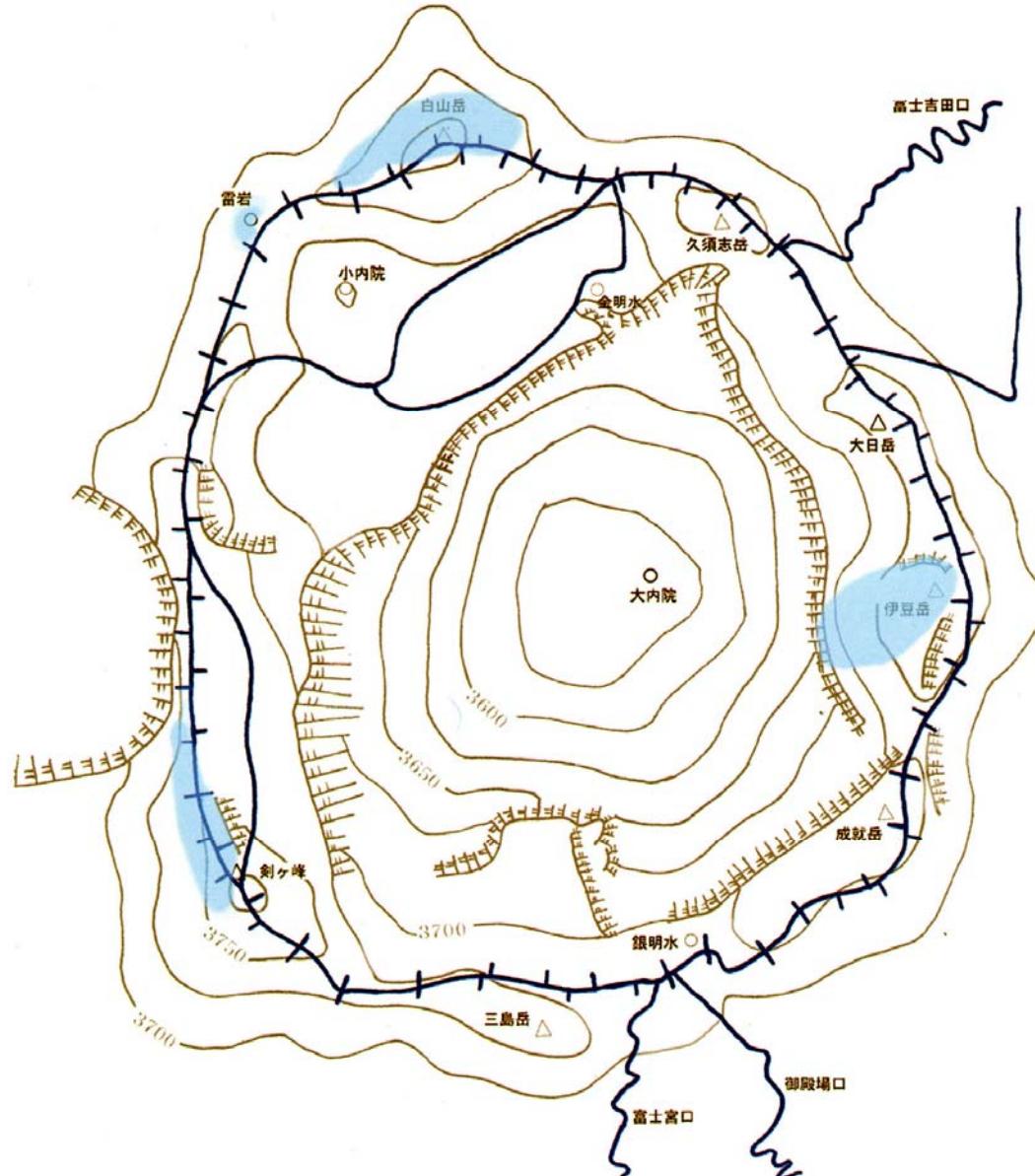
List of moss near the summit

<i>Pogonatum sphaerothecium</i> Sull. & Lesq.	タカネスギゴケ
<i>Pogonatum urnigerum</i> (Hedw.) P. Beauv.	ヤマコスギゴケ
<i>Polytrichum piliferum</i> Hedw.	ハリスギゴケ
<i>Ceratodon purpureus</i> (Hedw.) Brid.	ヤノウエノアカゴケ
<i>Aongstroemia julacea</i> (Hook.) Mitt.	フジサンギンゴケモドキ
<i>Arctoa fulvella</i> (Dicks.) Bruch & Schimp.	キシッポゴケ
<i>Grimmia apiculata</i> Hornsch.	ツリミギボウシゴケ
<i>Grimmia elongata</i> Kaulf.	ヤリギボウシゴケ
<i>Racomitrium ericoides</i> (Web. et Brid.) Brid.	ハイスナゴケ
<i>Racomitrium fasciculare</i> (Hedw.) Brid.	ミヤマスナゴケ
<i>Racomitrium lanuginosum</i> (Hedw.) Brid.	シモフリゴケ
<i>Pohlia bulbifera</i> (Warnst.) Warnst.	コモチヘチマゴケ
<i>Pohlia campotrichela</i> (Renauld & Card.) Broth.	キヘチマゴケ
<i>Pohlia cruda</i> (Hedw.) Lindb.	ツヤヘチマゴケ
<i>Pohlia flexuosa</i> Hook.	ケヘチマゴケ
<i>Pohlia nutans</i> (Hedw.) Lindb.	ヘチマゴケ
<i>Bryum argenteum</i> Hedw.	ギンゴケ
<i>Bryum capillare</i> Hedw.	ハリガネゴケ
<i>Bryum cyclophyllum</i> (Schwaegr.) B.S.G. Syn.	ランヨウハリガネゴケ
<i>Myurella tenerrima</i> (Brid.) Lindb.	トガリカイガラゴケ
<i>Sanionia uncinata</i> (Hedw.) Loeske	カギハイゴケ

Plant (moss community) cover degree

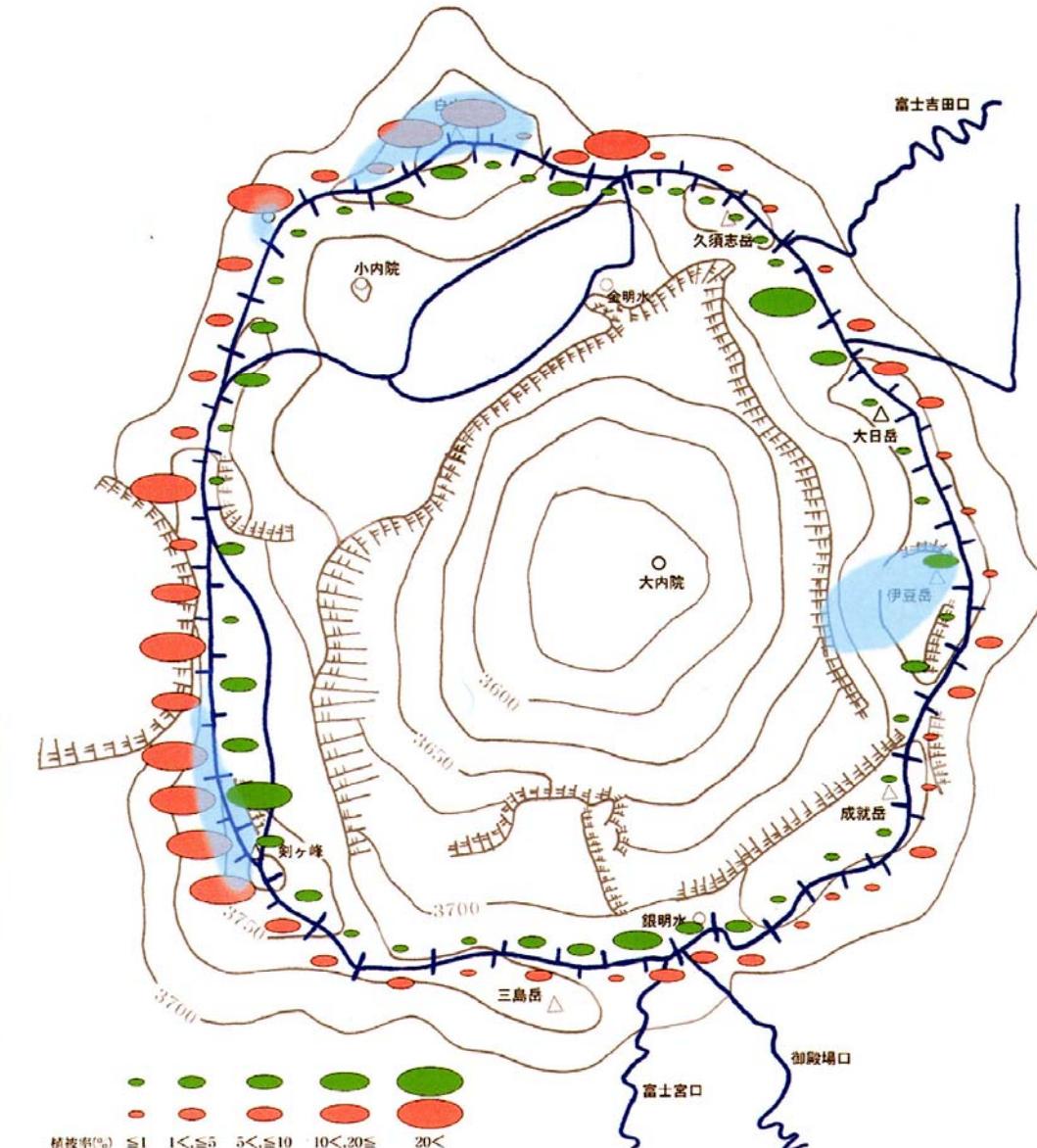


Existence of permafrost



Permafrost was observed at whole area of the crater rim of summit.

Lichen cover degree and permafrost



The active layer was thinner in the area where the deposited snow was deeper in winter.