

グリーンランド氷床における近年の浅層掘削

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Shallow ice core drillings on Greenland Ice Sheet - Recent and near future activities by Japanese glaciological research projects -

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We conducted two shallow ice core drillings on the northwestern (SIGMA-D) and southeastern (SE-Dome) Greenland Ice Sheet in 2014 and 2015 (Fig. 1), in order to reconstruct the recent climate and environmental changes such as concentrations and composition of anthropogenic substances, and their local effects on Greenland Ice Sheet with differences of annual accumulation rate, firn temperature, latitude, post depositional effect and so on. SIGMA-D ice core has 225 m in length and preserves about recent 800 years (Matoba et al., 2015). SE-Dome ice core has 90 m in length and preserves about recent 60 years (Iizuka et al., 2016; Oyabu et al., 2016). Features of the drilling site are summarized in Table 1. Also, we have a plan of a new ice core drilling on the northwestern (SIGMA-A in 2017) Greenland Ice Sheet to reconstruct understand how glacier's melt water has affected to marine environment. We will present recent and near future activities of the Japanese glaciological projects in Greenland.

Table 1. Information of ice core records

Site	Lat (°N)	Long (°W)	Elevation (m)	Temp (°C at 10m)	Accm. Rate (m weq. yr-1)	Depth (m)
SIGMA-D	77.64	59.120	2100	-25.6	0.25 (AD 1660-2013)	225
SE-Dome	67.18	36.37	3170	-20.9	1.00 (AD 1960-2015)	90

References

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Figure 1. Drilling sites