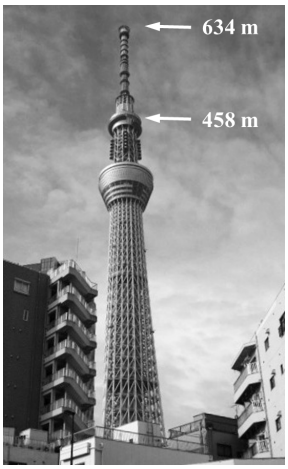
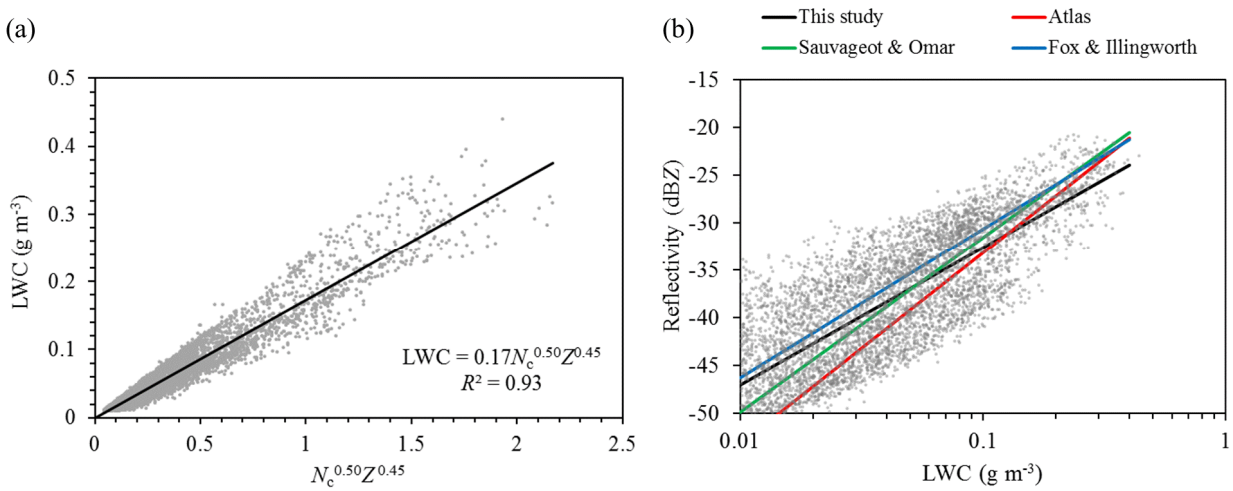
Misumi, R., Y. Uji, Y. Tobo, K. Miura, J. Uetake, Y. Iwamoto, T. Maesaka, and K. Iwanami, 2018: Characteristics of droplet size distributions in low-level stratiform clouds observed from Tokyo Skytree. *J. Meteor. Soc. Japan*, **96**, 405-413.
https://doi.org/10.2151/jmsj.2018-040




←
Figure 1. Tokyo Skytree.

↓Figure 2. (a) Relationship between $N_c^{0.50}Z^{0.45}$ and LWC. The solid line indicates the regression line. (b) Relationship between radar reflectivity and LWC observed from Tokyo Skytree (gray spots) and the regression line (black line). The *Z*–LWC relationships proposed by Atlas (1954), Sauvageot and Omar (1987), and Fox and Illingworth (1997) are indicated by red, green, and blue lines, respectively.




- Continuous observations of cloud droplet size distributions in low-level stratiform clouds have been conducted at a height of 458 m from Tokyo Skytree (Fig. 1; a 634-m-high broadcasting tower in Tokyo) using a cloud droplet spectrometer.
- The mean cloud droplet number concentration ($N_c$), average diameters, and effective diameters of cloud droplets in non-drizzling clouds were 213 cm$^{-3}$, 7.3 μm, and 9.5 μm, respectively, which are close to the reported values for continental stratiform clouds.
- The relationship between liquid water content (LWC; g m$^{-3}$), $N_c$ (cm$^{-3}$), and radar reflectivity ($Z$; mm$^6$ m$^{-3}$) was estimated as LWC = $0.17N_c^{0.50}Z^{0.45}$, with a coefficient of determination ($R^2$) of 0.93 (Fig. 2a).
- The $Z$-LWC relationship is close to those in the other studies when LWC < 0.4 g m$^{-3}$ (Fig. 2b).