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Reconstruction of typhoon tracks affected Kyushu, western Japan in 1828.

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Historical daily weather documents provide useful information for reconstructing typhoon track during historical period in Japan. We attempted to reconstruct tracks of typhoons affected Kyushu, western Japan in 1828 using historical weather documents. Konishi(2010) revealed that an extremely strong typhoon made landfall in Kyushu on September 17 1828 (known as “Siebold Typhoon”). About 20,000 people were estimated to have been killed by the “Siebold Typhoon”. A Dutch ship was wrecked by the strong winds of this typhoon, in which many valuable (but illegal to export) documents and maps of Japan collected by a German physician Philipp Franz von Siebold were found out. As a result, he was arrested and expelled from Japan in 1829 (“Siebold Incident”). In addition to the “Siebold Typhoon”, we newly revealed that three typhoons (July 10, August 12, October 2) made landfall in Kyushu in 1828. Among them, two typhoons (July 10 and October 2) made landfall in the same area as the “Siebold Typhoon”. On the other hand, August 12 typhoon made landfall in eastern Kyushu, which differs from the “Siebold Typhoon” . In 1828, daily meteorological observations were made by Siebold and his colleagues at a small artificial island “Dejima” (Nagasaki) in western Kyushu. By analyzing their pressure data, we detected decrease of atmospheric pressure (lower than 1000hPa) corresponding to passage of four typhoons, including the “Siebold Typhoon”. We also revealed that unusually high number of typhoons made landfall in Kyushu in 1828 by analyzing interannual variations in frequency of storm surge events during the 19th century.