

August 10, 2023

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Editorial Committees of SOLA

Call for Papers:

“Advances in Studies of Torrential-Rain-Producing Quasi-Stationary Band-Shaped Precipitating Systems, or ‘Senjo-Kousuitai’ ”

in the Special Edition of *Scientific Online Letters on the Atmosphere (SOLA)*

During the warm season in Japan, torrential rainfalls frequently occur and sometimes spawn disasters that significantly affect society. In response to recent disasters due to extremely heavy rainfalls (such as the July 2017 Northern Kyushu rainfall, the July 2018 heavy rainfall, and the July 2020 heavy rainfall), the understanding and prediction of weather phenomena that generate torrential rainfalls have been recognized as a prerequisite to the prevention and mitigation of heavy rainfall disasters. In particular, quasi-stationary band-shaped precipitating systems are one of the major factors that may induce heavy rainfall disasters. Therefore, it is critically important to understand more deeply the characteristics of the quasi-stationary band-shaped precipitating systems and to improve the accuracy of predicting such precipitating systems. In the Baiu season 2022, an intensive observation campaign of precipitating systems in Japan was conducted through collaboration among the Japan Meteorological Agency (JMA) and several universities and research institutes in Japan. In the summer of 2022, the quasi-stationary band-shaped precipitating systems develop in various regions in Japan, enhancing people’s awareness of the threat of those precipitating systems. From an operational viewpoint, JMA has started issuing weather information on localized torrential rain since June 2022 and then rapidly disseminating such information by incorporating improved precipitation nowcasts for up to 30 minutes. In this way, JMA is advancing technological developments to mitigate heavy rainfall disasters due to the quasi-stationary band-shaped precipitating systems. In addition, a new regional reanalysis dataset using past weather radars and observations is now under development, enabling the analysis and investigation of historical heavy rainfall events from a modern perspective. In this special edition, we welcome submissions of studies on the characteristics, mechanisms, predictability, and climate change impacts of torrential-rain-producing, quasi-stationary band-shaped precipitating systems in Japan and its surrounding oceanic areas, such as studies on events observed during the intensive observation campaign of precipitating systems during the Baiu season in Japan; studies on recent cases of the quasi-stationary band-shaped precipitating systems that caused torrential rainfalls; studies on historical extreme events with the use of new reanalysis data; and analysis of the impacts of future climate changes.

On the designation of Quasi-Stationary Band-Shaped Precipitating Systems, or ‘Senjo-Kousuitai’ in the paper:

The name ‘senjo-kousuitai’ is well recognized in Japan, but the English name has not yet been determined. Based on the characteristics of the phenomena, it was decided to use the term ‘quasi-stationary band-shaped precipitating systems’ for the title of this special edition. In the literature, ‘quasi-stationary mesoscale convective systems’ is often used for similar phenomena. Kato (2020) suggests using the Japanese term ‘senjo-kousuitai’ for such precipitation systems that produce intense rainfall in Japan. In this special edition, authors are encouraged to define the designation of the precipitation system in their paper in their insight.

Kato, T., 2020: Quasi-stationary band-shaped precipitation systems, named "senjo-kousuitai", causing localized heavy rainfall in Japan. J. Meteor. Soc. Japan, 98, 485-509. Available at: <https://doi.org/10.2151/jmsj.2020-029>

About Submission

Please submit the manuscripts on our online submission system.

SOLA: <https://mc.manuscriptcentral.com/sola>

Choose ‘Quasi-Stationary Precipitating Systems’ during the submission process. Please also mention that your submission is for “Advances in Studies of Torrential-Rain-Producing Quasi-Stationary Band-Shaped Precipitating Systems, or ‘Senjo-Kousuitai’ ” in the cover letter.

The submitted manuscripts follow the ordinary review procedure. Those papers not in time for submission or publication in the special edition may be considered for publication in ordinary issues.

Important dates

Deadline for submission:

~~SOLA: August 31~~ SOLA: November 30, 2024

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