
JRA-3Q: Japanese Reanalysis for Three Quarters of a Century

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Abstract

Reanalysis has been playing a crucial role in JMA's climate services and related activities, such as climate monitoring, seasonal forecast modelling and climate research underpinning them, by providing long-term, high-quality climate data. To further improve the quality of reanalysis data, thereby contribute to advancing climate services and applications, JMA is currently conducting the third Japanese global atmospheric reanalysis, called the Japanese Reanalysis for Three Quarters of a Century (JRA-3Q). It covers the period from the late 1940s to present and the initial release of the data for the 1990s onwards is planned around the end of 2021.

JRA-3Q is being produced with the TL479 resolution version of JMA's operational data assimilation system as of December 2018, which was extensively improved since the JRA-55 reanalysis was conducted. In JMA's Global Spectral Model, for example, biases of radiation budget, surface sensible/latent heat fluxes and precipitation have been significantly reduced due to extensive improvements of parameterisations for physical processes. A boundary condition over the ocean for the mid-1980s onwards is also replaced with satellite-based high-resolution (0.25-deg) SST data to improve the representation of atmospheric processes around the western boundary currents and associated SST fronts.

This presentation provides an overview of JRA-3Q and an initial evaluation of its characteristics and performance.

Keywords: global atmospheric reanalysis

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