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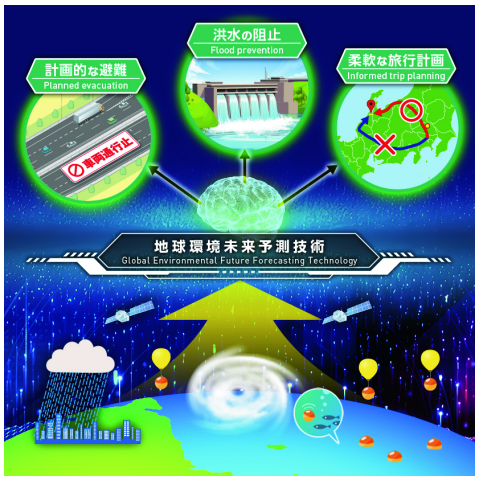
Forecasting will be improved through super-wide-area atmospheric and oceanic observation

Proactive environmental adaptation through extreme weather forecasting

IOWN Future

Sustainable Technology to Nurture the Earth



Background

To improve extreme weather forecasting, it is necessary to quickly and accurately understand ocean phenomena. Direct observation is indispensable, but currently ocean observation is insufficient, and observation under extreme weather is difficult.

Summary

We succeeded in acquiring valuable data on atmosphere and ocean directly beneath the typhoon, such as a sudden to 940 hPa drop in air pressure. Through the accumulation of observation data, we aim to improve typhoon prediction models by elucidating the mechanisms of air-sea interactions.

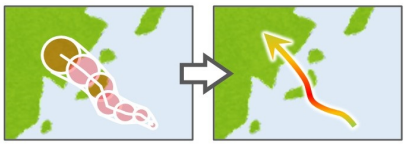
Super-wide-area atmospheric and oceanic observation technology

① Super-wide-area IoT sensing
② Position control by natural energy
③ Robust typhoon observation platform

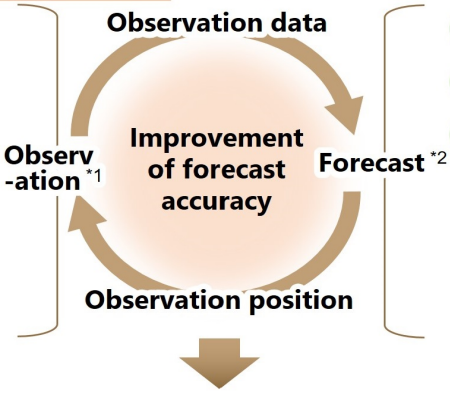
*1 Joint research with Okinawa Institute of Science and Technology OIST

Meteorological modeling technology

① Initial-state Estimation
② Model Improvement
③ Observation system simulation



*2 Joint research with Typhoon Science and Technology Research Center, Yokohama National University TRC YNU



Features

- Using technology to operate remotely, we made the world's first atmospheric and oceanic observations and aim to global observation with a large number of autonomous instruments
- Observation data is valuable to clarify the mechanism of the interaction between atmosphere and ocean. We aim to improve forecasting by observation data into the prediction model

Future_benefits

We will achieve a resilient society that coexists with extreme weather by improving the accuracy of forecasts and contribute to protecting social infrastructure and activities.

Collaboration partners

Okinawa Institute of Science and Technology (OIST), Typhoon Science and Technology Research Center (TRC), Institute of Multidisciplinary Sciences, Yokohama National University

Exhibiting Company

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Contact

rdforum-exhibition@ml.ntt.com

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