

The New Method to forecast the Path of Typhoon

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It is an important operation to forecast the path of typhoon. It well know that the leading function of the average air stream of environment field is the primarily mechanism. But in practical, the movement path of typhoon is much complexity; Many factors and the physics processions have not been recognized. The energy of typhoon are coming from the coagulate latent heat of water vapor. The theory of CISK indicated that the coagulate latent heat of water vapor acts a critical function on the formation typhoon. But there are no such researches about the coagulation heat of water vapor latent heat act the movement of typhoon. The paper utility unconventionality data (NCEP temperature data) to diagnose the relationship between the abnormal temperature increase and movement orient in the future, and draw some thinks and the technique methods to forecast the movement orient of typhoon. 1. Data processing and think The paper uses the real-time data of NCEP to diagnose the move path of typhoon. Regarding the environment field before typhoon formation as the basic normal field, the typhoon as the disturb resource. Going with the movement of typhoon (disturb), the site, the time, the orientation environment field would change or change ahead. Basing on the mechanism of the CISK, and account for the typhoon is the warm center cyclone, convection activity, in middle and super stratum there are plenty of vapor coagulate and release lots of heat, form the "warm core", we choose the temperature field of 300-200 hPa as the research object, use the new time temperature data subtracts temperature of ahead under the same condition, obtain a series of temperature change images, get the environment temperature change range and the trends of the figure shape change. Summary the four kinds deploy model images of temperature change field near the typhoon and the future move orient (figure omit): the abnormal temperature increase center are all nearby the typhoon, (1) the axes trends toward the S-N, the typhoon would shift to the north (or to north- west); (2) the axes trends toward the S-N, the typhoon would shifts to the west (or to north- west); (3) the axes trends toward the NW-SE, the typhoon would shifts to the north- west; (4) the axes trends toward the NE-SW, if the high temperature center is near the typhoon, the typhoon would shift to the south; Under the case of the high temperature center is far ahead of the typhoon, the typhoon would shift to the east-north, when the typhoon already move toward the east-north, the typhoon would be accelerated. 2. The case of application Using the above method, we carry on the statistics and the analysis the movement orient of typhoon that lands on our country East China or offshore changes to northwest Pacific Ocean since from 2003 to 2004, discover that there are exist some abnormal temperature increase in some direction and distributing shape, shaft orient change at

the level of 300-200 hPa. These signals indicate the orient of typhoon shift in the future, especial for the suddenly changing in the direction. Further, the more strength of typhoon, the more temperature increase fiercely. For example, during the procession "Rananim", the temperature increases research 9 centgrade; the temperature increases research 13 centgrade before hurricane of "Katrina", we successfully forecast the land spot and the move path. 3. Conclusion Using the temperature data of NCEP, it can better reflect the feedback action between the typhoon and the environment field. The temperature increase maybe indicate the convection activity much strong, release lots of energy, lead to the environment temperature increase and in favor of the typhoon maintain and develop. The temperature abnormal area and pattern have the significance instruction to hint the typhoon move orient in future. It show that the typhoon migrate toward the "warm center", It does not necessarily mean the high temperature, it is the temperature increase largely. When the pattern didn't change, the typhoon would keep its' own move direction. If the pattern changes largely, the typhoon would change the migration orient in 3-12 hours. The high temperature area or the direction of ridge axes would indicates the orient of the typhoon move toward in future.