



MAHASRI and related Japanese Projects (JEPP)



Japan EOS Promotion Program (JEPP) Theme 2-2 by Prof. Matsumoto, U-Tokyo Development of rainfall observation system in Southeast Asia

Objective: Develop rainfall observation system in order to understand water cycle and its variability by climatic changes in tropical Asian monsoon region over Indochina

(1) Research on rainfall distribution (2) Research on flood prediction Rainfall observation by automatic rain Rainfall estimation using radar and gauges and development of real-time satellite observation and its data transmission system application to flood prediction Automatic rain gauge Networks Rainfall India, Bangladesh 36 estimation Thailand 18 by satellite Vietnam 33 observatio n の1時間積算値 アメダスの1時間雨量 面的に得られる雨量 正確な雨量 面的で正確な雨量 Radar data + Raingauge data \rightarrow Composite rainfall data

Flood prediction



Topographic Setting of Danang area



Just the • South of Hai Van Pass (雲海峠), "climatic divide" of Viet Nam

Source : Google Earth

A heavy rainfall event in central Vietnam in November 2-3, 1999

Climatological monthly precipitation at Hue

800

600

400

200

- Precipitation on Nov. 2 and 3, 1999 in Hue (16.4N, 107.7E) is more than 800 mm/day.
 - the maximum precipitation event since 1951. ٠
- Heavy rainfall concentrates in central Vietnam east of the Annam range.



Circulation field and possible causal mechanisms:

 Prior to the heavy rainfall, monsoonal northeasterly over the South China Sea strengthened.

- How? (Causal mechanism)
 - Some cold-surge-like features were observed.
 - westward-moving disturbances (TD, Rossby waves, etc.)?
 - Upper-level trough?
- Attempt to reproduce with MM5.







Stream line and wind speed at 925hPa. (JRA25)

• Diurnal and seasonal rainfall variations by automatic rain gauge at Hiep Duc, central Vietnam in 2004

