## **Evaluation Design for Weather Modification in Indonesia**

TRI H. SETO, BUDI HARSOYO, SUNU TIKNO, SAMSUL BAHRI

Agency for the Assessment and Application of Technology, Indonesia

Agency for the Assessment and Application of Technology, Indonesia has conducted the Weather Modification Technology since 1987 to enhance rainfall. However, it is very difficult to evaluate the enhancement. Cloud activity over the Indonesian Maritime Continent (IMC) shows variations with various time scales: interannual and seasonal variations, intraseasonal variations, and variations with periods of less than several ten days. Other than cumulus activity with a period of longer than several days, diurnal cycle of cumulus convection induced by local circulation (land-sea and/or mountain-valley breeze circulation) is also prominent because the IMC is composed of many islands and the surrounding sea. These variations cause large deviation on average of climatologically rainfall.

In this study, evaluation design of rain enhancement is constructed. Evaluation is designed using statistical method and physical method. Statistically, target control method is applied. For the first, control areas are tried to be defined. Variability on temporal and spatial scale causes the difficulty to choose control area. Since this difficulty, control area may be different along year. Physical evaluation is conducted using weather radar. Using a certain criteria, seeding decision is decided by randomize technique. Quantitative evaluation is applied to examine seeding effect on rain enhancement.

Keywords: evaluation design, control area.

## References

- [1] T. H. Seto et al., Ann. Geophys. 22, 3899-3916 (2004).
- [2] K. A. Brownlee, J. Am. Stat. Ass., 55, 291, 446-453 (1960).