



BMKG

# Monsoon Research: Experiment and Future Plan

by

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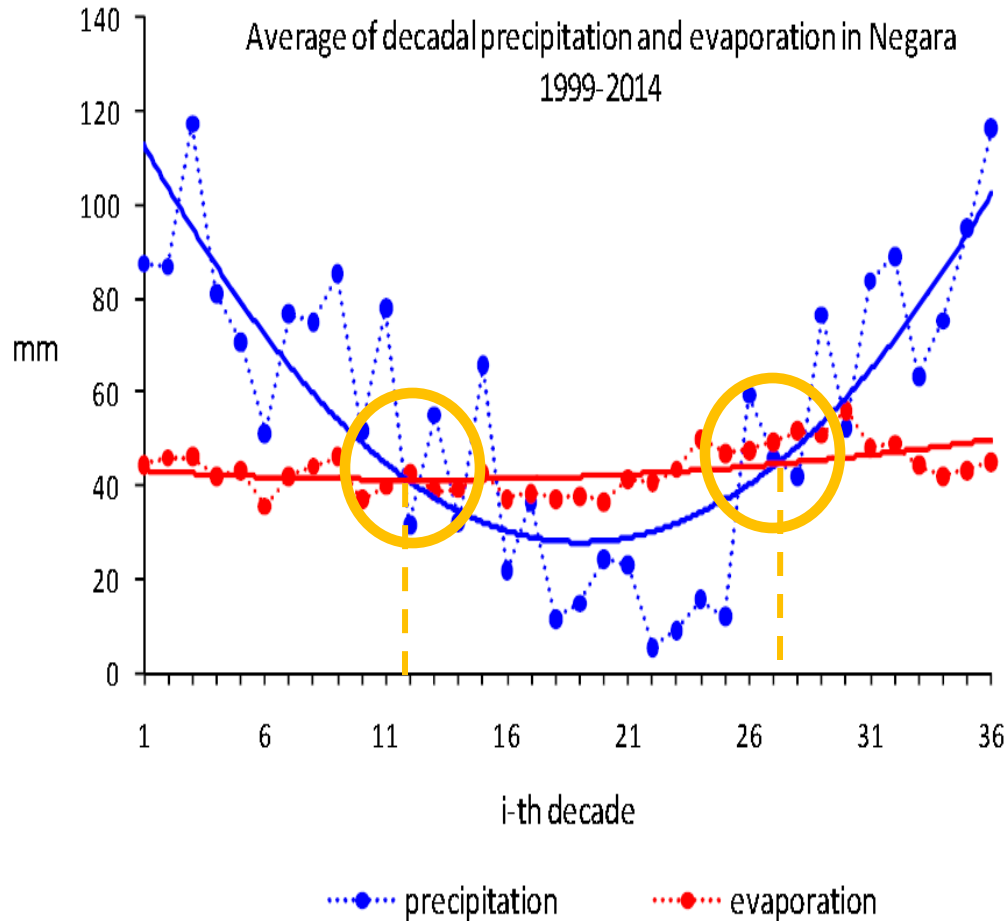
-R&D Centre of BMKG-



# Experimental Monsoon Onset Forecasting



Wet season onset (Staklim Negara)



	Dekad (10 days)	Minimum rainfall in dekad (mm)
Wet season onset	27.1	44.6
Dry season onset	11.9	41.3

Year	True Onset		BMKG	
	Start	End	Start	End
1999/2000	29	17	29	11
2000/2001	31	17	31	11
2001/2002	36	11	36	8
2002/2003	31	13	31	7
2003/2004	26	9	26	9
2004/2005	32	12	32	11
2005/2006	28	15	28	13
2006/2007	3*	11	3*	11
2007/2008	29	10	35	9
2008/2009	33	15	33	10
2009/2010	36	--	11*	--
2010/2011	--	15	--	3
2011/2012	29	14	29	9
2012/2013	34	21	34	21
2013/2014	35	14	35	9

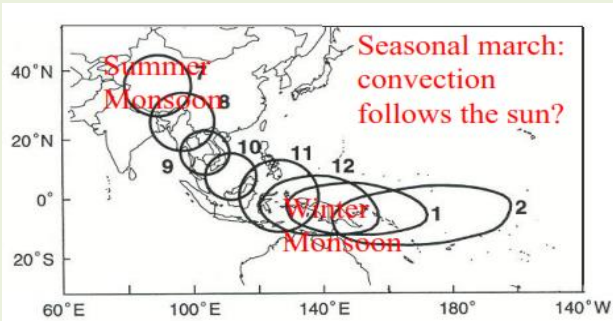
Notes:

\* Falls on the same year  
-- 2010 wet season all year long

# Topic of Research Interest: *'Conceptual Model of the Maritime Continent Monsoon'*

The Maritime Continent monsoon is considered as **the transition regime between the Asian summer monsoon and Australian summer monsoon**, both in space and time (Chang, 2006).

## Seasonal migration



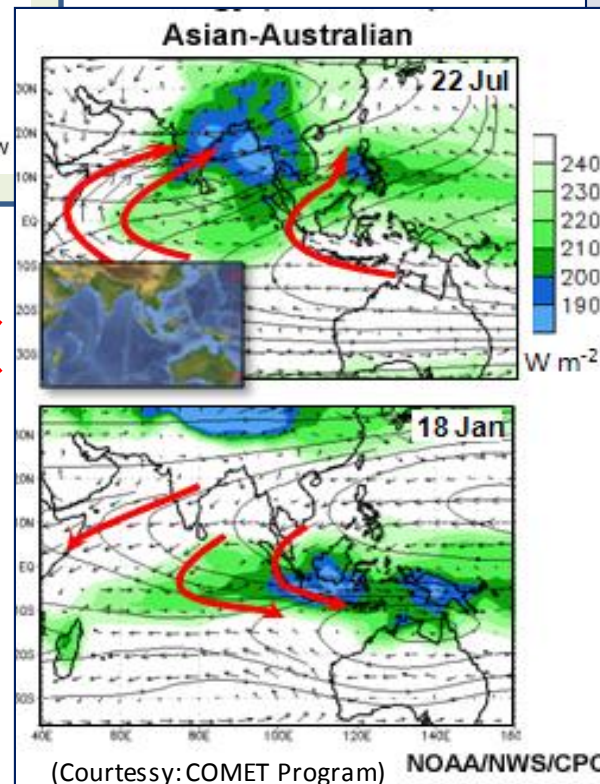
(Chang, 2006, as adapted from Lau and Chan, 1983)

**Key parameters** to examine the monsoon :

- 850-hPa and 200-hPa wind field
- Outgoing Longwave Radiation (OLR)
- Precipitation data
- Geopotential height
- Sea Level Pressure (SLP)

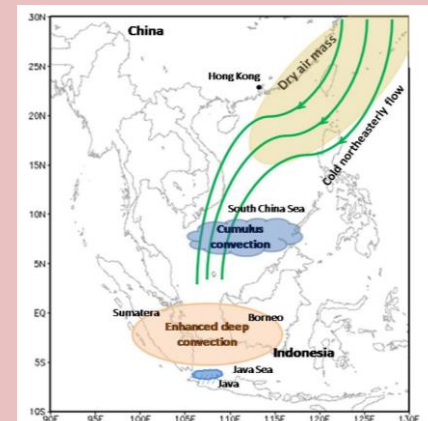
Major factors contributing to the onset of the monsoon are among others:

- 1) The seasonal oscillation of solar heating
- 2) The land-sea thermal contrast resulting in pressure gradient
- 3) The Coriolis effect



(Courtesy: COMET Program)

## Variability



(Courtesy: CM4SH)