



Royal Netherlands
Meteorological Institute
*Ministry of Infrastructure and the
Environment*

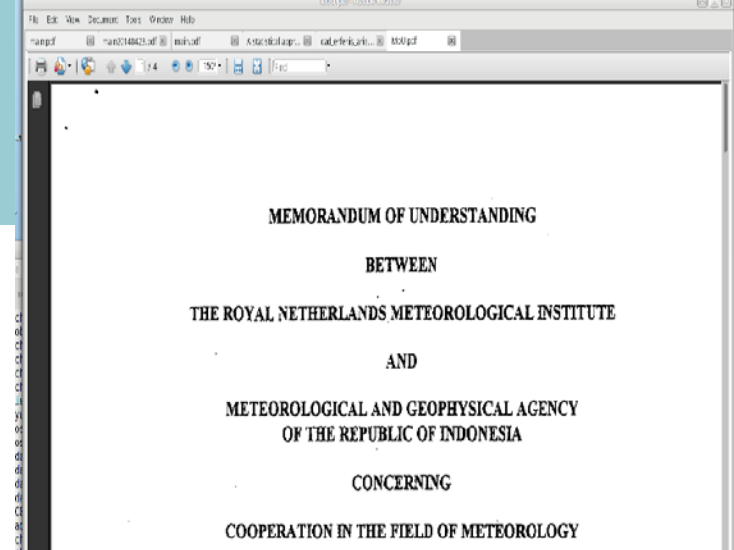
The Indonesian - Dutch collaboration project JCP: *never a dull moment.*

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Context

- Memorandum of Understanding was signed between BMKG & KNMI (1999)
- Involvement of KNMI accelerated with start of a digitization project (2009)
- Size of the activity grew after start of the Joint Collaboration Programme (lead: large water management company) (2011)



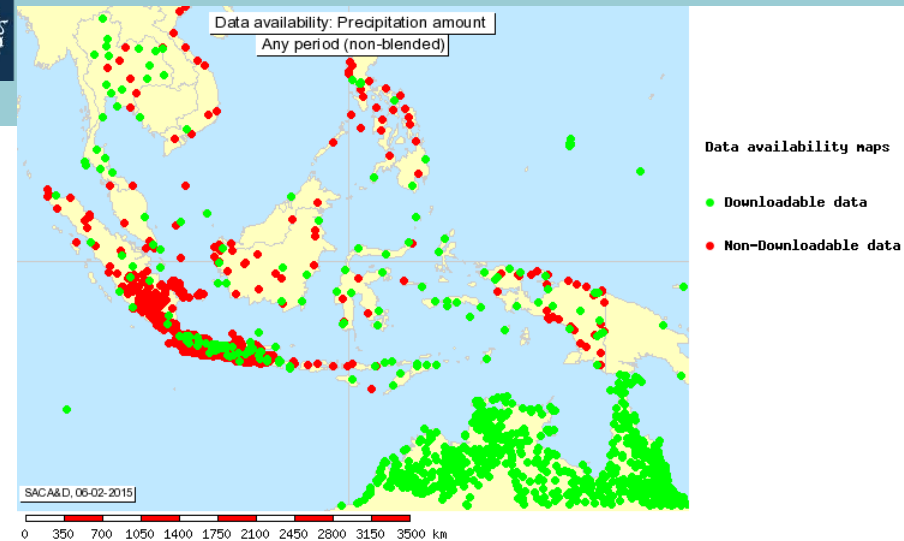
The Meteorological and
Royal Netherlands Met
DESIRING to strengthen
of mutual benefits;



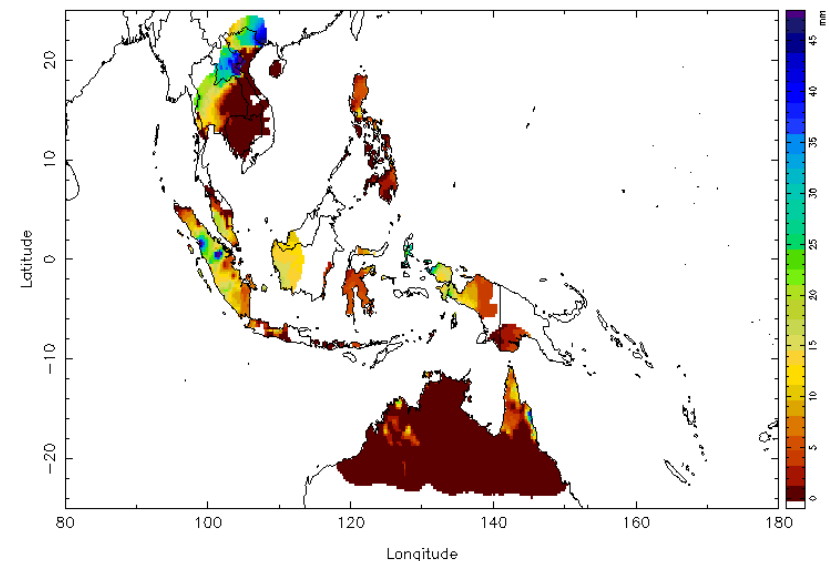


Focus

- BMKG acting as Climate Data node for the WMO RCC for RA V
- Making data available for WMO RA V
- Quality Improvement of radar products



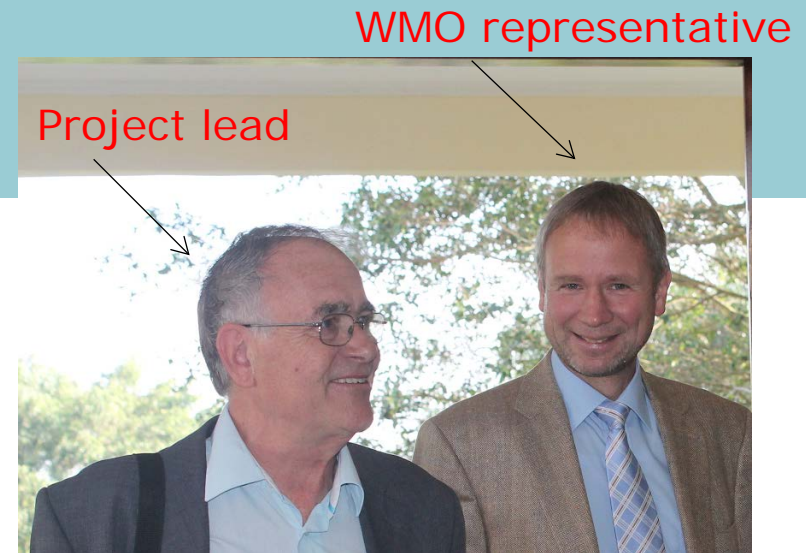
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Good practice

- Memorandum of Understanding
gives the certainty that the relation is a long-term relation
- Digitization of data
getting access to climatic history is important
- WMO involvement
WMO opens doors that otherwise remain closed
- Get 'top brass' excited
Products that allow the DG to 'show-of' earn you much credit
- Training of staff
Technical staff, MSc, PhD
- It works to have women on the training team



director –
two levels below dg

director-general

director –
one level below dg



Words of caution: training

- Training of staff
 - technical staff often lack basic UNIX skills
 - Specialists rather than generalists
- Train groups of ± 9 staff members, training in a team
- Training at BMKG office and at KNMI (± 2 months)
- Hands-on workshops where everybody gets a turn in e.g. running scripts
- Production of manuals in Bahasa Indonesia *during* the workshop
- Demonstrate that making errors is ok





Words of caution: training

- Training for MSc
 - Independent and critical thinking needs to be fostered
- Training for PhD
 - Even for the best candidates, gaining a PhD is difficult (*failing for a PhD can be disastrous*)
 - At BMKG – the PhD student hardly has opportunity to work on PhD

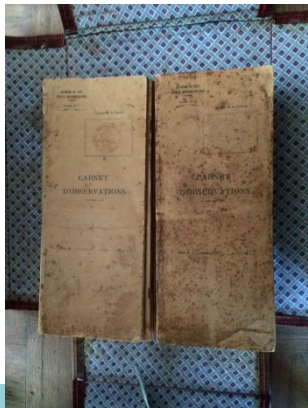
My PhD student





Words of caution: basic infrastructure problems

- Many NMHSs do not have a relational database
 - Exchange of data between NMHS can be problematic
- Collection and processing of measurements '1950s style'
- Validation lacks
- Data rescue required for data as recent as the end of 20th C

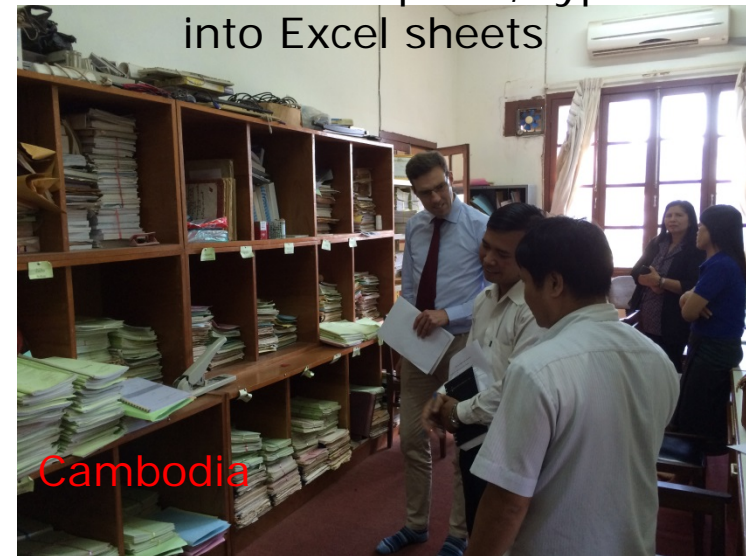


Viet Nam

- Huge potential for digitizing historic data

Historic observations in original French observers books.

Operational data stream:
Written reports, typed
into Excel sheets



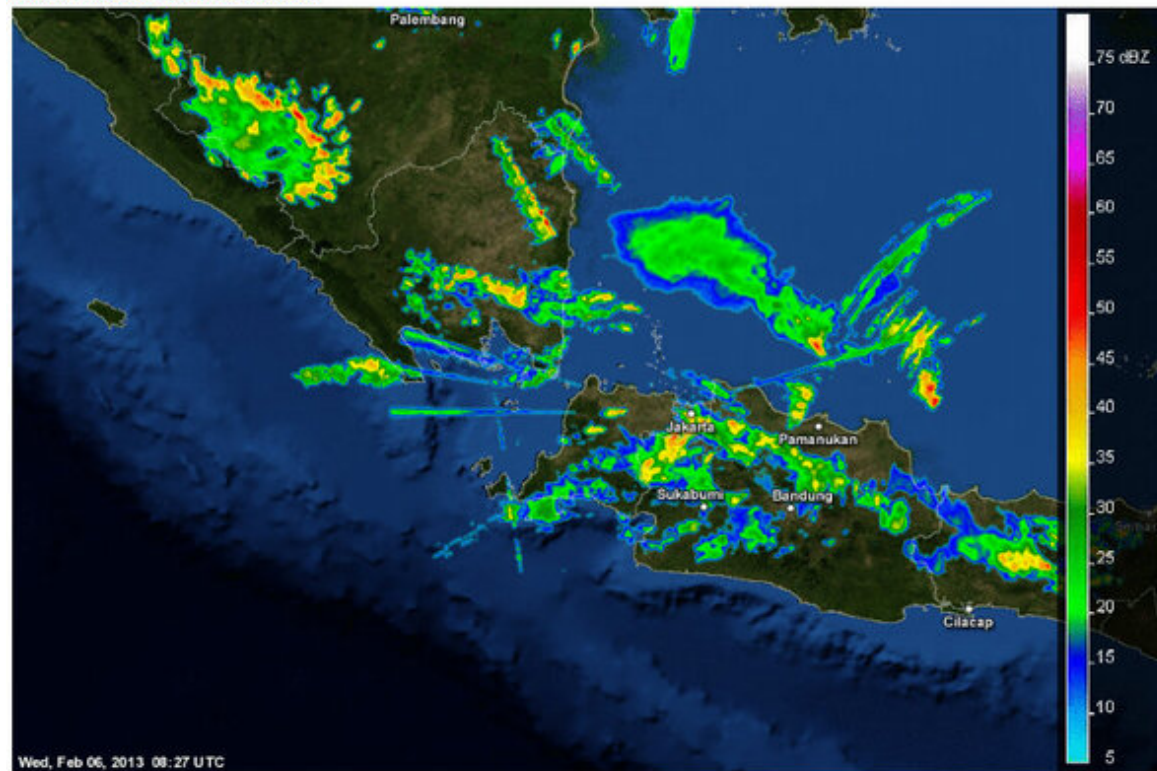
Cambodia



Example: Radar

- Many radar disturbances due to interference from wireless networks
 - › difficult to convince BMKG staff of solutions
- Frequent radar outages because of failing communication/power supply

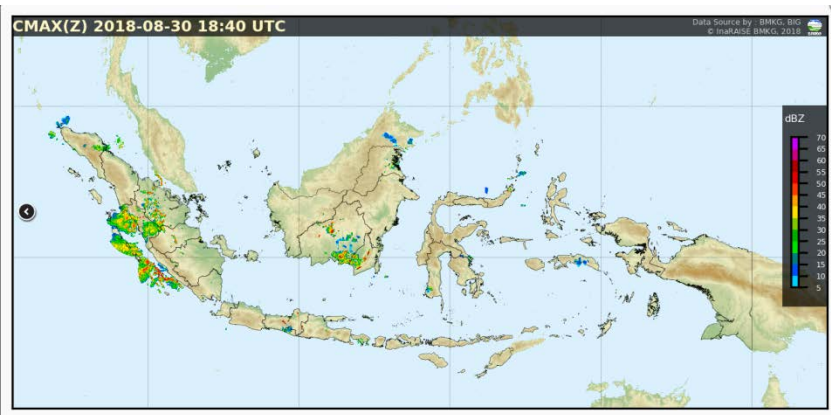
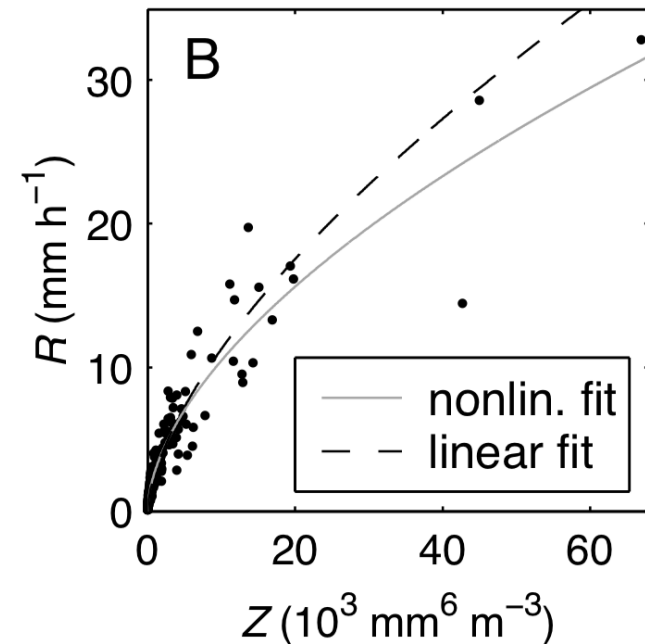
Citra Radar Jabodetabek





Example: Radar and gauges

- Important to derive a proper relation between radar reflectivity (Z) and rainfall intensity (R)
 - › availability of high temporal resolution gauges is limited
 - › no disdrometer data available
 - › necessary mathematical background of BMKG staff is lacking
- Existing tools to merge radar and rain gauge data are not used



Radar image from BMKG website
Shows echo intensity (dBZ) rather than rainfall



Words of caution: take it slow

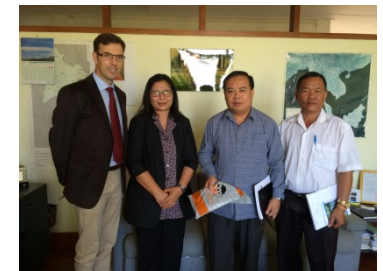
- Socializing aspect is important
 - plan sufficient amounts of time for getting to know each other



Viet Nam



Laos PDR



Cambodia

Example: in preparing for the RCC of WMO RA V,
a 'socializing tour' was organized



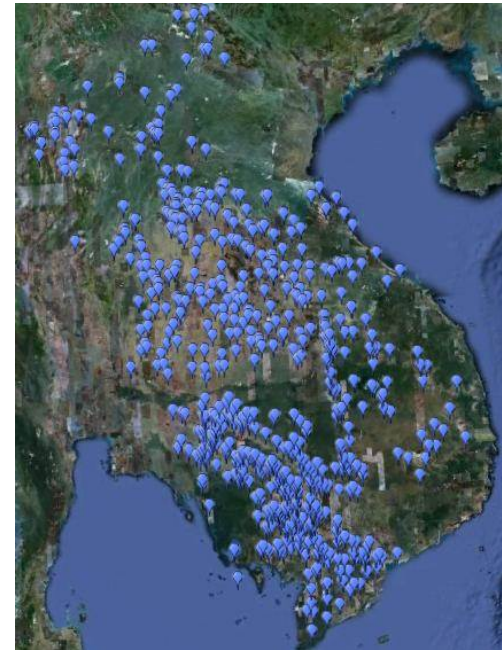
Costly & time consuming,
but necessary

source: WMO webpages



Words of caution: networking is everything!

- Failed to get observations from Mekong River Commission
 - Lacked the right contacts?
- Financed by World Bank
- network independent of NMHSs





Conclusions

- Long-term commitment is required
do not expect quick results
- Lack of basic skills in staff members is tricky
you might end-up improvising an algebra course!
- Problems with poor infrastructure slows down progress
issues might be in a department you are not acquainted with
- Higher education of staff members is key
challenges: time schedule and academic standard