

Regional Climate Projections Consortium and Data Facility in Asia and the Pacific Workshop

“Implementing Agency involvement in the Regional Climate Consortium”

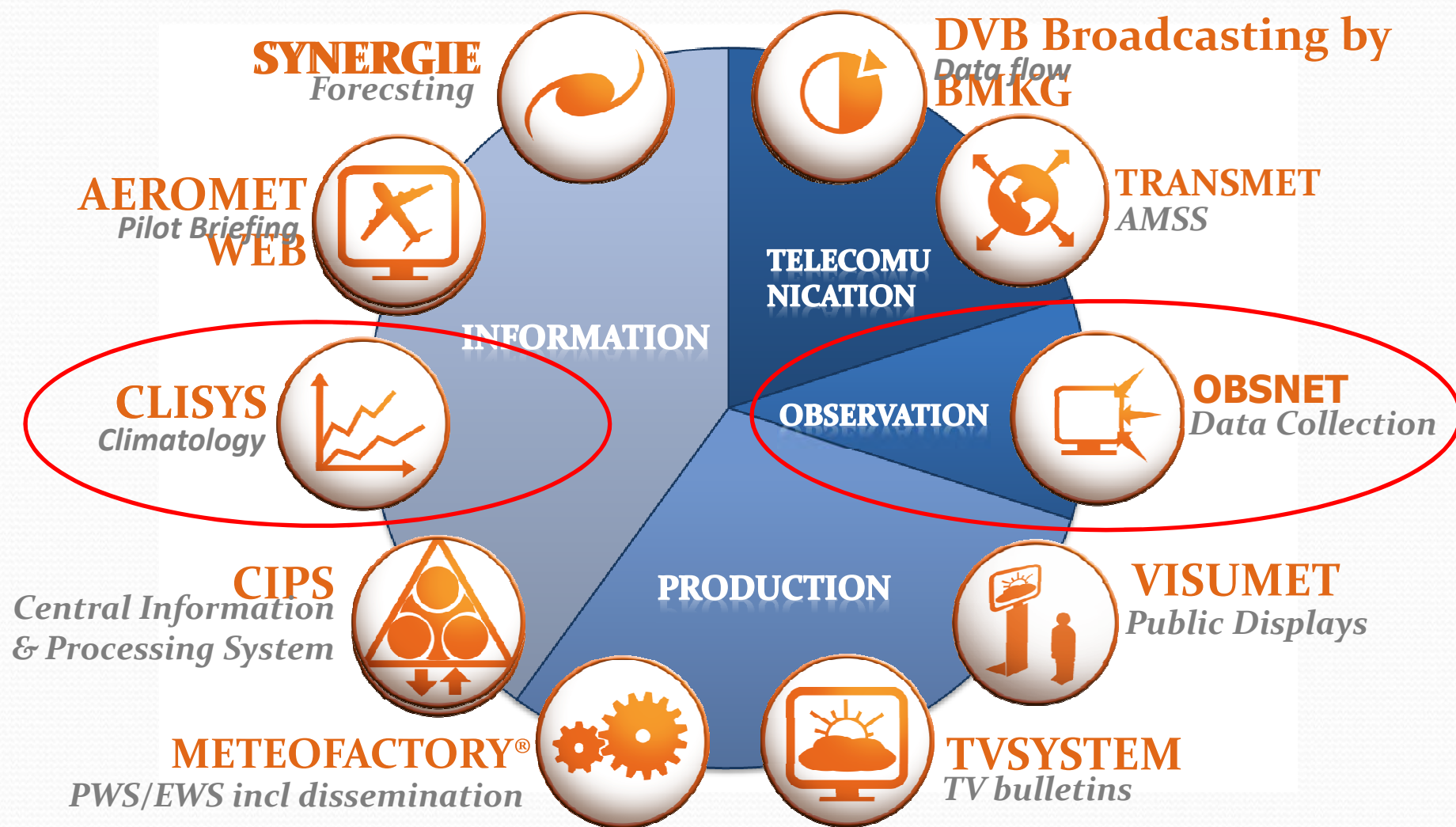


**Indonesia Agency for Meteorology Climatology and
Geophysics (BMKG)**

Yogyakarta, Indonesia , Mar 2016

MODERNIZATION OF BMKG CLIMATE AND WEATHER SERVICE CAPACITY

A wide range of OBS/IT Meteorological systems

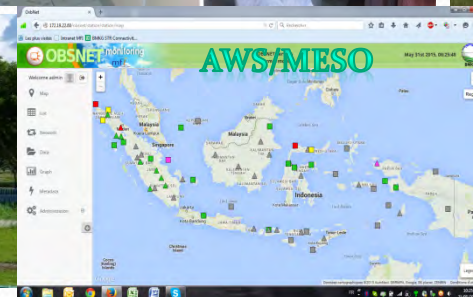




MODERNIZATION OF BMKG CLIMATE AND WEATHER SERVICE CAPACITY

Observation Systems

- AWS and MESO installed nationwide
- Manual instruments and Calibration installed after Calibration in BMKG Laboratory.
- AWOS and Wind profiler
- Rason and H₂ generators
- Lightning Network Sensors



Automate and boost production towards economic sectors

Means	Expected results
Create a set of products towards Marine sectors users (fishing and commercial ships).	1 dedicated extranet for PELNI 1 product for fisheries sent to port authorities Automatic forecasts over 150 ports (2392)
Create a set of products towards Agriculture sector users	2 products using climate data from Clisys and forecast data from MeteoFactory sent to BMKG's extension workers and farmers' group leaders
Create a set of products towards Transportation sector users	Assistance to Idul Fitri Crisis center from 2014 with products for Roads, ports and sea transportation, and rail roads. From 2015, creation of dedicated web page
Serve oil and gas companies	CATS : Lightning services Atmogram on local marine zone
Create a set of products towards tourism sector users	2 web products to be inserted in the public web site: Weather for beaches and Climatology over main touristic places.
Health	<i>Dengeue surveillance system</i>

Enhance the effectiveness of BMKG

Means	Expected results
Harmonization of methods and tools for data management	Implementation of a data policy ✓ check
Integration of existing data	Use data from: - Radar - Satellite - Existing AWS - ACCESS-T - BMKG Soft ✓ related
Power existing systems with modernization project value added data	- BMKG Soft - Web site ✓ related
Implementation modeling capacity	- Ownership of the WRF - Using MOCAGE -Using CHIMERE -Using RCMs ✓ related
Capacity building of staff from BMKG	Achievement of "Scientific trainings" Implementation of the Master degree ✓ check Team of trainers / experts BMKG



BADAN METEOROLOGI KLIMATOLOGI DAN GEOFISIKA



English

Home Climate Change Map **Dashboard** About News Events Blog

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Add a block

DATACLIM

Data and Information Management on Adaptation to Climate Change

"Implementing Agency involvement in the Regional Climate Consortium"

Implemented by:



giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

In cooperation with:



On behalf of:



Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

of the Federal Republic of Germany

Contact

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☎ 0062 21 97273080

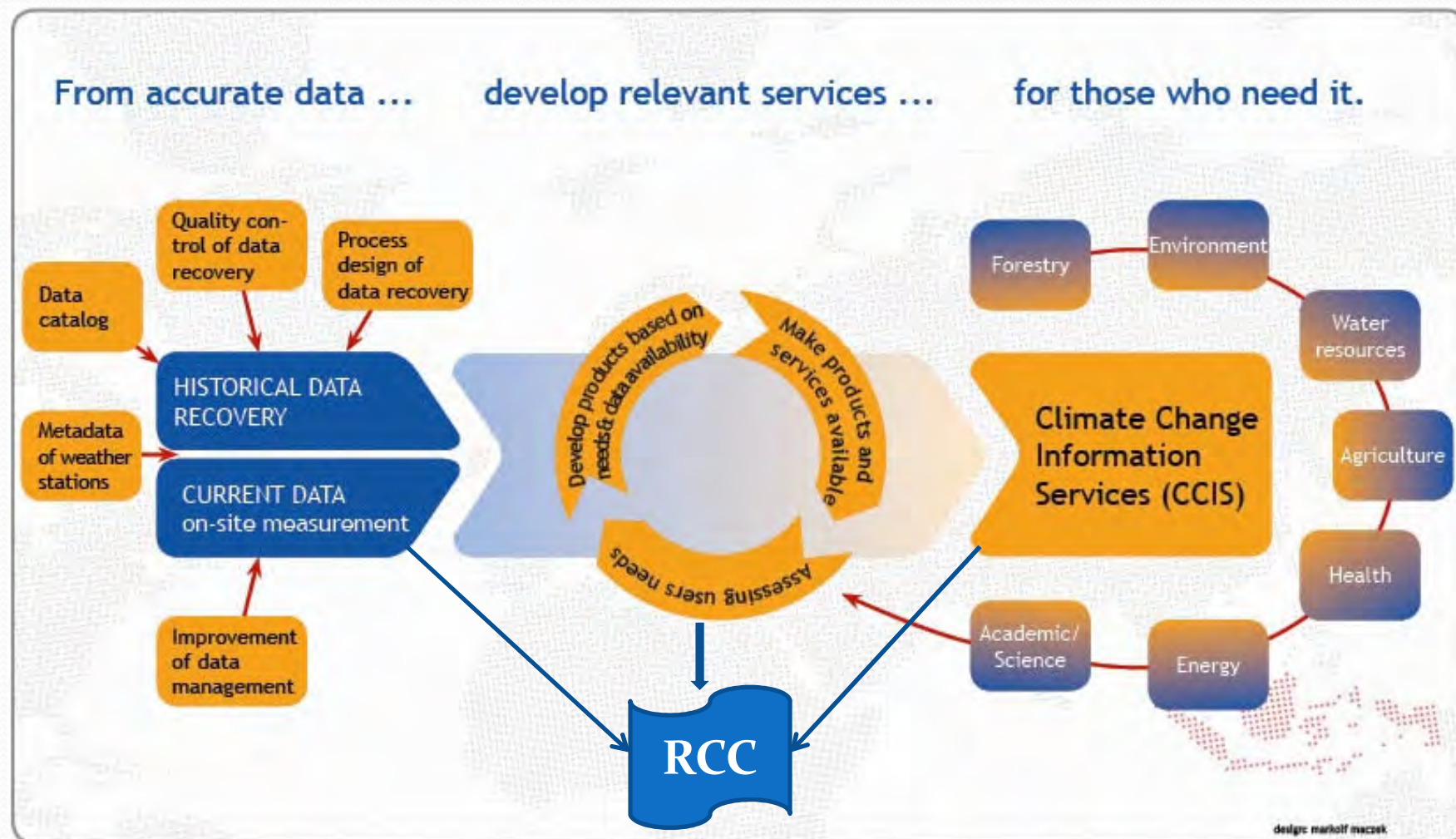
Address

🏠 BMKG, Administration bld., 3rd fl.
Jl. Angkasa 1 No. 2, Kemayoran
Jakarta, Indonesia

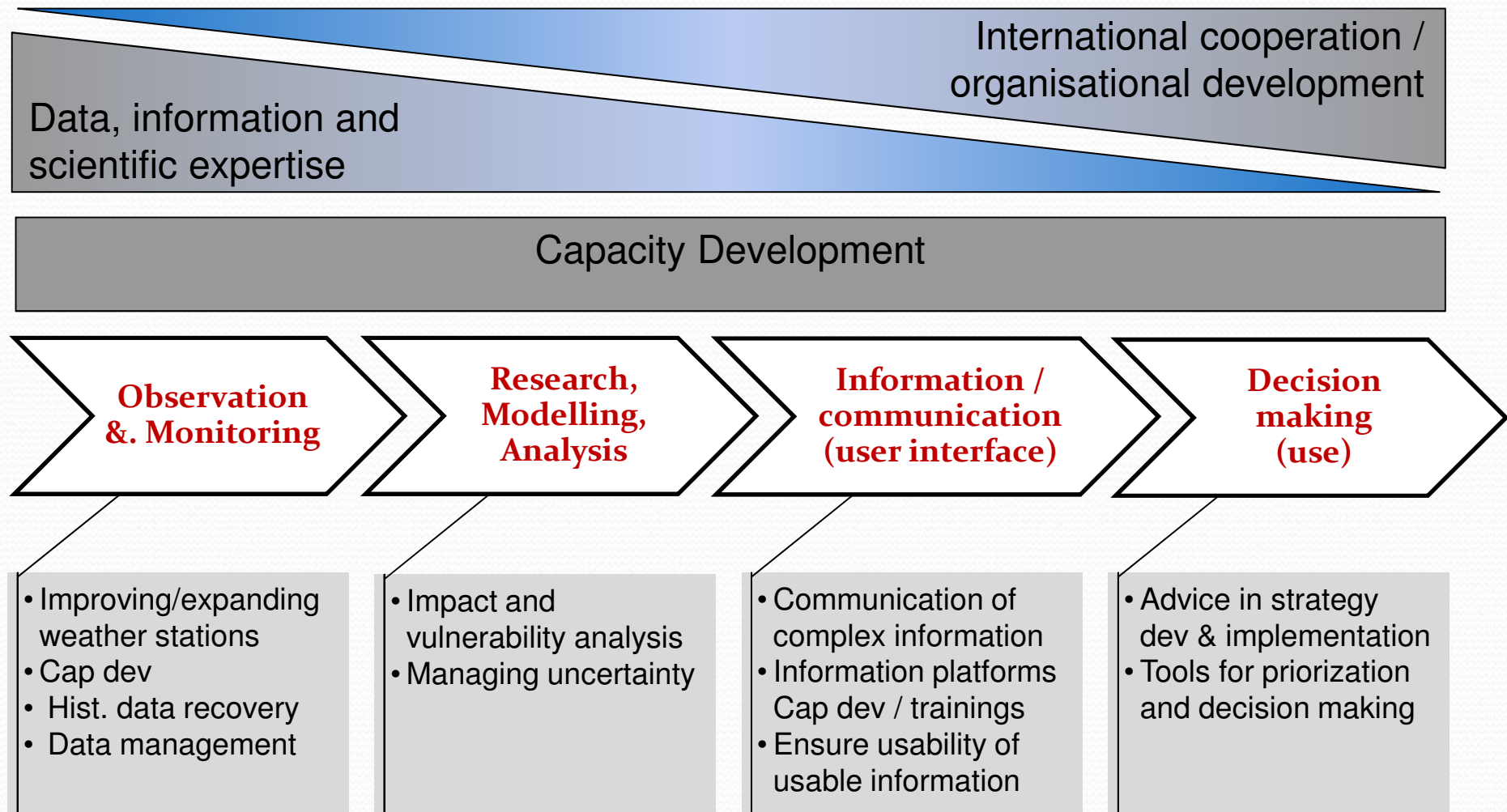
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Help

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The DATACLIM concept

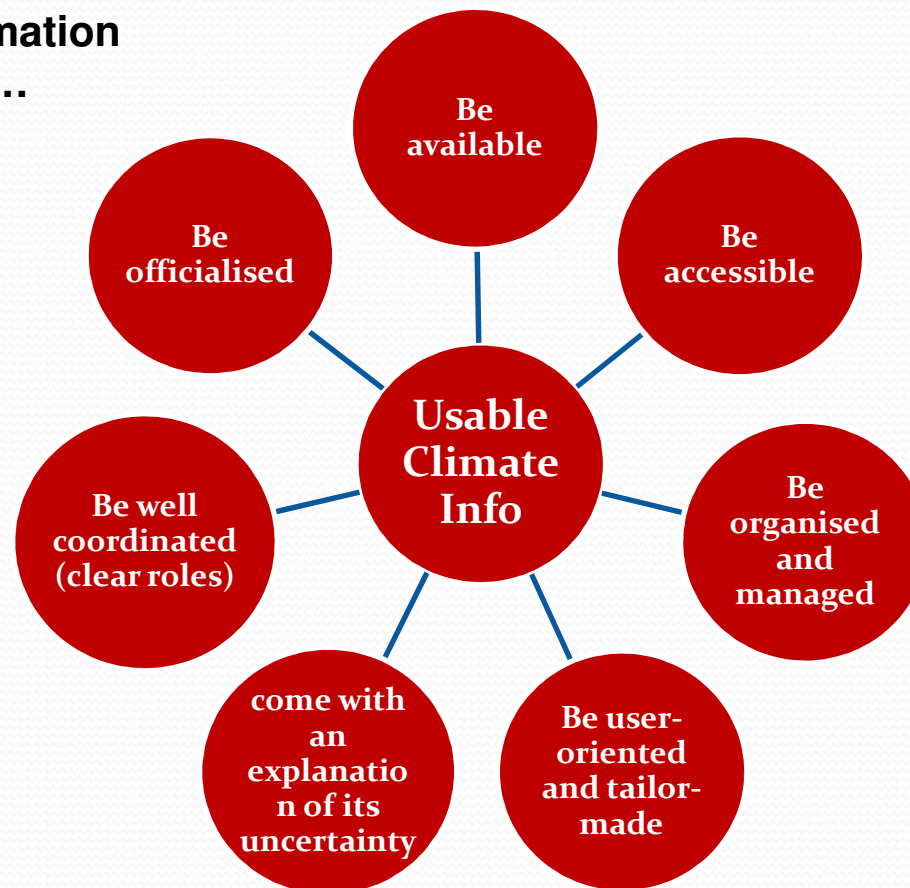


From data to decisions...

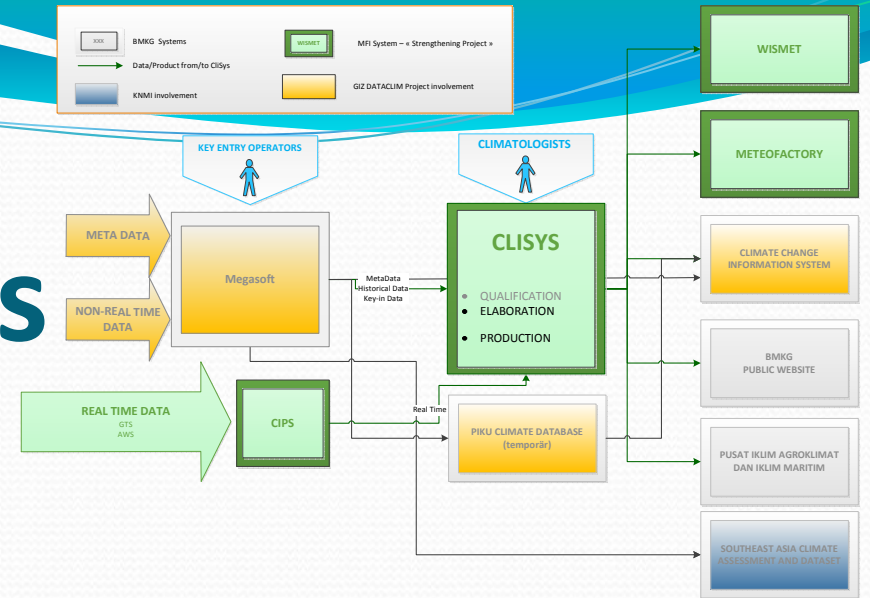


What are core challenges for effective use of climate information in decision making?

The information needs to ...



Guiding Principles



- In line with BMKG policies and regulations
- Designed to the user needs
- Flexible in cooperate future needs.
- Innovative
- Sustainable
- Alignment with policies and strategies in the partner countries
(BMKG Strategic Plan, RAN-API)
- Alignment with other funding institutions
- Up scalable, replicable, reusable
- Contribution to international climate cooperation

... develop relevant services ...

Clim²te Toolbox „iki.climindex“ based on „R“

```
emacs@iacpc-ds3340
File Edit Options Buffers Tools Imenu-R ESS Help

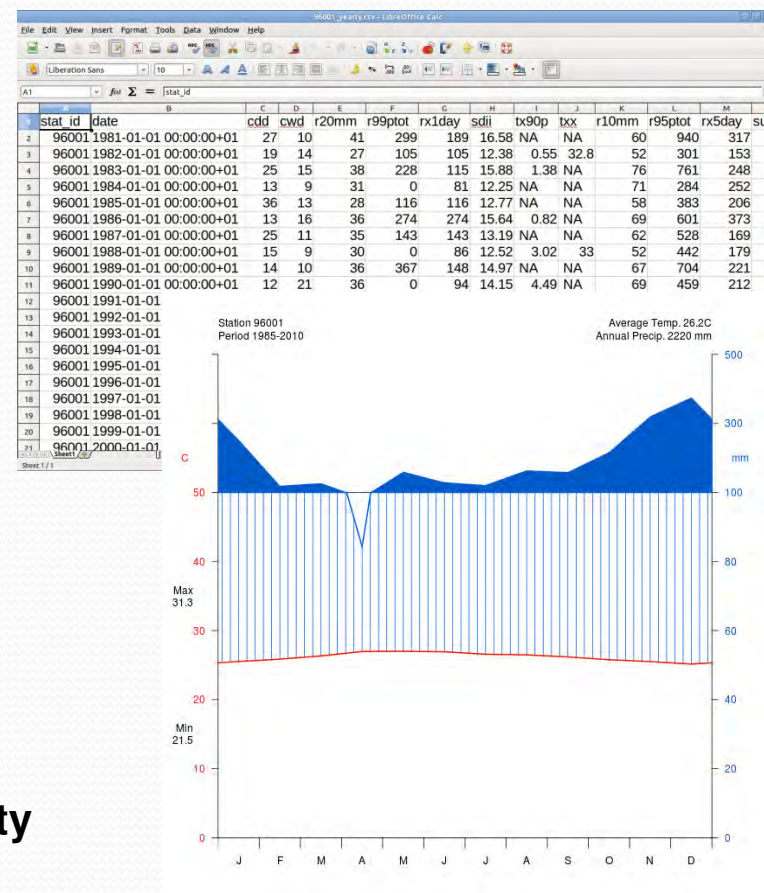
tng=climatologies.running$clims[[per]][[tsmean]]$tmin,
##
txn=climatologies.running$clims[[per]][[tsmin]]$tmax,
txx=climatologies.running$clims[[per]][[tsmax]]$tmax,
txg=climatologies.running$clims[[per]][[tsmean]]$tmax
)
df <- apply(df,2,as.numeric)
if (is.finite(max(df,na.rm=TRUE)))
  df <- apply(df,1:2,formatC,format="f",digits=2)

my.index <- index(climatologies.running$clims[[per]][[tsmean]])
out.df <- data.frame(start=makeIsoDateDay(my.index),
                     end=makeIsoDateDay(my.index+
                      agg.windows[[timescale]]-1),
                     marker=yday(my.index),
                     df)
names(out.df)[3] <- timescale

write.table(out.df,quote=FALSE,file=filename,col.names=TRUE,
            row.names=FALSE,sep=",")

}##loop over clim.periods
}##loop over timescales

--- factsheet.r Bot L923 (ESS[S] [none] +1 ElDoc)---
```



**iki.climindex will become an official R-package
it will be supported by the scientific community**



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English

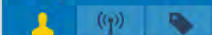
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Add a block

Serang

WMO Code: 96737 Station No.: 96737



Responsible Organization

Name: BMKG
City: Serang
Region: Jawa
Country: Indonesia

Station Contact

Stations

1 Serang (96737)

Enter a station name or station code

2

Enter a station name or station code to compare.

Filter

Search

Enter metadata search term

Region

Select a region

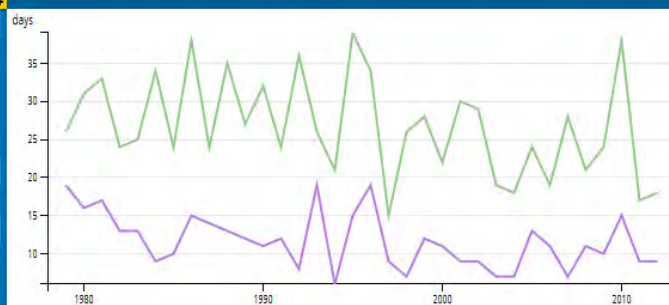
From Date

E.g., 2014-02-20

To Date

E.g., 2014-02-20

Search Clear



Precipitation

Extreme Precipitation

- ☒ R20mm
- ☐ R99pTOT
- ☐ Rx1day
- ☐ SDII
- ☐ R10mm
- ☐ R95pTOT
- ☐ Rx5day

Select up to 4 indices

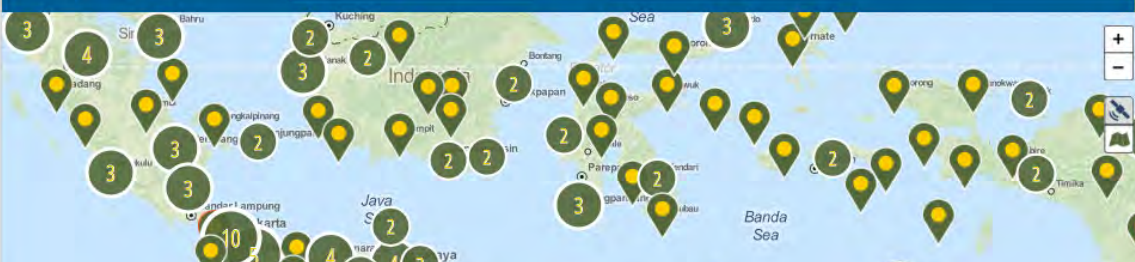
Print

1 Data: Yearly Export data

Show / hide columns

Date	CDD [d]	CWD [d]	R20mm [d]	R99pTOT [mm]
1978	NA	NA	NA	NA
1979	20	19	26	229.5
1980	14	16	31	0
1981	17	17	33	0
1982	61	13	24	0
1983	22	13	25	168
1984	9	9	34	97
1985	27	10	24	0
1986	18	15	38	85
1987	29	14	24	93
1988	11	13	35	0

Showing 1 to 36 of 36 entries





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Jakarta (BMKG)-Walter-Lieth-Diagram

View

Edit

Manage display

Translate

Node export

Log

Weather Station: Jakarta (BMKG)

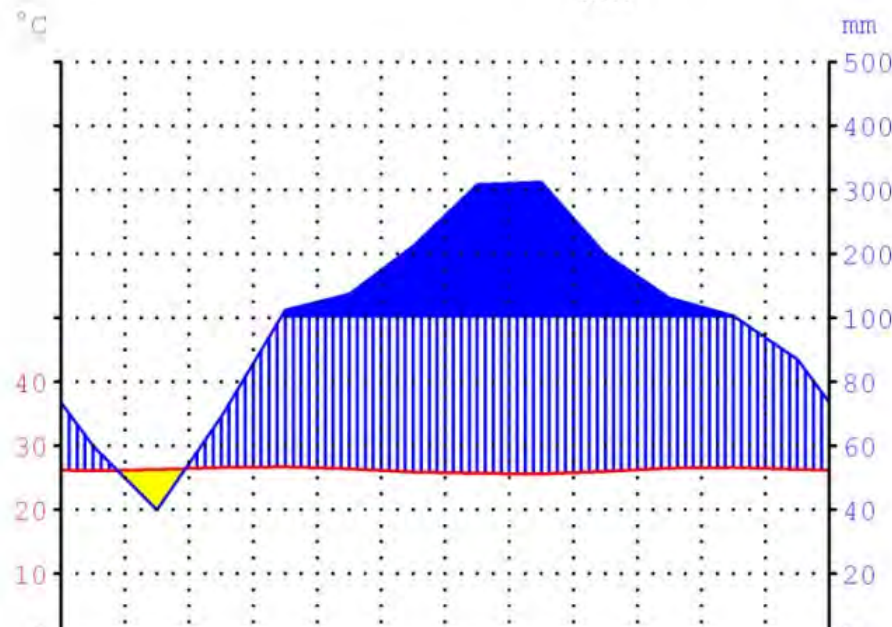
Diagram Picture:

Erstellt mit Geoklima 2.1

Jakarta (Java)/Indonesien

6°11'S/106°50'E

8m



Monat	Temp. (°C)	Nied. (mm)
JUL	26,1	60
AUG	26,3	40
SEP	26,6	69
OKT	26,7	112
NOV	26,4	137
DEZ	25,9	212
JAN	25,7	308
FEB	25,6	312
MRZ	26,0	199
APR	26,5	131
MAI	26,6	103
JUN	26,3	87

Temp.-Jahresmittel
26,2 °C

DOWNSCALED CLIMATE PROJECTION DATA

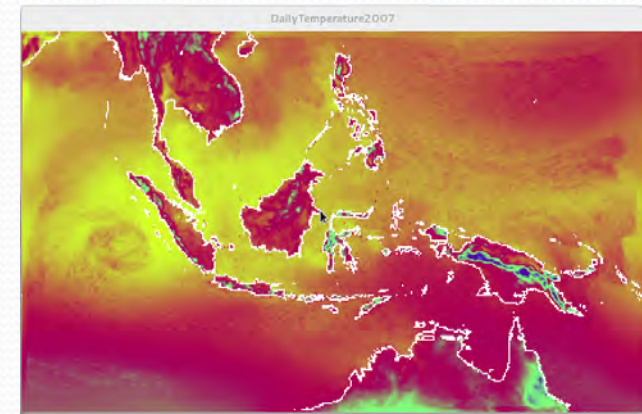
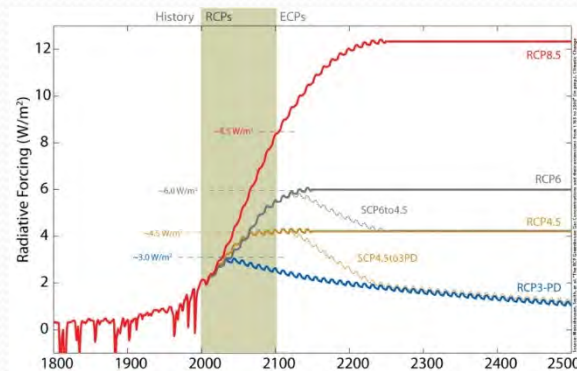
- Model
MIROC₅
- RCP4.5
Scenario
- Resolution
150 Km
- Period (2006-
2040)



WRF_{3.6}
as the
RCM
(BMKG)



All Indonesia
area
Resolution 20
km
(6 hourly)



... for those who need it :

BMKG Climate Information System key features:

- Easy access to climate information in any formats (time series, tables, maps, other)
- Elaborated metadata management for weather stations
- Climate information product management provides full control for the operator who has access to which product
- Can handle “Big Data” (e.g. for outcomes of climate models)
- Expansible: integration of other information sources easily possible
- Web portal based on standard IT products CMS supported by the community
- Open source license



... for those who need it :

DATACLIM ends but this is just the beginning for developing further BMKG Climate Services

... BMKG Climate Services for BMKG regional offices and stations

... BMKG Climate Services for the sector ministries and RAN-API

... BMKG Climate Services for the public

... BMKG Climate Services to serve Indonesia

How RCCDF can help

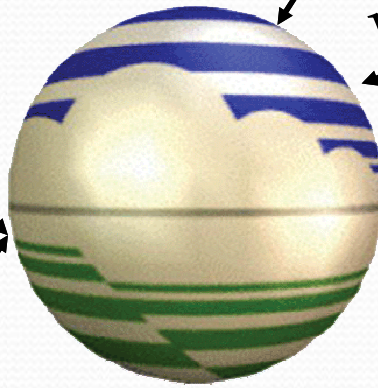
- Improve **historical data** processing by gridding irregular stations data into a regular grid
- **Capacity building** for BMKG local staff to support local government in adaptation actions
- Improve **public awarness** to climate change
- Establish a **link** between data provider (BMKG) and users so that it complian to the national “one map,one data” policy and meet the sectors need
- Link to/contacts for **BMKG data**

How RCCDF can help



Global
Climate
Change

International
agencies



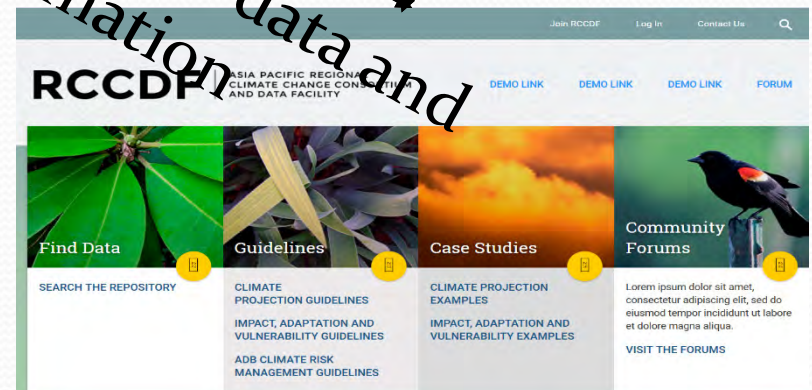
Indonesian
data

National guidance

Local data and
information

Guidelines
Sources of data and
information

End-users



**Thank you
Terima kasih!**

