



Research Management on Water, Disaster and Climate Change: A practical experience from the Thailand Research Fund (TRF)

S. Jongdeepaisarl & A. Chidthaisong, TRF



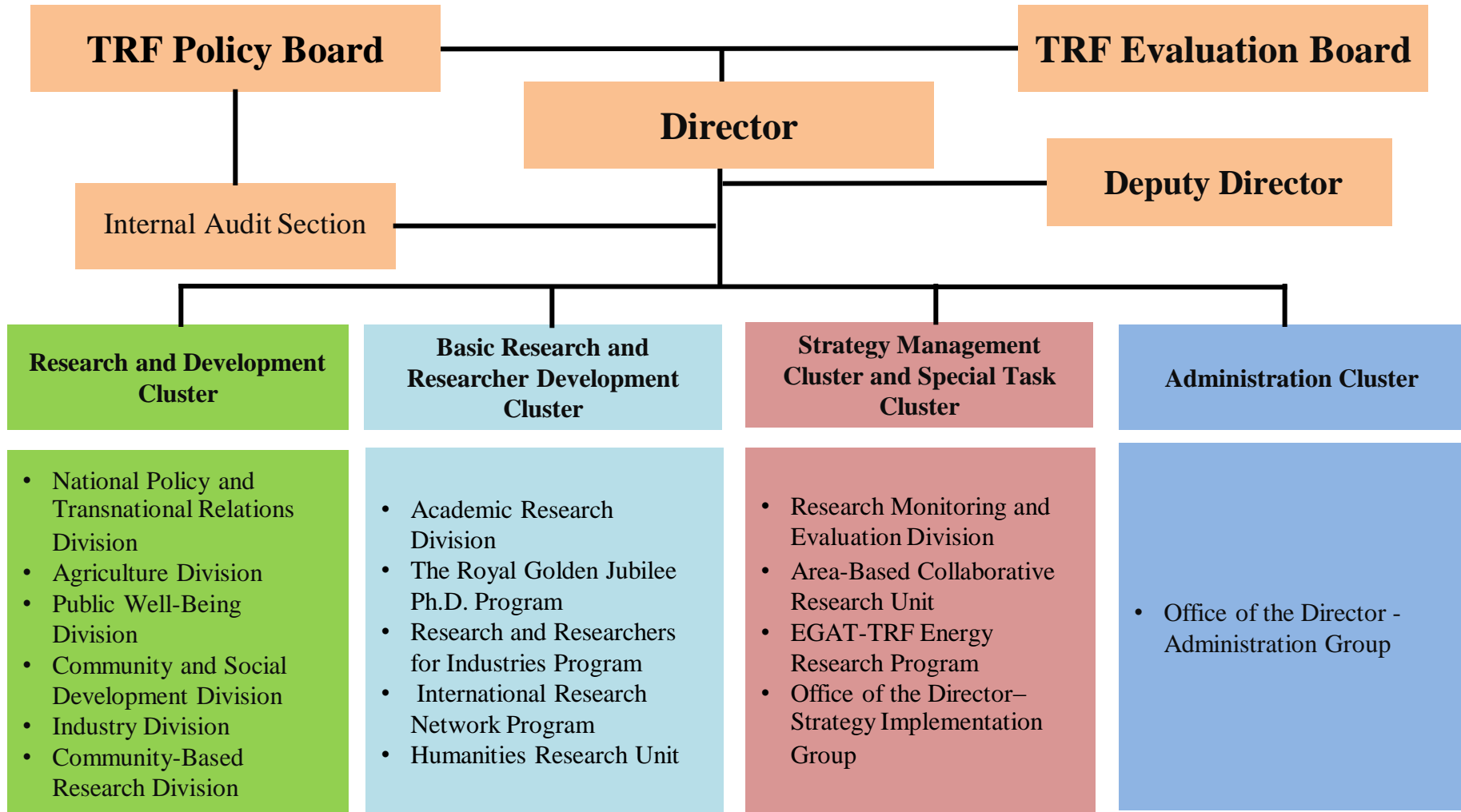
Thailand Research Fund (TRF)

A Catalyst for Change

Established in 1993 by the Research Endowment Act of 1992 as a research management organization under the Prime Minister's Office

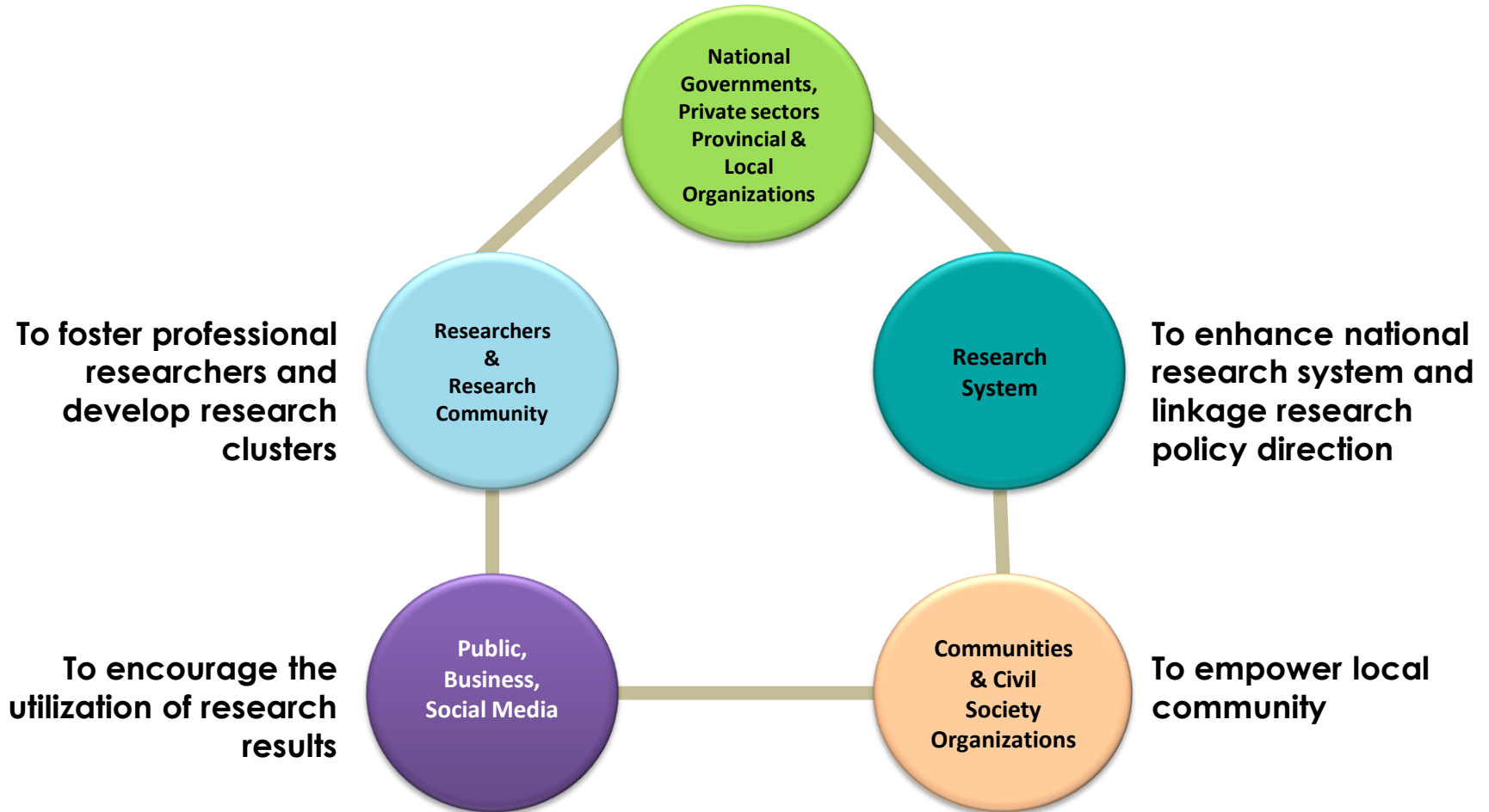
Covers all research fields, basic research to policy research, domestic and international/transnational, area/community/agenda-based issues

TRF's Administrative Structure



Mission

To support research and development to create knowledge, policy, innovation, and intellectual property



TRF Strategy 2014-2017





TRF's Strategic Research Issues (SRIs)

SRI 1 ASEAN Community and the East Asian Region

SRI 2 Food Security and Safety

SRI 3 Climate Change, Water, Land and Environmental Management

SRI 4 Inequality Reduction

SRI 5 Creative Learning and Educational Reform

SRI 6 Good Governance and Corruption Reduction

SRI 7 National Interests on Marine Resources and Maritime Security

SRI 8 Ethics, Culture, and Discipline of Thais

SRI 9 Health and Demographic Transition

SRI 10 New Knowledge and Innovation on Sciences, Social Sciences and Humanities

SRI 11 Energy and Alternative Energy

SRI 12 Overcoming the Middle Income Trap

Program and support

Climate change

- science & impact
- Adaptation
- Green city
- policy

Water

- strategic water resources management
- flood & drought
- Adaptation to CC

Disaster

- Earthquake

- National marine management strategy
- Marine and terrestrial Biodiversity

Current Focus

Variability in precipitation on time scale of 3-6 months

❖ **Atmospheric physics and chemistry**

- Cloud physics and chemistry
- Surface-air exchange and interactions
- Soil moisture, evapotranspiration
- etc.

❖ **Variability and teleconnections**

❖ **Short-term prediction & database**

Mainstreaming Climate Change into Development Strategies

- ❖ Adaptive capacity of community
- ❖ Risk management mechanism - crop insurance
- ❖ Holistic approach for climate change adaptation

Climate Policy

- ❖ Post-2020 Climate Change Regime
- ❖ Legal & Institutional Framework
- ❖ Measurement, Reporting and Verification (MRV) system
- ❖ Climate Change & Green Economy

Management consideration

Budget

Human Resource,

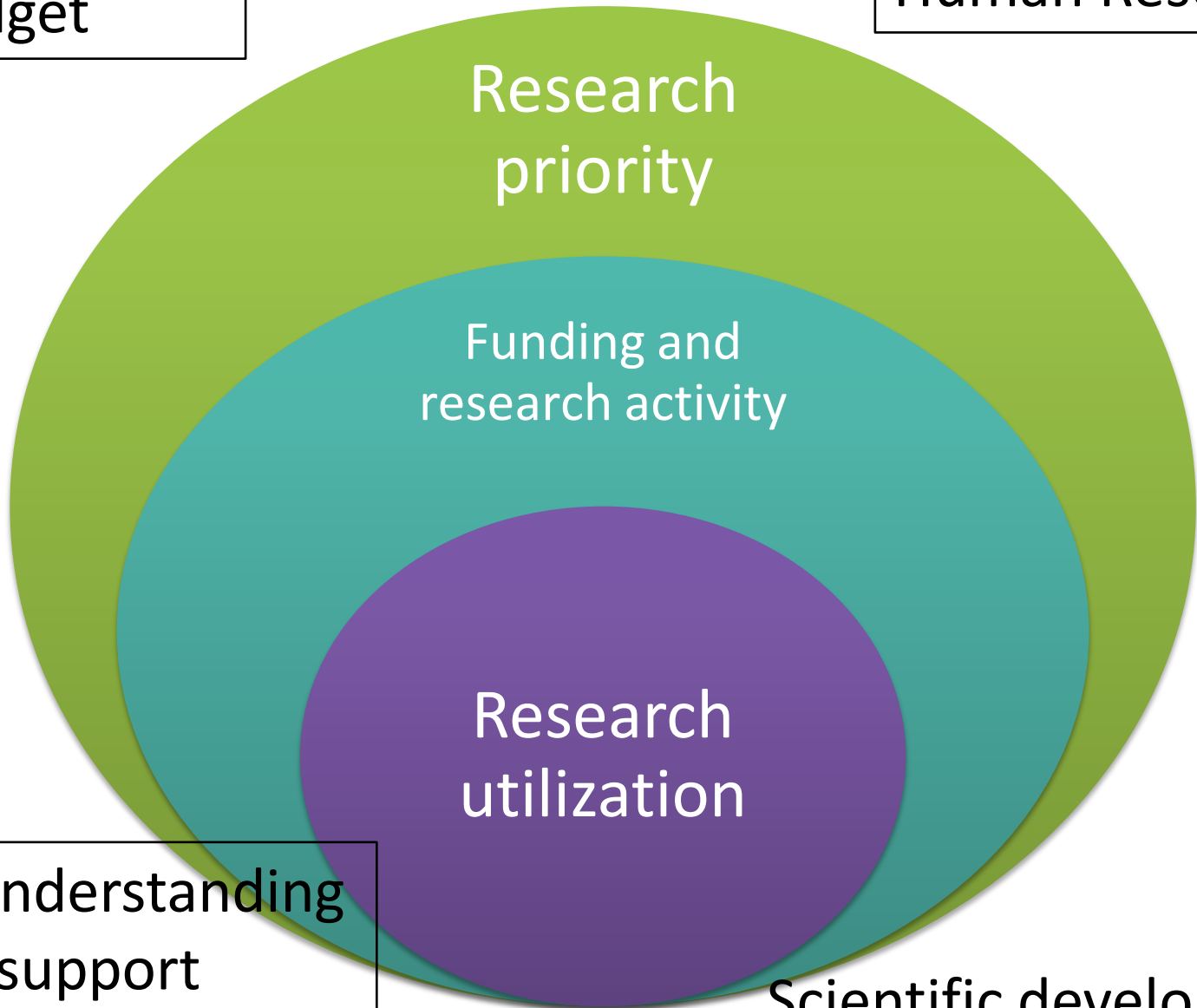
Research
priority

Funding and
research activity

Research
utilization

Public understanding
& support

Scientific development



How to get the right “Research topic” or High priority research

- Consultation meeting/focus group
 - Academic
 - Government agency
 - Public
 - ...
- Country/global policy & trends

Managing funding & Research activity

- Calls for proposal
- Proposal evaluation by experts
- Seek independent opinions from stakeholders & public
- Progress report/routine meeting with researcher team
- Research result evaluations/seek suggestions from experts
- Institutional/block grant

Enhancing Research Utilization

- Involve user from the beginning
- Research question from users at different levels
- Results tested/trial by relevant users
- Enhance accessibility to research results
- Simplify/digest technical data into information
- Publish/communicate via various channels

Strategic Partners

Key agencies

Office of natural resources and environmental policy and planning
Office of agricultural economics,
International organization department
Thailand greenhouse gas management organization,
Thai meteorological department,
Office of the national economic and social development board

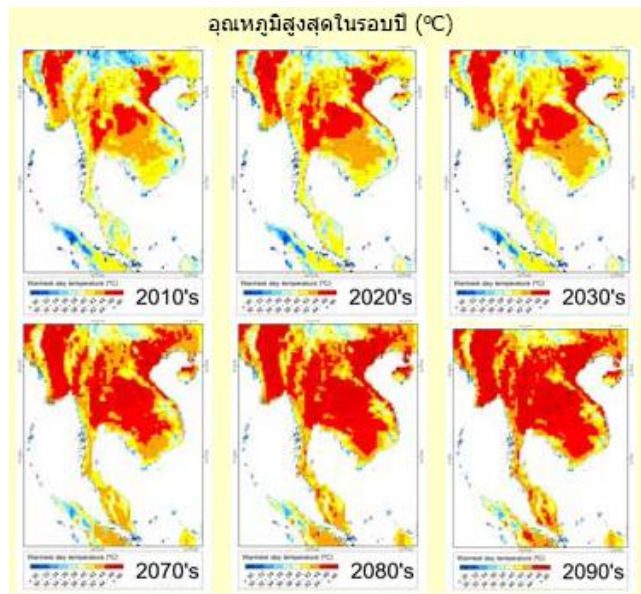
Academic institutions

Chulalongkorn University, Thammasart university, Kasetsart University,
King's Mongkut University of Technology Thonburi, Ramkhamhaeng
University, Silpakorn University, Khon Kaen University, Chiang Mai
University, Burapha University

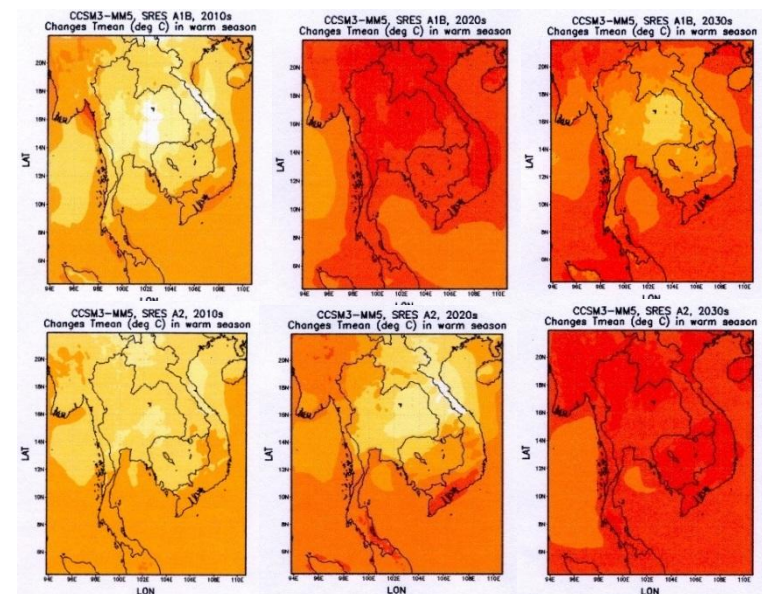
Private sector

The federation of Thai Industries
Thai Chamber of Commerce

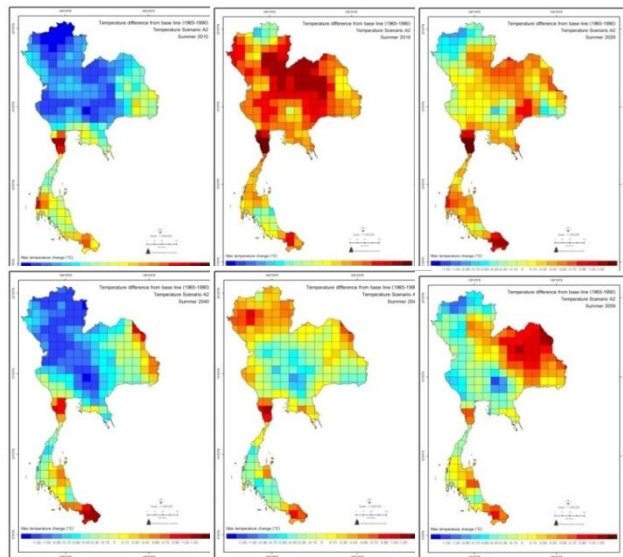
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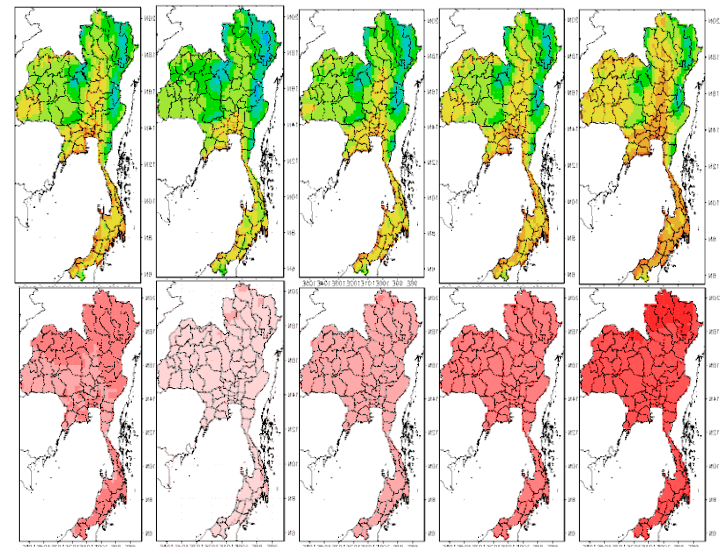
MM5



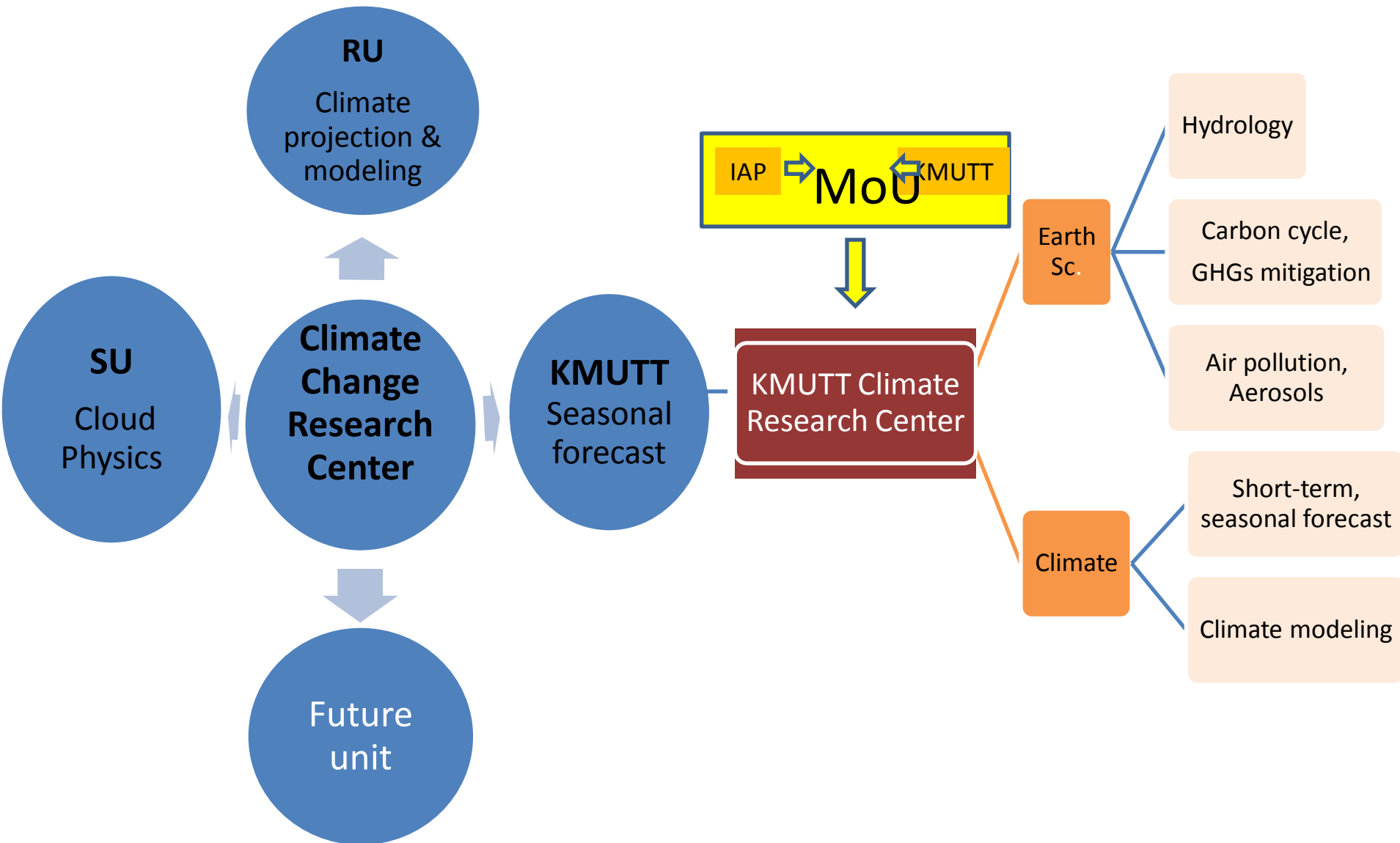
GFDL-R30



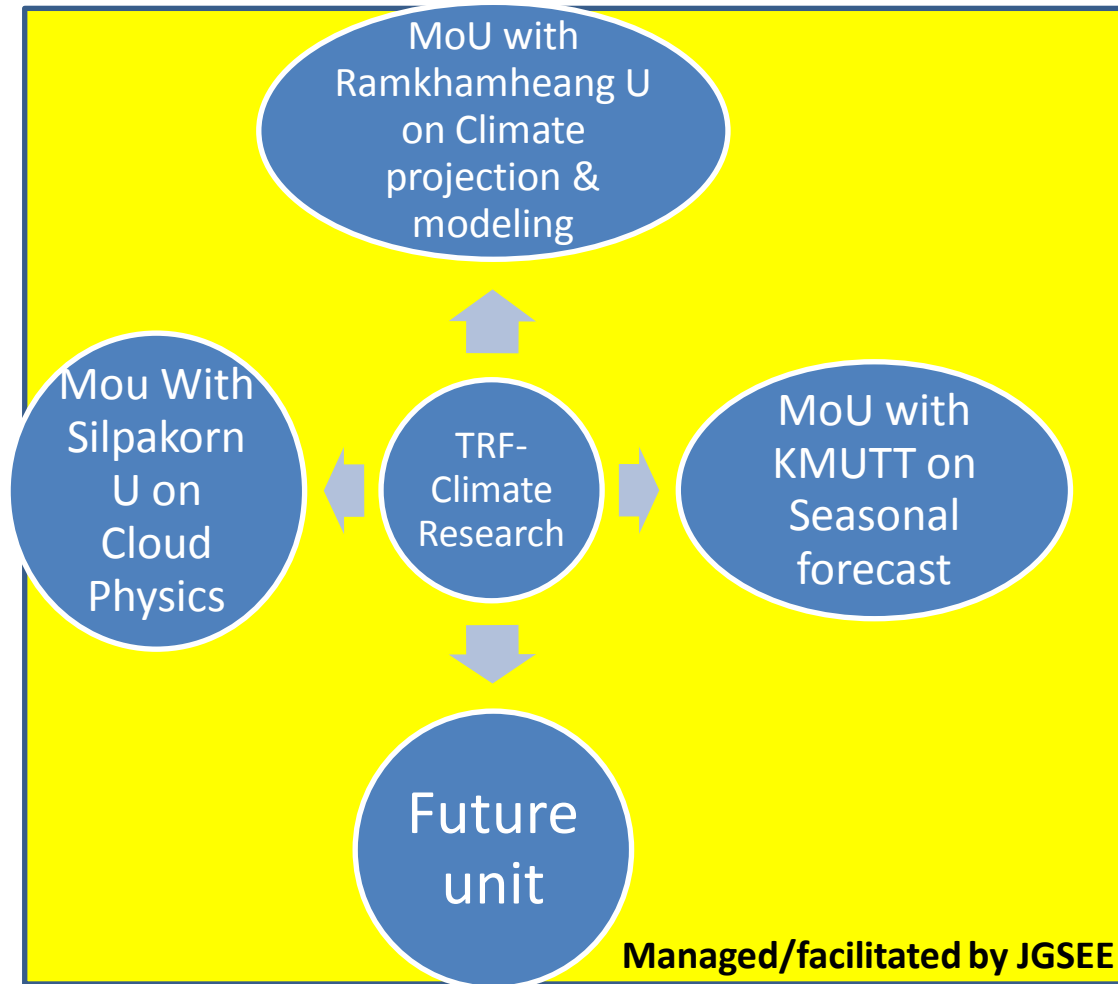
RegCM3



- Support modeling research group
- Engage them with international community
 - Organizing seminar
 - Support participation outside Thailand
 - Set condition as part of research activity



Current & past activities and roles of TRF & JGSEE



- Several projects on climate change have been supported by TRF
- Currently supporting Dr. Usa & Dr. Dusadee on developing capacity and knowledge on seasonal precipitation forecast
- JGSEE provided computing equipment
- During negotiation to sing MoU between KMUTT and TRF to support a kind of “Research Center”

International Collaboration

China - National Natural Science Foundation of China (NSFC)

Asean - Southeast Asia Regional Climate Downscaling (SEACLID) which partial funding by Asia Pacific Network for Global Change Research (APN)

ASEAN
member
states

ASEAN

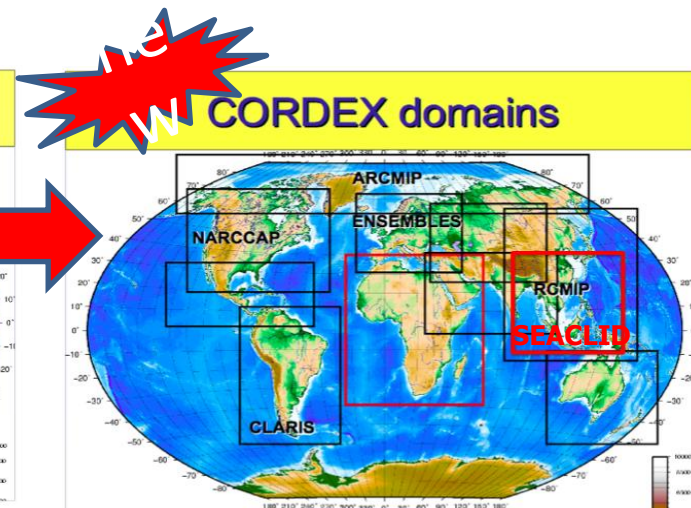
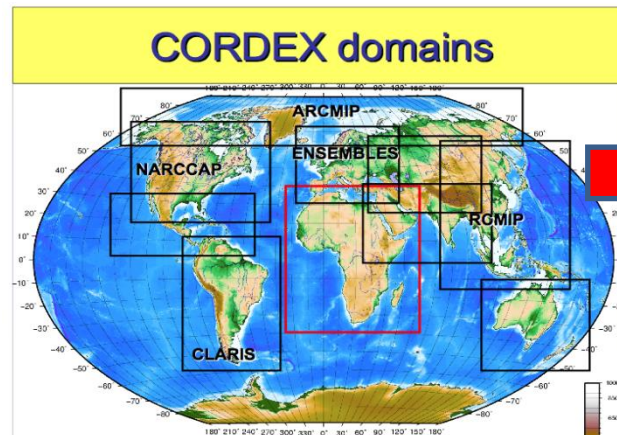
ASEAN
academic

**ASEAN Research Collaboration
Program for Climate Change
Impact Assessments on
Agriculture**

**Impact Assessment
on Agriculture**

**Regional Climate
Downscaling**

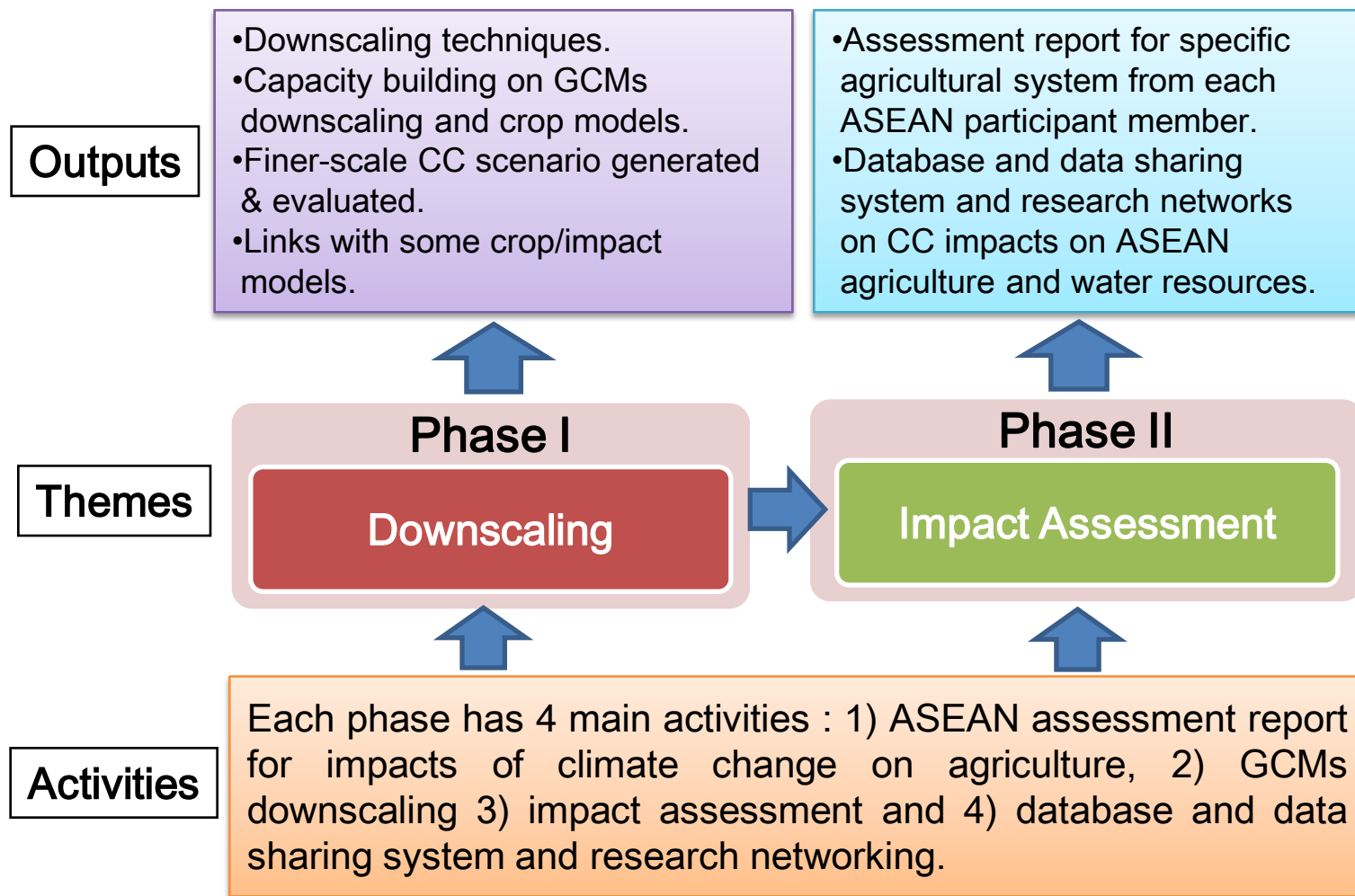
**Southeast Asia Regional
Climate Downscaling
(SEACLID)**



- Regional climate change scenarios are the basis for assessment of impacts
- SEA countries are not part of CORDEX
- CORDEX resolution is 50 km; We may need higher than this

- SEACLID Project has been invited to be part of CORDEX
- SEACLID = CORDEX-SEA
- Model resolution to be increased to 25 km.

Scope and activities



ASEAN

- policy recommendation for climate change impacts on ASEAN agricultural production as well as research network and data sharing systems.

Member state

- capacity building on downscaling global climate models and crop model to driving further initiative in some member states as well as the expertise enhancement in experience of the member states.

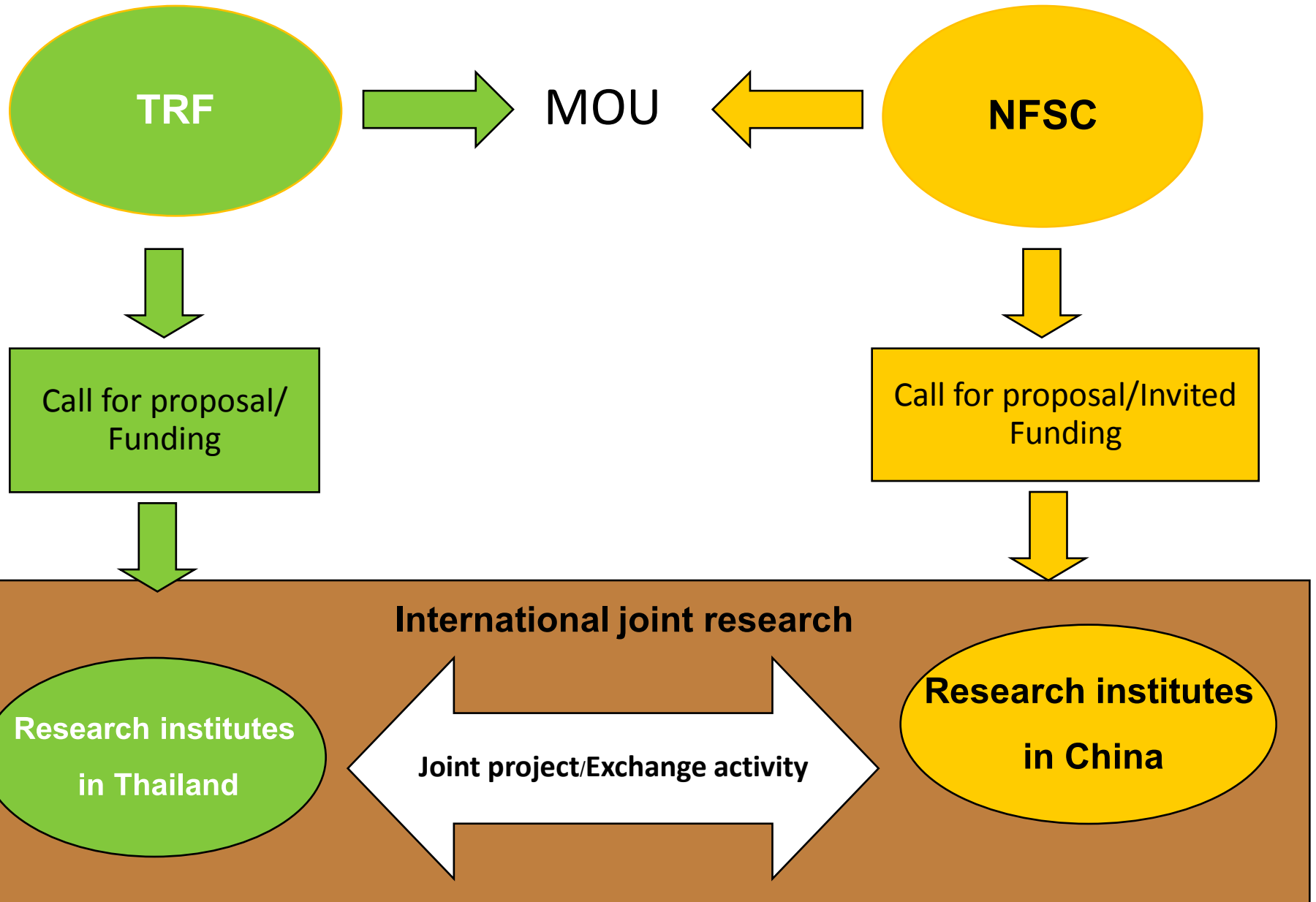
Sub-national agency

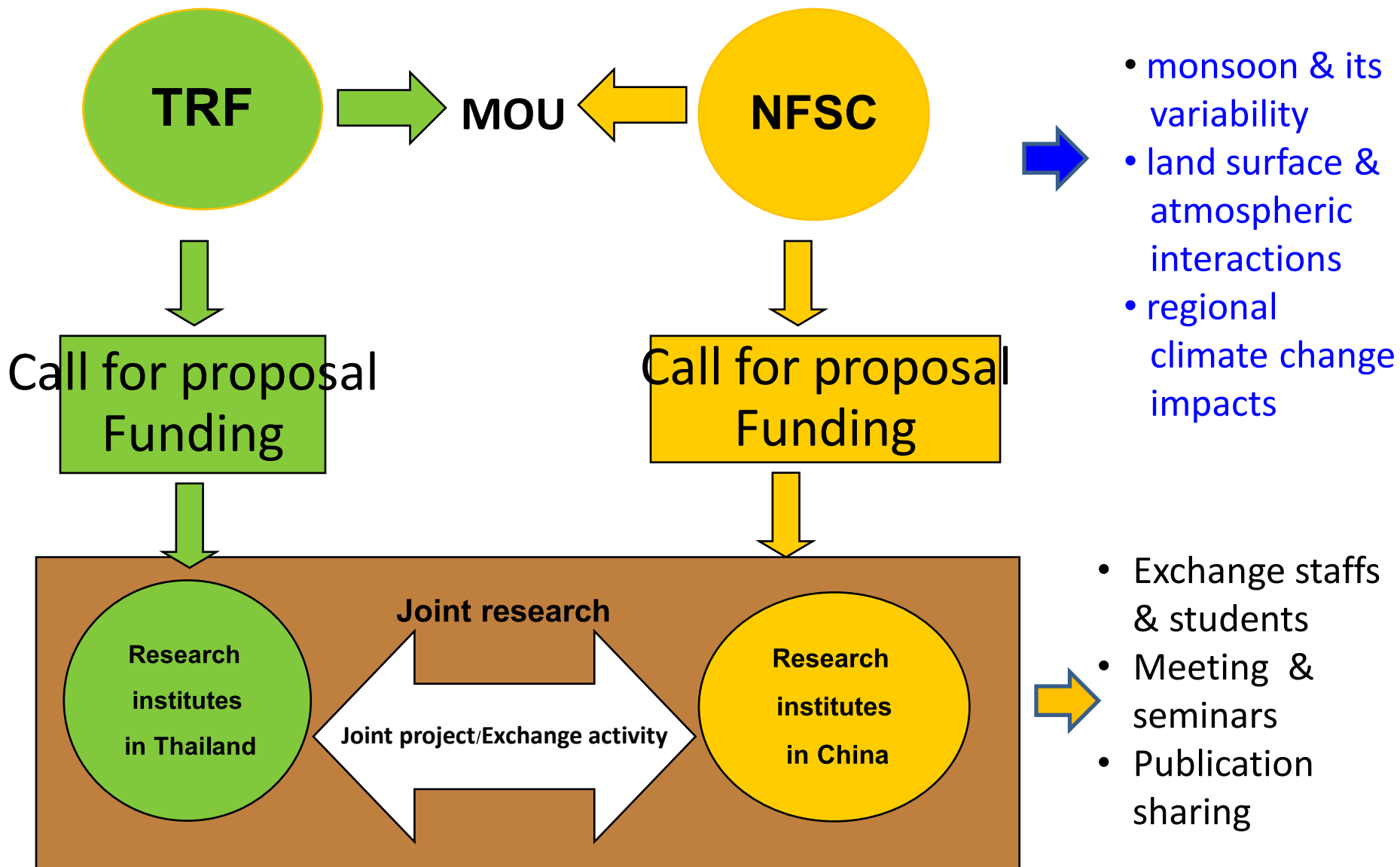
- recommendation to cope with the impacts of climate change on specific agricultural systems relevant to their needs and conditions.

UNFCCC, IPCC, donor & others

- Contribution to Article 5 & 6
- IPCC assessment report
- Regional dialog & working models
- Human resource developments

TRF-NSFC Collaboration





Climate Change and Related Research

Thailand climatology

- Monsoon system
- ENSO, MJO, IOD

Climate modeling

- Future climate modeling

Sectoral impacts & adaptation

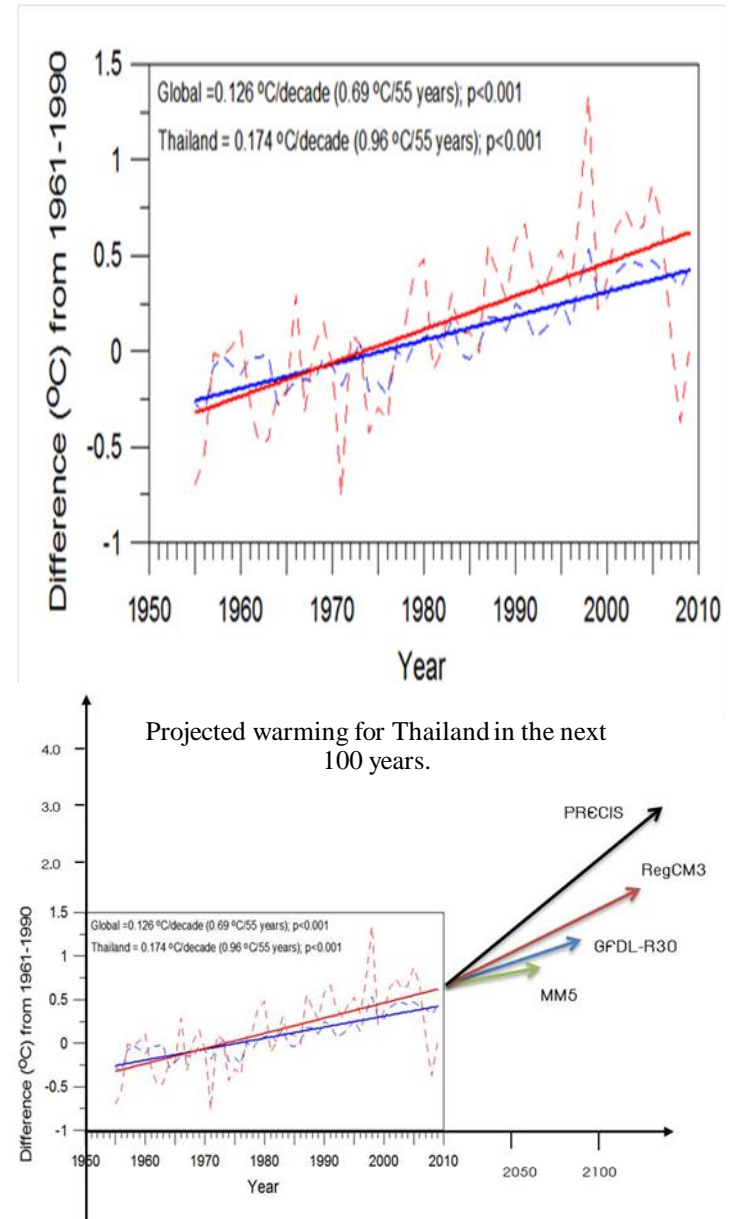
- Water resources and agriculture - impacts
- Land surface fluxes (energy and carbon)
- Community-based adaptive measures
- Climate risk analysis

Climate policy

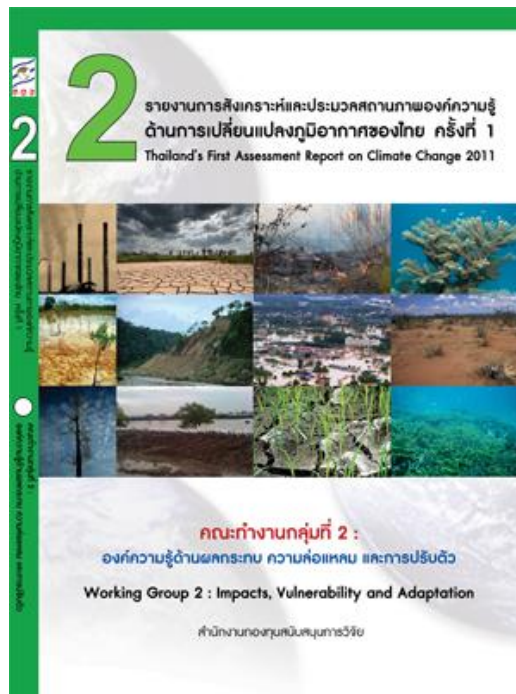
- Post-Kyoto Protocol (Commitments and implications to trade)
- Economic mechanisms for climate change solutions

TRF Climate Change & related Research

- **Thailand climatology**
 - Monsoon system
 - ENSO, MJO, IOD
- **Climate modeling**
 - Future climate modeling
- **Sectoral impacts & adaptation**
 - Water resources and agriculture - impacts on rice, sugarcane, cassava, and corn production
 - Land surface fluxes (energy and carbon)
 - Community-based adaptive measures
 - Climate risk analysis
- **Climate policy**
 - Post-Kyoto Protocol (Commitments and implications to trade)



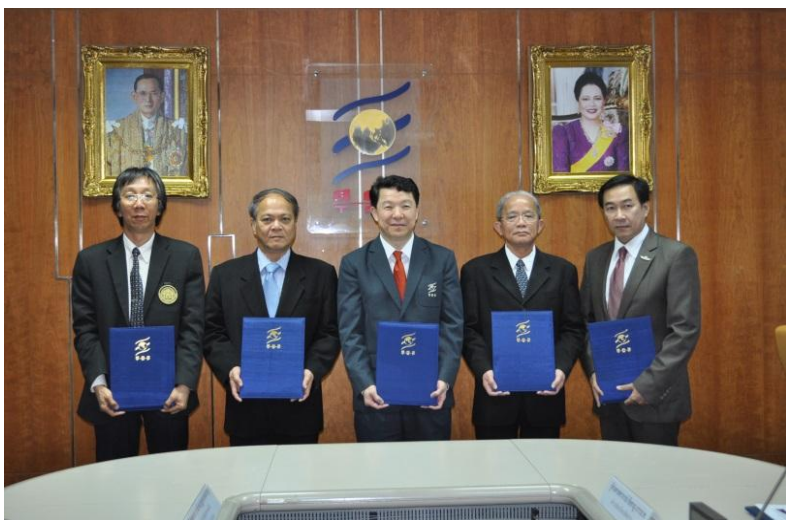
- Thailand's First Assessment Report on Climate Change 2011
- Thailand's 2nd Assessment is being processed





Institutional Grant : Users, Research Institutions

ความร่วมมือทางวิชาการด้านการเปลี่ยนแปลงภูมิอากาศ
ระหว่าง สำนักงานกองทุนสนับสนุนการวิจัย มหาวิทยาลัยรามคำแหง
มหาวิทยาลัยเทคโนโลยีพระจอมเกล้าธนบุรี มหาวิทยาลัยศิลปากร
กรมฝนหลวงและการบินเกษตร



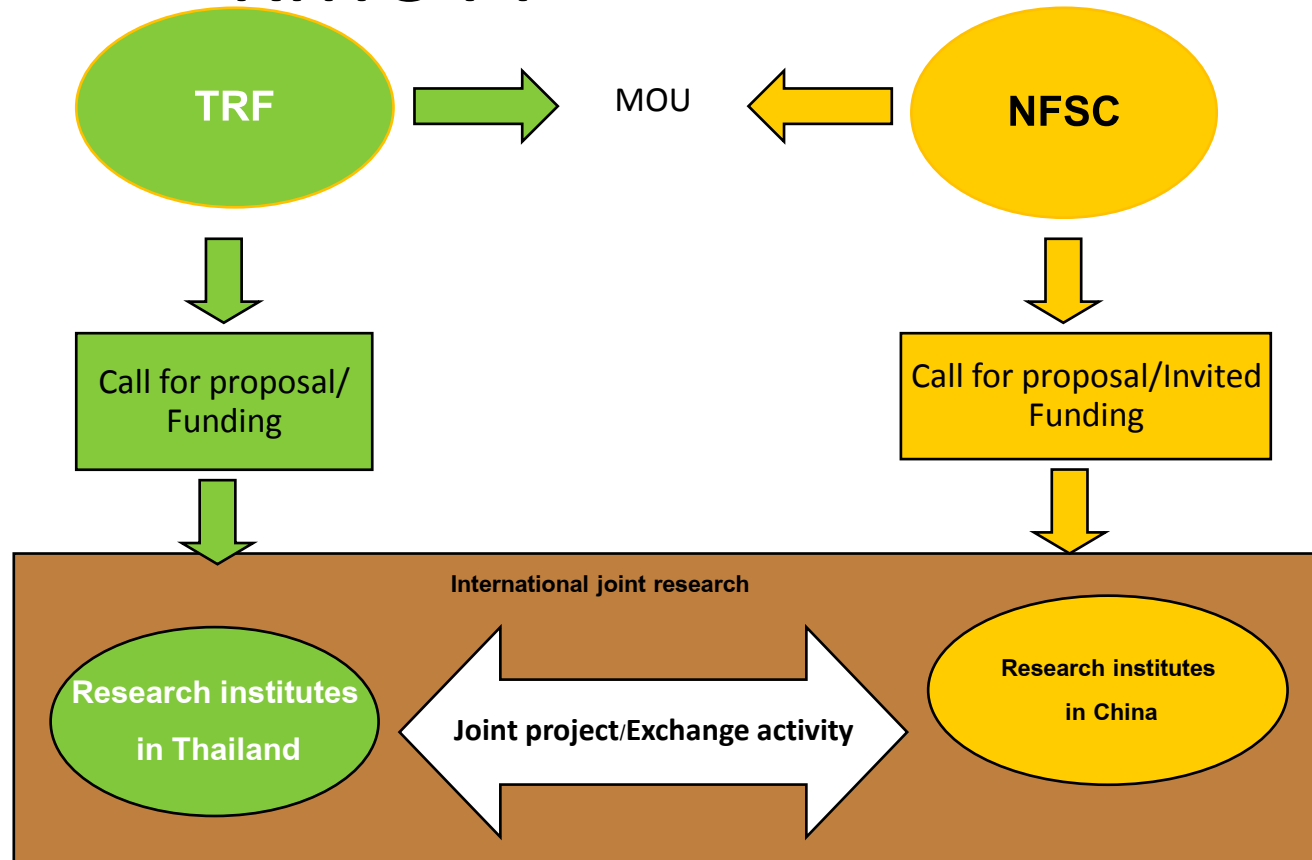
Foundation of China (NSFC)/IAP Collaboration with involvement of KMUTT

Duration: 2011-2013

1. Southwest & Northwest Monsoon Research (Prof. Dusadee – Prof. CHEN Wen (IAP))
2. Eddy tower flux & modeling—Amnat-Prof. LIU Hushi (IAP)
3. Seasonal precipitation forecast (Dr. Usa vs. Prof. Lin)



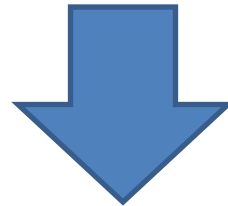
- Exchange staffs, students
- Meeting and seminars
- Publication sharing





Research Management

- Institutional Grant
- International Network
 - International Research Network Grant - IRN
 - International Collaboration
 - China – NSFC, ASEAN
- Users Collaboration



New direction of TRF Strategy 2557-2560
SRI – Climate Change, Land, Water, Environment Management

เป้าหมาย

- สนับสนุนงานวิจัยเชิงสถาบันให้เป็นแหล่งพัฒนาวิชาการที่มีความเป็นเลิศเฉพาะด้าน
- ขับเคลื่อนให้เกิดการสร้างองค์ความรู้อย่างต่อเนื่อง
- ตอบสนองความต้องการของประเทศในทางวิชาการและการประยุกต์ใช้ในระดับนโยบายและระดับปฏิบัติ

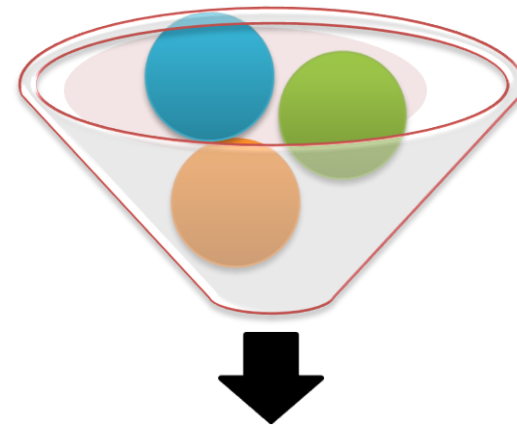
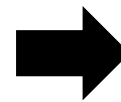
ศูนย์วิจัยที่มีความเชี่ยวชาญเฉพาะ

แบบจำลองอากาศระดับภูมิภาค
มหาวิทยาลัยรามคำแหง

ระบบพยากรณ์อากาศรายฤดู
มหาวิทยาลัยเทคโนโลยีพระจอมเกล้าธนบุรี

ฟิลิกส์บรรยากาศเขตร้อน
มหาวิทยาลัยศิลปากร
และกรมฝนหลวงและการบินเกษตร

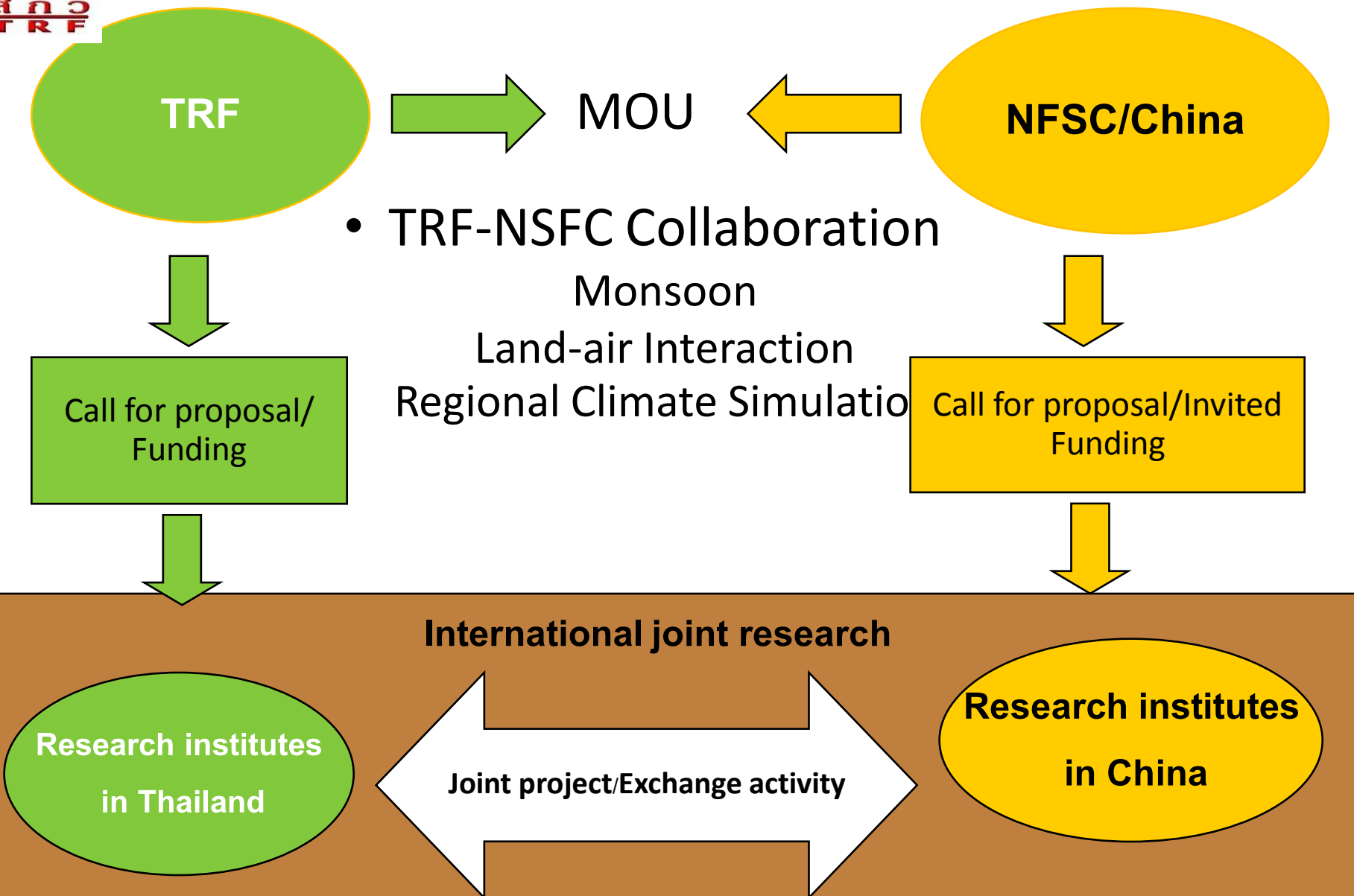
Data and Activities Sharing



การประเมินผลกระทบและการปรับตัว
ต่อการเปลี่ยนแปลงภูมิอากาศ



International Collaboration





International Research Network Grant

- สร้างเครือข่ายวิจัยที่มีโจทย์วิจัยที่จำเพาะและชัดเจน ที่มีองค์ประกอบ นักวิจัยไทย นักวิจัยตปท องค์กรภาครัฐ เอกชนของไทย และ องค์กรตปท โดยสนับสนุนการสร้างเครือข่ายวิจัยนานาชาติ
 - L-Full grant ผลิต Ph.D. 6 คน และ Postdoc 3 คน
 - M-Full grant ผลิต Ph.D. 6 คน
 - S-Full Grant ผลิต Ph.D. 4 คน และ Postdoc 2 คน
- ผลิตองค์ความรู้และนวัตกรรมเพื่อใช้ประโยชน์เชิงพาณิชย์ และ นโยบาย และ/หรือพัฒนาชุมชน focus SRIs
 - Climate Change, Water, Land, Forest, Environmental Management
 - Logistic and Supply Chain
 - Food Security and Food Safety
 - Energy and Energy Alternatives
 - Health and Demography Change

Challenges

- Climate change is global, regional and national issue—transboundary in nature
 - Some domestic experiences may be useful
- Common issues/interests in ASEAN
 - We need to identify this
- Transboundary research management (sustainability);
 - Differences among nations
 - Budget/finance
 - Human resource
 - Basic infrastructure
 - Database maintenance/accessibility/exchange
 - Output utilization