APEC Climate Center's Contribution to DRR in APEC Region

Purpose: Information
Submitted by: APEC Climate Center
APEC Climate Center's contribution to DRR in APEC region

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Established in 2005 to realize APEC’s aim of regional prosperity through enhancement of economic opportunities by use of climate information.

- To provide seasonal climate forecasts and other climate information products and services.
- To conduct research and development activities.
- To organize capacity building initiatives for scientists from developing economies.
APEC Climate Center in APEC

- APEC Climate Network endorsed by ISTWG
  - 1999

- APEC Climate Center endorsed by ISTWG and SOM
  - 2005

- APEC Climate Center establishment
  - 2004

- APEC Climate Center noted by STMM
  - 2015

- APEC Climate Center 10th anniversary
  - 2015

- Actively participated in ISTWG and PPSTI Meetings, cooperation with EPWG
- Supported APEC Economies through the APCC Working Group representing 21 member economies
- Invested & Contributed 11 APEC funded and self-funded projects
# Toward sustainable DRR collaboration:

**APCC’s DRR efforts in the APEC region**

**APCC** aims to contribute to economic growth in the APEC region and support the protection of lives and property, the reduction of economic losses, and enhance economic opportunities.

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<th>Climate Prediction</th>
<th>Interdisciplinary Research</th>
<th>Climate Info. Services</th>
<th>International Cooperation</th>
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<td>APCC produces value-added, reliable, and real-time climate prediction information and provides the APEC region with it.</td>
<td>APCC leads in the development of interdisciplinary research and application techniques at the climate-environment-society nexus.</td>
<td>APCC strives to be a key climate database center to distribute climate data, information products, and related tools.</td>
<td>APCC guides developing countries from the APEC region toward building their own capacity to produce reliable climate prediction information.</td>
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- **3 & 6 month forecast**
- **ENSO, IOD forecast**
- **S2S BSISO forecast**
- **Downscaled climate change scenarios**

- **APCC-CRIEPI Project**
- **APCC-NCDR Project**
- **APCC-CARDI Project**
- **APCC-IRI Project**
- **APN Project**
- **ROK-PIF Project**
- **Tonga Project**
- **ASEAN Project**

- **Climate information tool kit (CLIK)**
- **ADSS**
- **TRACE**
- **Open API**

- **APEC Climate Symposium**
- **APCC Training programs**
- **Young Scientists Support Program**

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Research

Producing High Quality Climate Prediction Information
- Seasonal Forecast Operation
- Multi Model Ensemble Methods
- Statistical downscaling & drought

Addressing Extreme and Variables
- Examines the regional characteristics of extreme changes over the APEC region
- Investigates the impacts of climate change on economic sector

Improvement of Application Techniques in Key Sectors
- Agriculture
- Water resources Management
- Disaster Management
Climate Information Services

**Clik Information toolKit (CLIK)**
- Customized MME prediction with verification
- Statistical downscaling tool
- User-friendly climate prediction tool

**Open API for Climate Information Service**
- Offers with climatological data such as climate prediction data, agricultural data and water resource data
- Pre-processing function
### Collaboration for Research Projects

- **ASEAN Science-Based Disaster Management Platform (2015-2017)**

- **Improving agricultural productivity in Tonga through ensuring data availability and enhancing agrometeorological services (2014-2016)**

- **Pacific Islands climate prediction services project (2014-2017)**

- **Assessing Rice Productivity and Adaptation Strategies for Southeast Asia under Climate Change through Multi-Scale Crop Modeling : A Case Study for Cambodia (2013-2014)**

- **Toward a Fire and Haze Early Warning System for Southeast Asia (2012-2015)**

- **Extending APEC Climate Center Seasonal Forecast and Climate Adaptation products for improved Societal Applications (2011-2012)**

- **Application of Seasonal Forecasts to Predict the Electricity Demand in Japan (2008-2011)**
## Pacific Islands Countries (PICs) Initiative

- In order to Strengthening Capacity for Climate Prediction and Climate Change Adaption in PICs
  - ROK-PIF Climate Service Project
  - Improving Agricultural Productivity in Tonga through Ensuring Data Availability and Enhancing Agro-meteorological Services
  - Seasonal tropical cyclone forecast system to sub-seasonal to seasonal tropical cyclone forecast system
  - Development of Smart Groundwater Management System in the Kingdom of Tonga: Utilizing Climate Information in Response to Shortage of Water

## Collaboration with IRI

- Bicol Rice Disease Project (BIRD)
  : Application of a rice disease model for seasonal yield loss simulation in the Bicol region
International Cooperation
- Capacity Building Programs

**Young Scientist Support Program (YSSP)**

- In order to contribute to building early career scientists’ capacity

  - YSSP Participants in the past 5 years
    - 13 participants from 11 countries (2015)
    - 8 participants from 5 countries (2014)
    - 11 participants from 7 countries (2013)
    - 20 participants from 10 countries (2012)
    - 13 participants from 13 countries (2011)

**Training Program**

- to share knowledge on climate downscaling techniques & contribute to professional dev’t for climate scientist in developing countries

  - APCC Training Programs
    - Regional Prediction using Dynamic Downscaling Scheme
    - Training Workshop on CLIK: Seasonal Prediction & its Localization
    - Subseasonal to Seasonal Prediction to cope with high impact weather in developing countries
    - Producing high resolution climate information & its application using downscaling scheme
APCC’s engagement with EPWG/APEC

Presentation

• Application of Big Data and Open Data to Emergency Preparedness Phase 1 (2015)
  “Big Data and Open Data: Toward easily accessible and demand-driven climate information for DRR”
• APEC 9th Senior Disaster Management Official Forum (2015)
  “Adapting to Climate Change and Natural Hazards in the Asia-Pacific Region using Science and Technology”
• APEC Emergency Management CEOs Forum (2009)
  “Role of Climate Information in Emergency Preparedness”

Participation

• APEC Workshop on Community Based Disaster Risk Management
• Invitation to APEC Climate Symposium annually
  “The Use of Weather and Climate Information for Efficient Disaster Risk Management (2015)”
APEC Climate Symposium

• 2015: “From Science to Action: The Use of Weather and Climate Information for Efficient Disaster Risk Management” (Manila, Philippines)

• 2014: “Managing climate extremes and hydrologic disasters: Scientific prediction and emergency preparedness” (Nanjing, China)

• 2013: “Regional Cooperation on Drought Prediction Science to Support Disaster Preparedness and Management” (Jakarta, Indonesia)
2015 APEC Climate Symposium

From Science to Action: *The Use of Weather and Climate Information for Efficient Disaster Risk Management*

November 2 – 4
Manila, Philippines

Expected outcomes:
- Improved understanding of the role of forecasts in disaster management
- Policy recommendations

Uptake of forecasts to reduce adverse disaster impacts
2016 APEC Climate Symposium

Theme:
Smart Climate Information and Accountable Actions: Achieving Sustainable Food Security in a Changing World
September
Piura, Peru
※ Details to be decided

- Keynote Policy Presentations
- Effect of weather and climate on regional food security
- Case Studies adapting to Climate Change for Sustainable Agriculture
- Policy Recommendation
THANK YOU!

www.apcc21.org

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