The 5th International Climate Change Adaptation Platforms Meeting
AP-PLAT Plenary Meeting
24th – 25th October 2024, NIES, Tsukuba, Japan

Overview of AIT RRC.AP and Activities

Dr. Ramesh Soysa

Head of Climate Change Cluster

RRC.AP
Regional Resource Centre for Asia and the Pacific

3rd Floor, Outreach Building, AIT
Klong Luang, Km. 42, Pathumthani, Thailand 12120
www.rrcap.ait.ac.th | Facebook | Twitter

Asian Institute of Technology Regional Resource Centre for AP

Services

Capacity building

- Comprehensive Training Programmes
- Mentoring and Post-training Follow-up

Knowledge sharing

- Development of Knowledge Products
- Dialogue (Webinars, Side-events, etc)
- Technical and Policy Advice

Technical Services

- Programme/project design
- Technical Consultancies
- Programme/project implementation

Climate Change Thematic Areas

Accessing Climate Finance

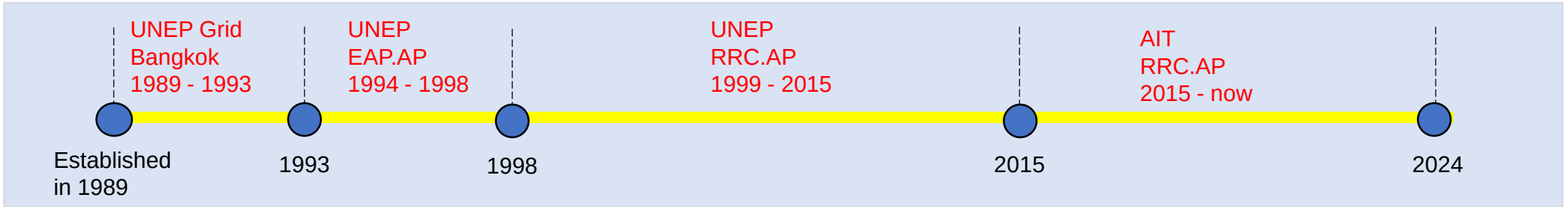
- Project Conceptualization & Design

Adaptation Planning and Disaster Risk Reduction

- Resilience Planning for Cities and communities
- Climate data downscaling
- Technical and Policy Advice

Mitigation Empowerment

- Youth-led renewable energy applications
- Feasibility studies & EIA
- Research and Technology assessments



Introduction to the Climate Change Cluster

Asian Institute of Technology, Regional Resource Centre for Asia and the Pacific

2016 – Formulation of Concept Note and City Resilience Training Programmes

2018 – Climate data downscaling workshops introduced; AIT Listed in AF Network of Providers of Readiness Support for Adaptation; AIT Listed in GCF Framework for Communities of Practice

2020 – Continued refinement of training approach and methodology; YEA Youth Energy Academy, 1st YEA in ASIA; Downscaling software improved and installed

2022 – FloodS tool introduced for adaptation planning; Climate Change Adaptation Tools Regional Training

2024 – Climate Change Adaptation Platform Meeting

Networks and Initiatives engaged:

- Adaptation Research Alliance
- MCR 2030 Campaign
- Asia-Pacific Adaptation Information Platform (AP-PLAT)
- Providers of Readiness Support for Adaptation for Adaptation Fund Secretariat, CTCN, GCF, GCF-NDA and PCCB

Wider reach in Asia and the Pacific

- Continued engagement of Regional Workshops
- Continued engagement of Youth

Strengthen national and local-level support

- Climate Data Downscaling and field applications
- E-learning on climate change related issues
- GCF Concept Note Development
- Diversify capacity building efforts
- Support project implementation – Management and Technical Support

Introduction to Locally Led Adaptation Tools of S8DS and FloodS

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S8DS

https://ds02.rrcap.ait.ac.th/

Web application based on Graphical User Interface (GUI) system. Developed by Tsukuba University, Japan with support from the Ministry of Environment, Japan (MoEJ). User-friendly Platform (generate output by click and drag function).

S8DS requires only PC and internet, no pre-requisite of technical climate knowledge needed for use, minimum workload and is free and easy to access. S8DS bridges science-based solutions for everyone.

Basic features of S8DS

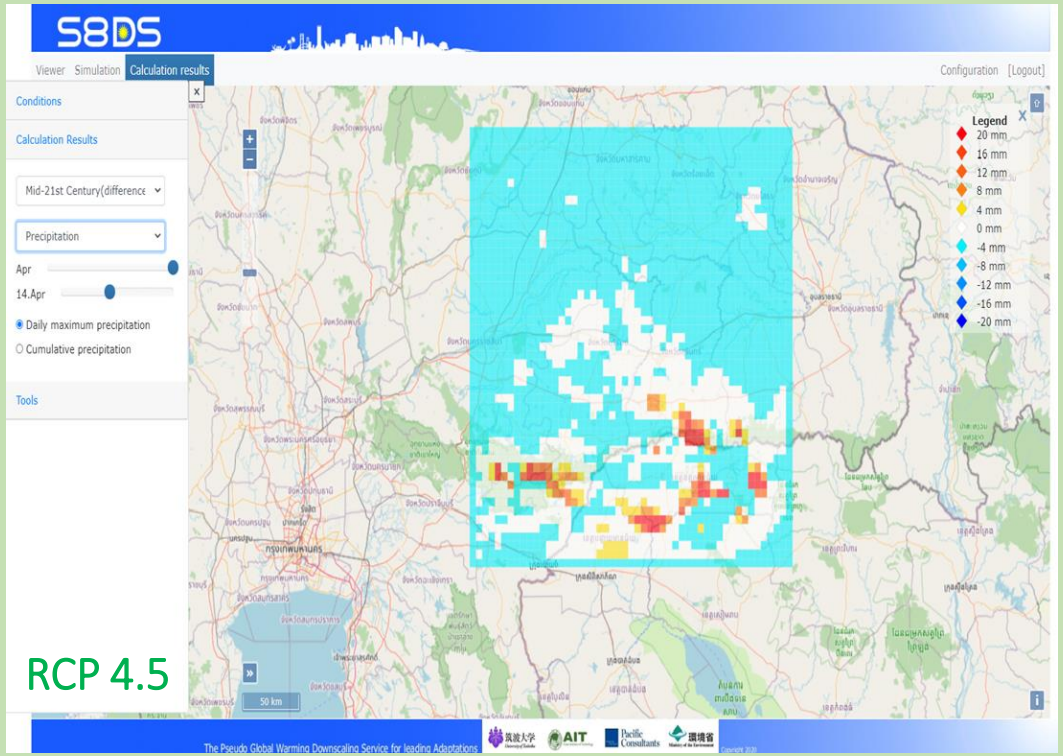
Method	Pseudo global warming method –dynamic downscaling
Baseline Data	Global Climate Model(GCM), Special Report on Emissions Scenarios (SRES), Representative Concentration Pathway (RCP) and Coupled Model Intercomparison Project (CMIP3 and CMIP5), Regional Climate Model (RCM).
Resolution	Between 1-10 km
Model Simulation Time	3-64 hours depending on the resolution and amount of data input
Prediction Parameters	Temperature, Precipitation, Wind Speed/Direction, Humidity, Solar Radiation (ShortWave), Sea Level Pressure
Additional Features	Considers impact of human activity on future climate such as land use change and energy use

Simulation Example for Precipitation in Buriram Province Thailand by 2050

The overall precipitation will be decreasing about **4 mm per day from base year**.

The daily maximum precipitation in Buriram province at Mid 21st century of RCP 4.5 is projected to be **lower than current year in many areas**.

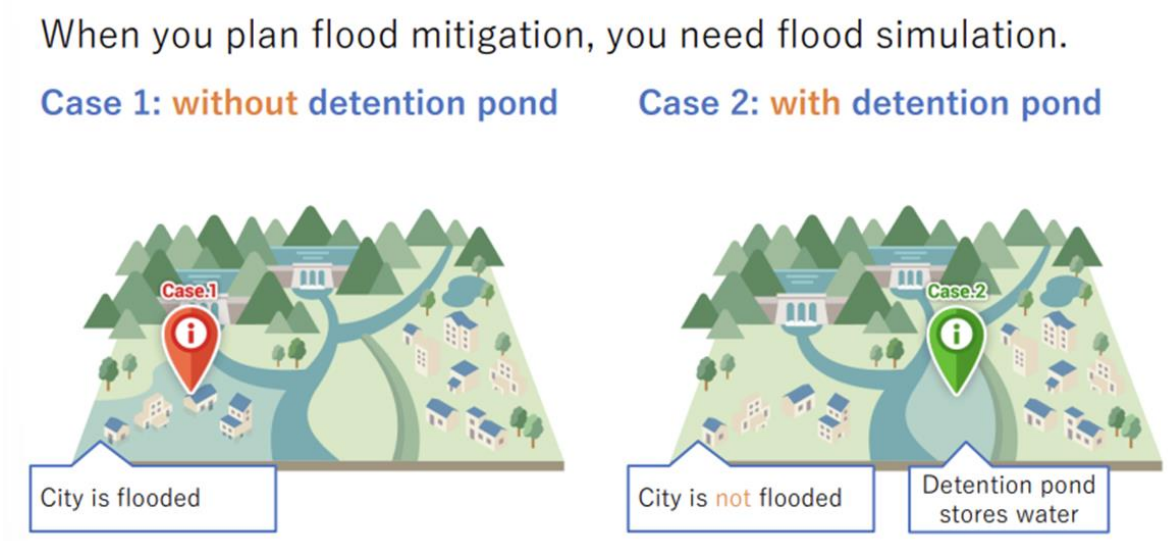
The decrease of rainfall might **affect rain-fed agricultures** which contributes to about **89% of livelihoods**.



FloodS and DioVISTA

https://top.floods.green/

FloodS is a tool for flood hazard mapping and decision-making and occurrence of flood for adaptation and prevention. Developed by HITACHI Corp. Ltd, Japan with support from the Ministry of Environment, Japan (MoEJ). Service Provider, AIT RRC.AP. FloodS intends to develop flood simulation system with excellent usability and visibility. Used for Adaptation Planning, Disaster Risk Reduction, River Management, Urban Planning. It can measure water depths and flows, evaluation of counter measures such as embankments.



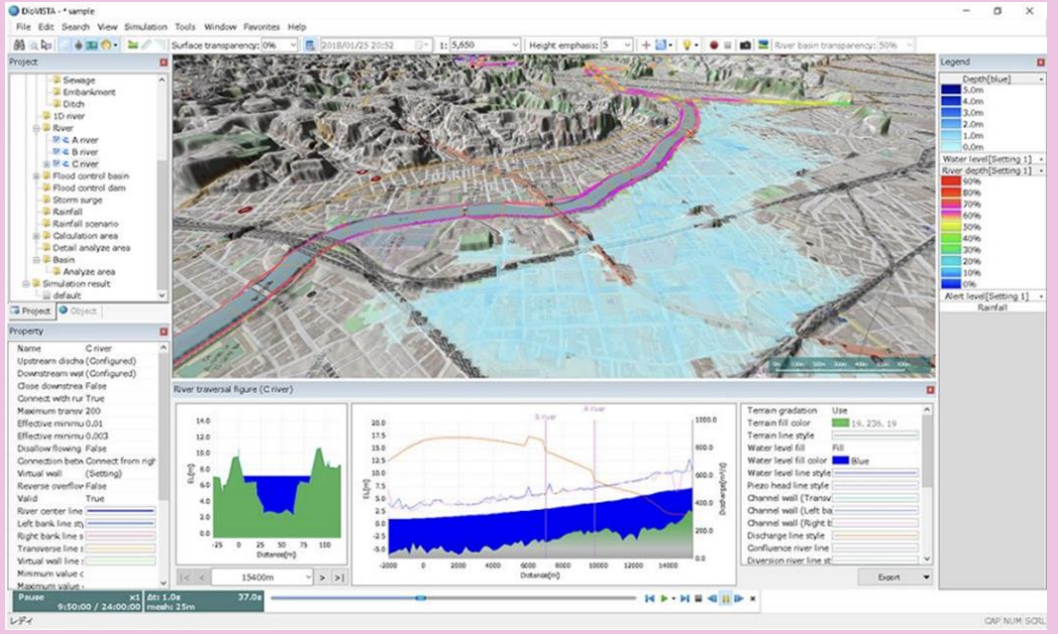
Helps mitigation planning by evaluating the effect of flood flow control measures (e.g., detention pond). Can simulate floods that have not occurred in the past.

Simulator by DioVISTA

FloodS uses a fast flood simulator
Provided by Hitachi Power Solutions as product **DioVISTA Flood**.

DioVISTA is used for

- Flood hazard mapping by local governments
- Flood risk assessment by insurance companies
- Business continuity planning by private enterprises



Raising Awareness on AP-PLAT and ClimoCast

Asia-Pacific Climate Change Adaptation Information Platform

AP-PLAT
Asia-Pacific
Climate Change Adaptation
Information Platform

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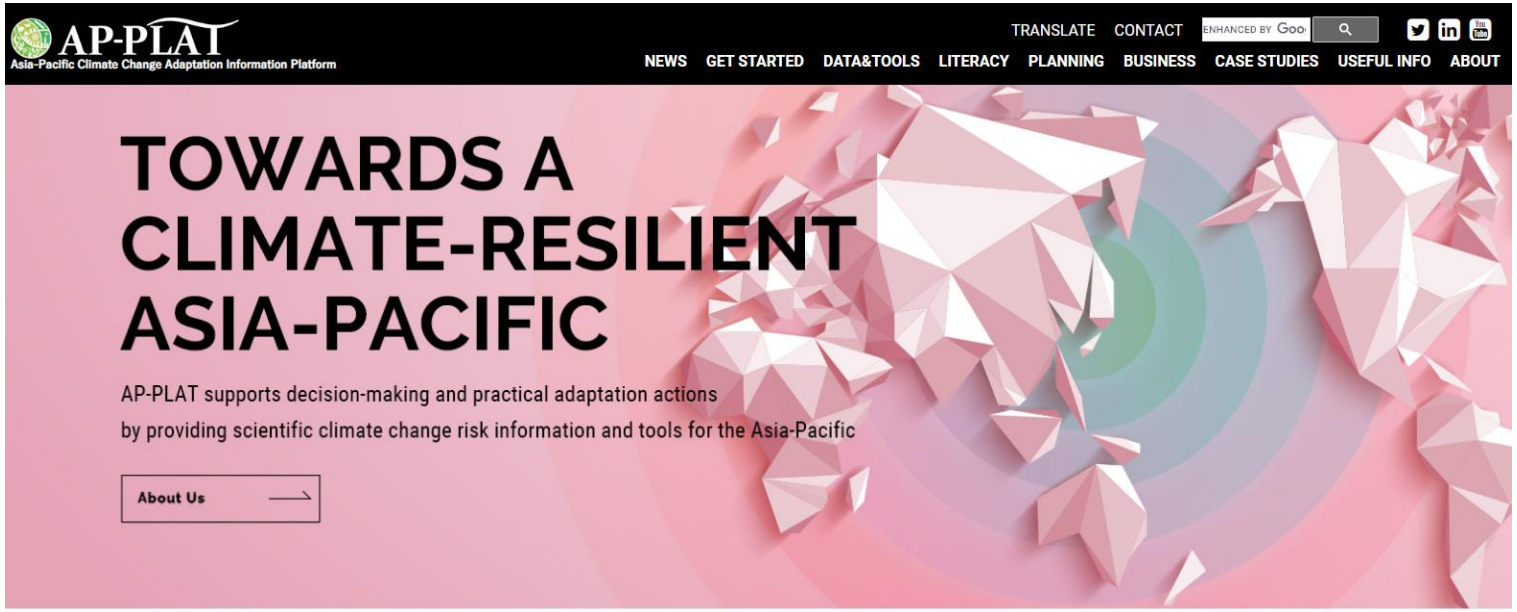
AP-PLAT



Goal: to contribute to the sustainability and resilience of the Asia-Pacific region by informing decisions and supporting adaptation actions.

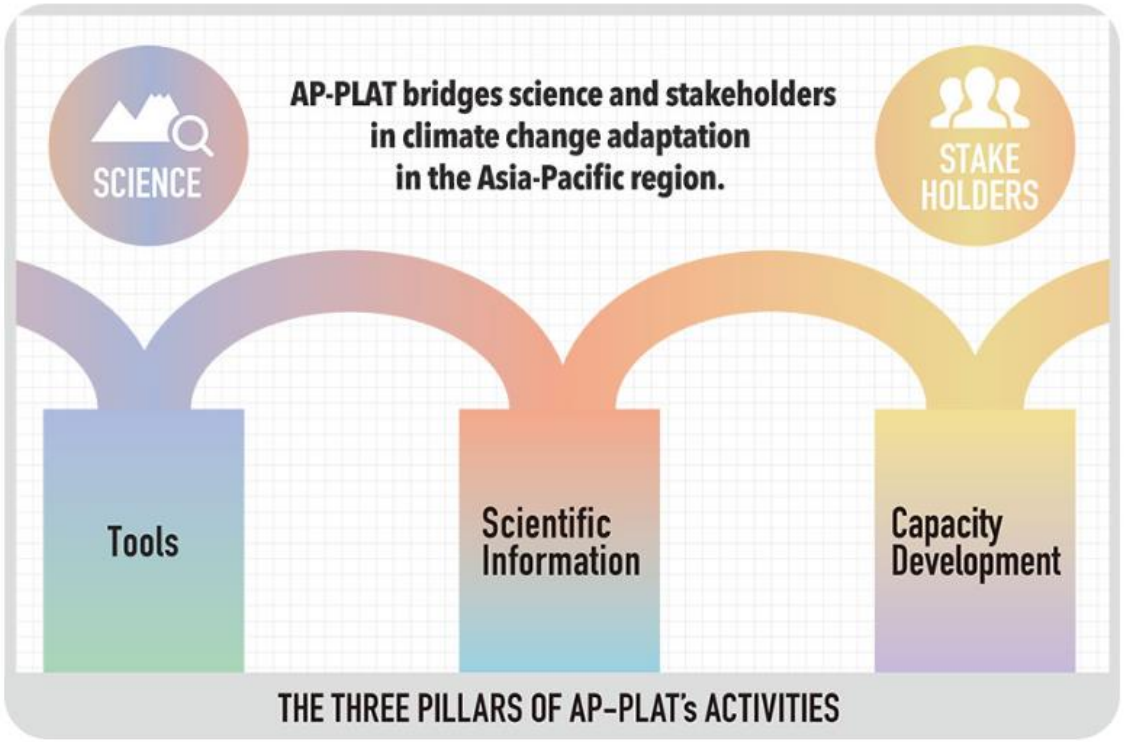
https://ap-plat.nies.go.jp/

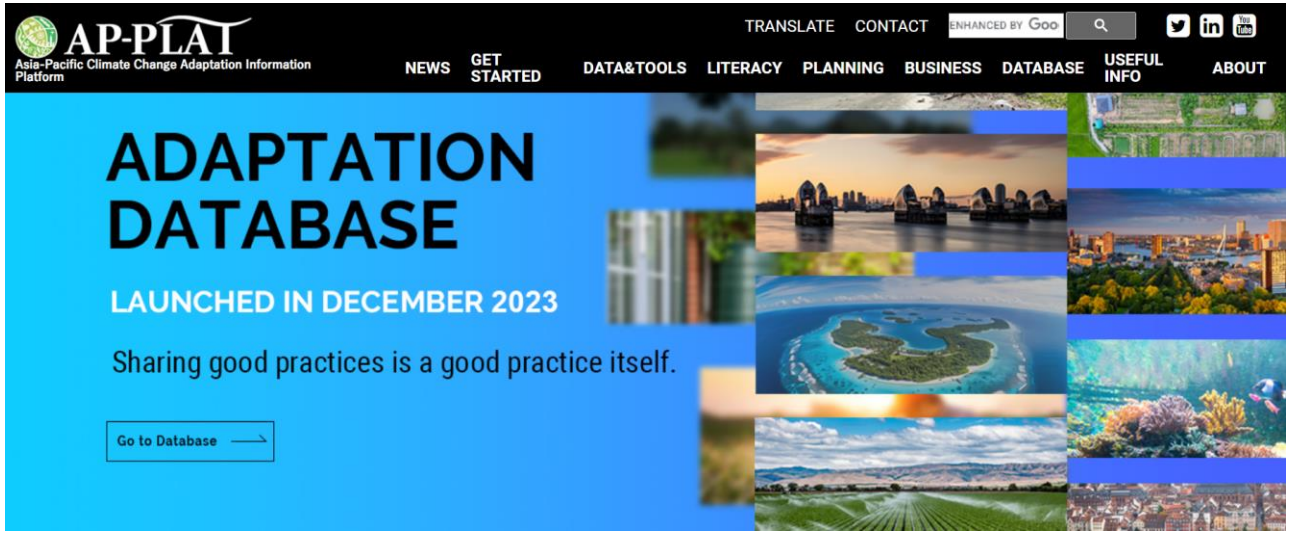
AP-PLAT was launched in June 2019 by **Ministry of Environment Japan** (MOEJ) during G20 Ministerial Meeting on Energy Transitions and Global Environment for Sustainable Growth held under Japan's presidency of G20.

AP-PLAT is a **web-based information platform** for national and local policymakers, researchers, businesses, and individuals seeking practical, up-to-date information on climate change adaptation and relevant science.

Covers three core areas of Scientific Information and Knowledge Creation, Tool Development and Capacity Development.

It provides data and information, news and events, e-learning courses.


SCIENCE
AP-PLAT bridges science and stakeholders in climate change adaptation in the Asia-Pacific region.
STAKE HOLDERS
Tools
Scientific Information
Capacity Development
THE THREE PILLARS OF AP-PLAT's ACTIVITIES


AP-PLAT
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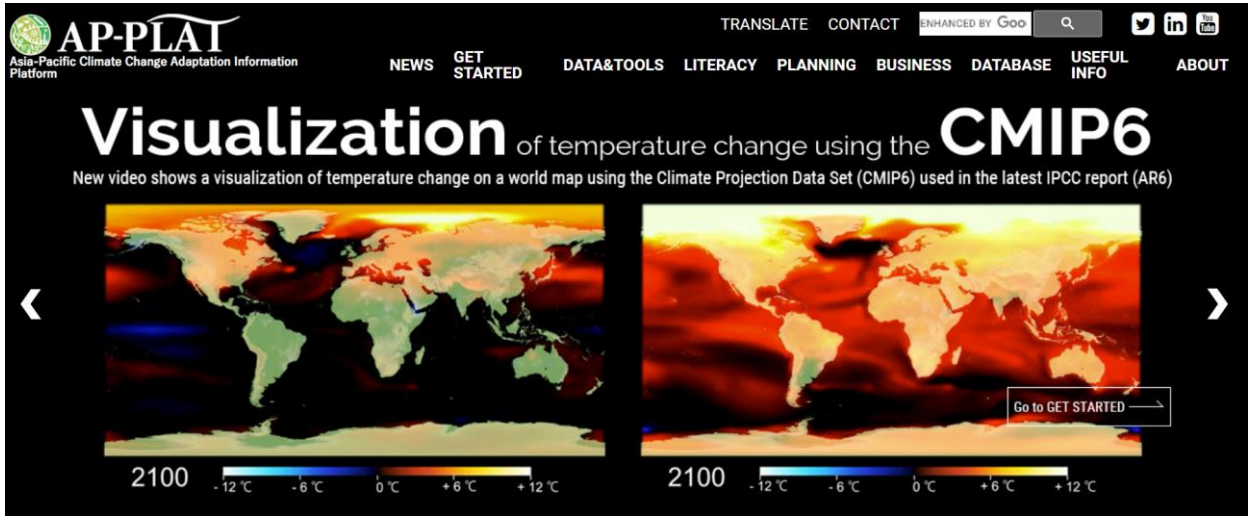
TRANSLATE CONTACT
NEWS GET STARTED DATA&TOOLS LITERACY PLANNING BUSINESS DATABASE USEFUL INFO ABOUT
ADAPTATION DATABASE
LAUNCHED IN DECEMBER 2023
Sharing good practices is a good practice itself.
Go to Database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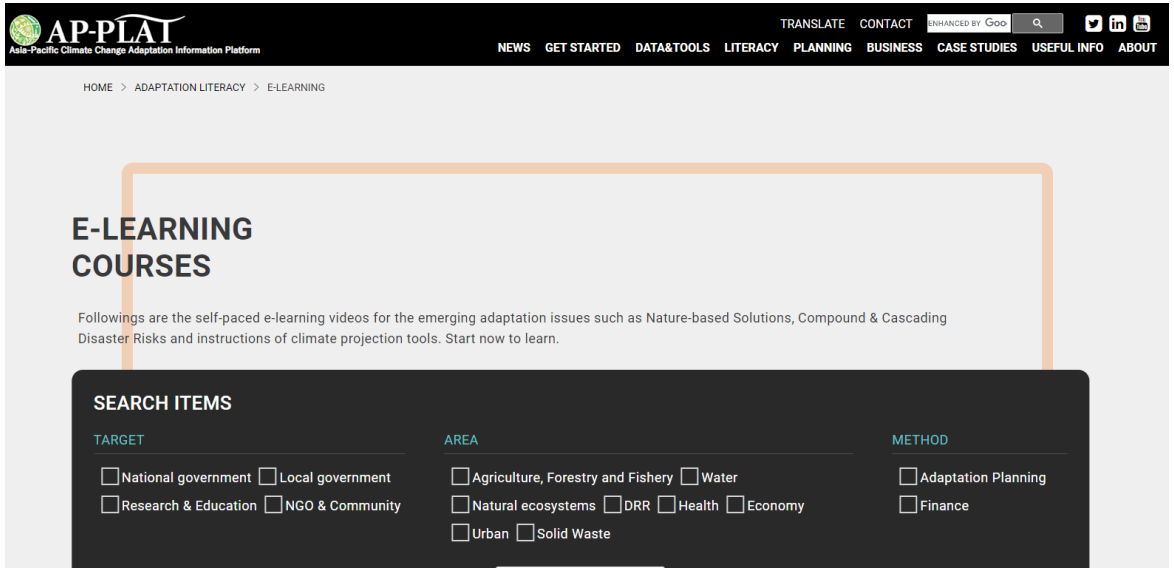
TRANSLATE CONTACT
NEWS GET STARTED DATA&TOOLS LITERACY PLANNING BUSINESS DATABASE USEFUL INFO ABOUT
Visualization of temperature change using the CMIP6
New video shows a visualization of temperature change on a world map using the Climate Projection Data Set (CMIP6) used in the latest IPCC report (AR6)
Go to GET STARTED
2100 - 12 ℃ - 6 ℃ 0 ℃ + 6 ℃ + 12 ℃
2100 - 12 ℃ - 6 ℃ 0 ℃ + 6 ℃ + 12 ℃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NEWS GET STARTED DATA&TOOLS LITERACY PLANNING BUSINESS CASE STUDIES USEFUL INFO ABOUT
HOME > ADAPTATION LITERACY > E-LEARNING
E-LEARNING COURSES
Followings are the self-paced e-learning videos for the emerging adaptation issues such as Nature-based Solutions, Compound & Cascading Disaster Risks and instructions of climate projection tools. Start now to learn.
SEARCH ITEMS
TARGET
National government Local government
Research & Education NGO & Community
AREA
Agriculture, Forestry and Fishery Water
Natural ecosystems DRR Health Economy
Urban Solid Waste
METHOD
Adaptation Planning
Finance

ClimoCast

CMIP6 Climate Projection Tool. ClimoCast enables you to see **future climate projections on the map**, it enables you to **compare climate scenarios** and **download the data**. It is a quick and easy access to project climate scenarios.

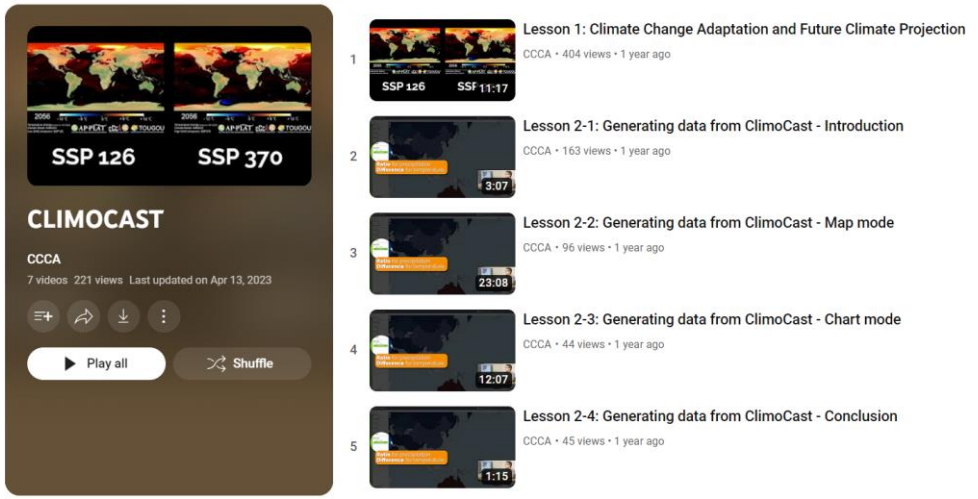
ClimoCast can answer in **two steps**: how many degrees will temperature increase in my country, province and town? Where can I get this data?

Examples that ClimoCast can answer are as follow:

1. **Quantification of Mitigation effect** - What is the difference in temperature increase between SSP126 (low emission) and SSP 370 (high emission).
2. **Identifying hotspots** - Where is the region of highest temperature?
3. **Identifying dry/wet spots** - Where is the region of highest drying/ wetting?
4. **Identifying dry/wet season** - Which month will precipitation decrease or increase?

Tutorial Series of ClimoCast can be found on YouTube: https://www.youtube.com/playlist?list=PL9jaKxAv72IwIyjx4I1yD-DuzEjowzR2G

https://a-plat.nies.go.jp/ap-plat/cmip6/global.html



GCF Concept Note Development and GCF Concept Note Mentoring Session

Strengthening Climate Resilience Through Strategic Agriculture Zone in Gorontalo District: Transforming Food Crops, Coconut and Livestock Industries

GCF Concept Note Section B.1. Context & Background:
Climate Vulnerabilities & Impacts

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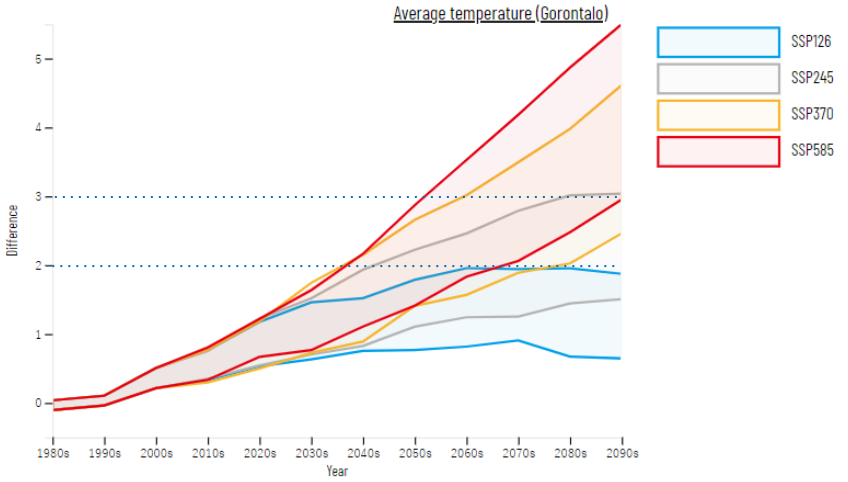
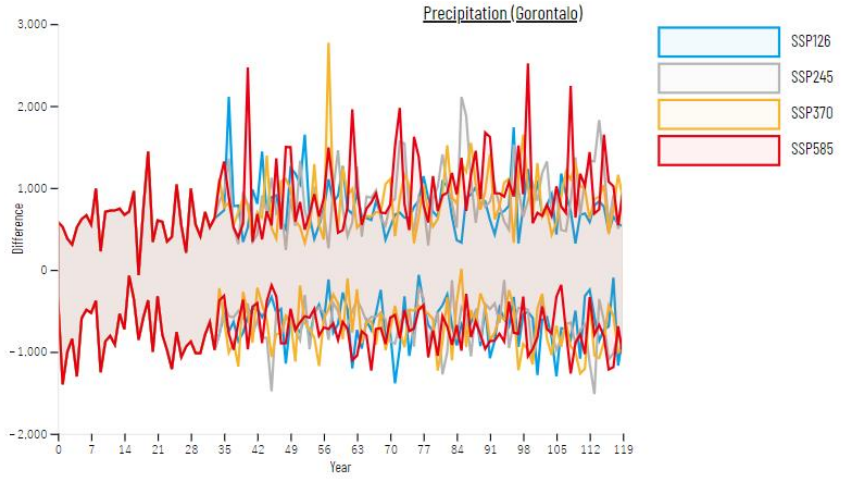




Climate Projections:

- Increase of weather extremes and drought between 22%-300% due to anthropogenic emission & ENSO.
- Increase of avg. temperature in the district **by +2 °C by 2050s** in all scenarios and **+3 °C by 2090s** in 3 scenarios (SSP245, -370, -585).
- Increase of **precipitation ratio variability in the district between 0.8 to 1.2 in all scenarios** which may lead to uncertain weather pattern by 2090s.

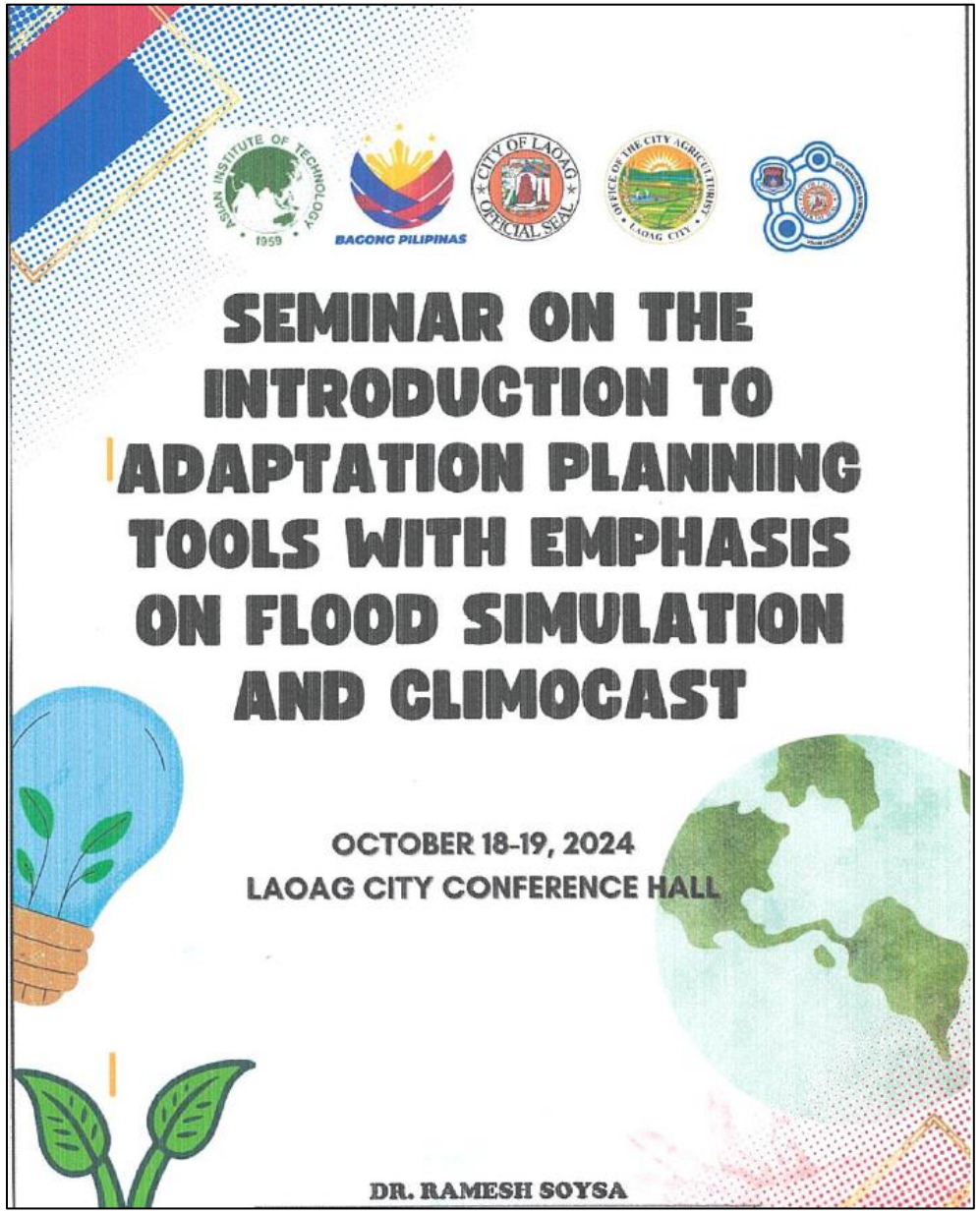
Vulnerabilities & Impacts:

- Shift of maize suitability from suitable to marginally suitable and not suitable.
- Projected decrease of paddy productivity by more than 25%, thus Gorontalo is listed as Top Priority by BAPPENAS in LCDI plan.
- Potential threat of drought, floods, and pests attack increase to crops which reduce productivity or crop failures which affects .
- Low income farmers vulnerable to fall into poverty.

Reference: ClimoCast (https://a-plat.nies.go.jp/ap-plat/cmip6/global.html)

Introducing to AP-PLAT and ClimoCast

- *Regional Training Workshop on MCR 2030 Bangkok*. Thailand, February 2024.
- *Introduction to Adaptation Planning Tools*. Iligan City, The Philippines, May 2024.
- *Regional Training Workshop on NAP*. Bangkok, Thailand, June 2024.
- *Regional Training Workshop on GCF Concept Notes Development for PSIDS*. Nadi, Fiji, June 2024.
- *Introduction to Adaptation Planning Tools*. Laoag City, The Philippines, May 2024.



Programme

DAY 1

OPENING PROGRAM

8:30 - 9:30 AM	**Opening Prayer**	**AVP**
	National Anthem	**AVP**
	Welcome Remarks	**Mr. Taiki Kohno** Assistant Director, MoEJ
	Opening Remarks	**Dr. Guilberto Borongan** Director, AIT RRC.AP
	Congratulatory Remarks	**Hon. Michael Marcos Keon** City Mayor, Laoag City
9:30 - 10:00 AM	**Photo session and Coffee Break**	

LECTURE PROPER

9:30 - 10:00 AM	**Introduction to AIT RRC.AP**	**Dr. Ramesh Soysa** Head, Climate Change Cluster, AIT RRC.A
10:00 - 12:00 NN	**Introduction to Adaptation Tools**	
	Introduction of AP-PLAT in the context of Regional Climate Resilience	**Dr. Ramesh Soysa** Head, Climate Change Cluster, AIT RRC.A
	Presentation of Laoag City Disaster Risk Reduction and Management Office	**Dr. Melvin Medel Manuel** LDRRMO IV
	Introduction to Floods & Climocast (Part 1)	**Engr. Julius Jimenez** Expert, AIT RRC.AP
12:00 NN - 1:00 PM	**LUNCH**	
1:00 - 2:45 PM	Introduction to Floods & Climocast (Part 2)	**Engr. Julius Jimenez** Expert, AIT RRC.AP
	GCF Concept Note Development	**Dr. Guilberto Borongan** Director, AIT RRC.AP
	Question and Answer	
2:45 - 3:30 PM	**Distribution of Certificates**	
DAY 2	**Field Visit to Laoag City Local Adaptation Infrastructure Site**	


Introduction of AP-PLAT in the context of
Regional Climate Resilience


Raising Awareness on
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Introduction to two new e-learning Courses launched in AP-PLAT on Locally Led Adaptation

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Integrating Gender and Indigenous Factors into Locally-Led Adaptation

Launched in AP-PLAT on 1st March 2024!

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Integrating Gender and Indigenous Factors into Locally-Led Adaptation

The LLA course aims to raise awareness about the importance of locally led adaptation, integrating gender equality, and addressing indigenous concerns. This course targets various stakeholders involved in local-level climate change adaptation. The modules provide rationale, linkages, and methodologies for locally led adaptation, integration of gender and indigenous factors, with real case studies for practical application.

Four Module Course on Locally Led Adaptation on integrating gender and indigenous factors.

Module 1: Introduction to locally led adaptation, gender, indigenous factors and the SDGs

Module 2: Locally led adaptation to Climate Change

Module 3: Case studies on locally led adaptation to Climate Change

Module 4: Gender equality and social inclusion and indigenous factors

Using the FloodS Flood Forecasting Tool for Adaptation Planning at the City Level

Launched in AP-PLAT on 1st March 2024!

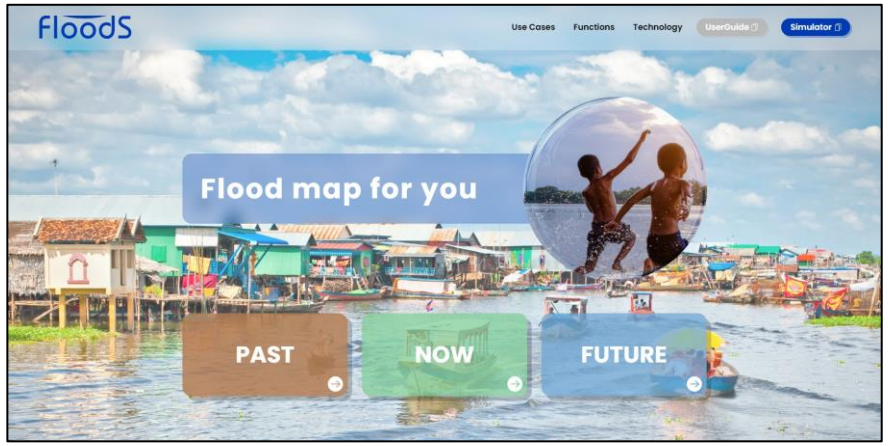
https://ap-plat.nies.go.jp/adaptation_literacy/resources/e_learning/floods/index.html

Using the FloodS Flood Forecasting Tool for Adaptation Planning at the City Level

FloodS, a web-based flood simulation tool for adaptation planning, was developed by 'Hitachi' and was introduced to meet the climate adaptation needs of the region. This tool forecasts floods and their expected impact, aiding in the development of appropriate adaptation strategies within the broader climate adaptation plan. The knowledge acquired through deploying this tool will strengthen countries' capacity for integrated climate-resilient flood risk management, improving understanding of potential climate change impacts on flooding, and promoting resilience in vulnerable communities.

Four Module Course on Locally Led Flood Forecasting Tool for Adaptation Planning at the City Level

Module 1: Flood Impact and Cost in a Changing Climate
Module 2: Understanding the Operation of FloodS Tool
Module 3: Using FloodS Tool in Climate Adaptation Planning
Module 4: Flood Risk and Vulnerability Assessment in the Municipality of Paoay, Ilocos Norte: The Use of FloodS Web Tool



Human Adaptation to Climate Change

Human biological adaptation to climate change involves both **physiological** and **evolutionary** responses that help individuals and populations cope with shifting environmental conditions.

Physiological Adaptations

a. Thermoregulation: As temperatures rise, humans may develop enhanced mechanisms for **regulating body heat**. This could involve improved sweating efficiency or changes in blood flow patterns to better manage heat.

b. Heat Tolerance: Populations living in hotter climates may develop greater **heat tolerance**. This could include changes in skin pigmentation to reduce UV damage or alterations in metabolic rates to handle heat better.

Genetic Adaptations

a. Genetic Variants: Specific **genetic variations** can confer advantages in coping with extreme temperatures or high humidity. For example, populations in high-altitude regions often have genetic adaptations that improve oxygen utilization.

b. Selection Pressure: Over generations, **natural selection** might favor individuals with traits that help them better cope with changing conditions. This could lead to shifts in allele frequencies within populations.

Rapid climate change, like what is happening now in the **Anthropocene**, can outpace the rate of biological adaptation, and socio-economic factors often influence the ability of populations to adapt effectively.

Thank you

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