KORIKA

Artificial Intelligence Research and Innovation Industry Collaboration

AI for Climate Action in Indonesia:
Current Practices, Policy Gaps, and Emerging Opportunities

Nur Anis Hadiyati
Director of AI Governance and Ethic
KORIKA – Indonesia

Office :
Soedjono Djoened Poesponegoro Building, 18th fl
MH. Thamrin Street No. 8 Central Jakarta

Vision : enhancing collaborative action to strengthen AI Innovation Ecosystem

Scope of Work

AI Talents
Development and absorption of AI Talent

AI Maker Lab
Research & Development

AI Innovations
Innovation and Commercialization

AI Ethical Moderation

Advocation

Community Engagement

Ecosystem of N – Helix Collaboration

Industry — AI Use Cases, Dataset Provision, Donate, Invest, Adopt

Government — Grand Challenges, Policy, RPJMN, APBN for AI, Funding

25% Impact of AI on Indonesia's GDP
2030 → VISI INDONESIA 2045

Academics — Research and Innovation, AI Experts and Talents, AI Center of Excellence

Community — Partners, Advocacy, Providing Solutions, Talent

Climate-Change Ecosystem

KORIKA
Artificial Intelligence Research and Innovation Industry Collaboration

Indonesian Agency for Meteorology, Climatology, and Geophysics (BMKG)

Indonesian Ministry of Health (MoH)

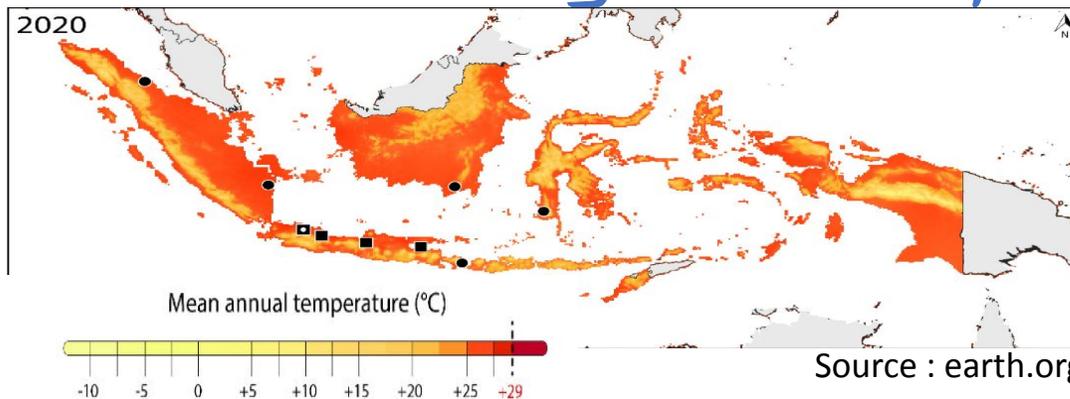National Disaster Management Agency of Indonesia (BNPB)

Indonesian Ministry of Energy and Mineral Resources (MEMR)

National Food Security Agency

Indonesian Ministry of Environment

National Research and Innovation Agency

RCCC UI — Research Center for Climate Change Universitas Indonesia

MITIGASI Kebencanaan dan Perubahan Iklim Institut Teknologi Sepuluh Nopember

Research Center for Climate Change State University of Padang

Center for Climate Change / CCC-ITB

2020
Mean annual temperature (°C)
-10 -5 0 +5 +10 +15 +20 +25 +29
Source : earth.org

FaktaIklim
Aksi Nyata Pahami Iklim
Countering climate hoaxes

Kemenkes BMKG KORIKA IMACS
ClimateSmart Indonesia

AI for national food security:
- Policy making
- Price production
- Food stock

AI for climate prediction and outlook

KORIKA

Artificial Intelligence Research and Innovation Industry Collaboration

Subject to update

NATIONAL STRATEGIC DIRECTION

Indonesia National Development Planning 2025-2029 ●
Indonesian AI Roadmap 2025–2029 ●

INNOVATION & AI CAPABILITY DEVELOPMENT

National System of Science and Technology Act ●
Health Regulatory Sandbox ●

DATA & DIGITAL GOVERNMENT REGULATION

● *Presidential Decree – One Data Indonesia*
● *Presidential Decree – Electronic-Based Government System (SPBE)*

CYBERSECURITY & NATIONAL RESILIENCE

BSSN regulation on Standards and ●
Procedures for Security Audits of the Electronic-Based Government System

ETHICS & AI GOVERNANCE

Minister of ICT's ●
Circular Letter on AI Ethics

RIGHTS, TRUST & LEGAL SAFEGUARDS

● *Electronic Information and Transactions Law*
● *Personal Data Protection Act*

KORIKA
Artificial Intelligence Research and Innovation Industry Collaboration

Ai and Climate Action TARGET
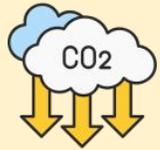## Indonesia National Development Planning 2025-2029
Presidential Decree No.12/2025

ASTA CITA
8

8th Mission

Strengthening the Alignment of a **Harmonious Life with the Natural and Cultural Environment**, and Enhancing Interfaith Tolerance to Achieve a Just and Prosperous Society

Emission Reduction
Targeted : 21.12 % in 2029

Transition to Low Carbon Energy
Green energy production : 62.063 GWH

Mitigating Climate Risk
Improving risk disaster management

Earth Sustainability
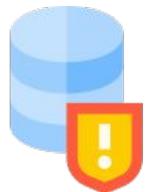Restoration of Degraded Ecosystems

Green Jobs
Green job 2,96-3,14 % in 2029

Research & Innovation
Adoption of Industry 4.0 technologies and low-emission technologies

Strengthening the availability and utilization of government data.

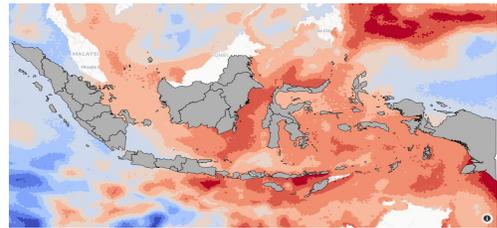**Data Center**
Targeted : 6.87 watt/capita

Digital Talent
Capacity building for researcher, and digital literacy.

Indonesian Agency for Meteorology, Climatology, and Geophysics (BMKG)

International Collaboration

Climate Prediction

- 🌧️ Monthly precipitation forecast
- 🌪️ El Nino Southern Oscillation
- 🌏 Indian Ocean Oscillation
- 🌊 Sea Level Rise

Strengthen the capacity of national meteorological services to provide reliable meteorological data and information that support energy system planning, forecasting, and climate risk management (including management of climate risks).

1,3 Pflops → 16

High-Performance Computer

Storage

College of Meteorology, Climatology, and Geophysics (STMKG)

→ BMKG

← Local Universities

← International Training

← Private Support
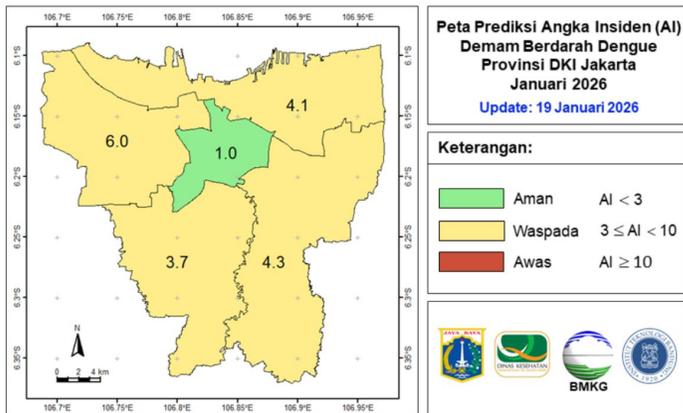
Google DeepMind   NVIDIA Stormcast

IBM GRAF

The Bureau of Meteorology

BMKG

- sharing knowledge, technology, and experience
- learning by doing

Healthcare

Dengue Risk Prediction Map

Peta Prediksi Angka Insiden (AI)
Demam Berdarah Dengue
Provinsi DKI Jakarta
Januari 2026
Update: 19 Januari 2026

Keterangan:
- Aman — AI < 3
- Waspada — 3 ≤ AI < 10
- Awas — AI ≥ 10

ClimateSmart Indonesia *)

Malaria   Leptospirosis   Dengue Fever

Food Security

Indeks Ketahanan & Kerentanan Pangan
Nasional 2025 (0 Kabupaten/Kota)

Food Insecurity Map

Sadayana - SEURI

Smart farming *)

Energy

Source : esdm.go.id

AI to support Solar Power Plant
- ☐ **Energy Output Prediction**
- ☐ **Solar Panel Position Optimization**
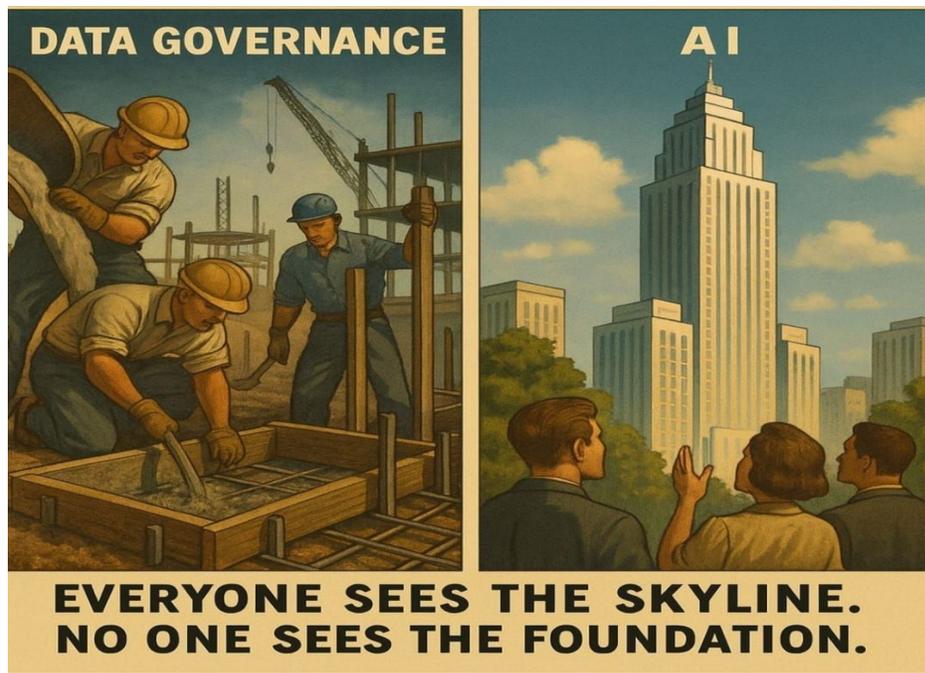- ☐ **Solar Panel Anomaly Detection**

Source : Linkedin **John Wernfeldt**

Silo Bureaucracy
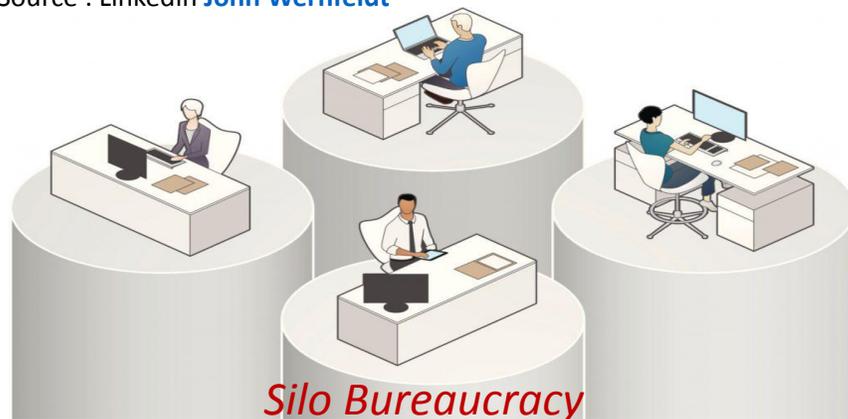
Source : helpjuice

- ❑ **Data Governance Maturity Gap**
  AI deployment depends on data availability, interoperability, and governance, which differ across institutions.
- ❑ **From Strategy to Operations**
  Climate and AI priorities are articulated at the strategic level, but operational mechanisms across institutions are still evolving.
- ❑ **Cross-Sector Institutional Alignment**
  AI for climate action requires coordination across environment, data, technology, and sectoral ministries, which remains a work in progress.
- ❑ **Absence of an Integrated Umbrella Framework**
  There is no single, overarching framework that explicitly connects AI governance with climate policy implementation.
- ❑ **Innovation–Adoption Gap**
  Strong research and technical capacity exist, yet institutional readiness to absorb and scale AI solutions varies.
- ❑ **Uneven Institutional Readiness**
  Institutions with long-established data and scientific mandates demonstrate stronger AI integration, while newer structures are still building capacity.

KORIKA

Artificial Intelligence Research and Innovation Industry Collaboration

❑ **Indonesia as a Living Laboratory for Climate–AI Innovation**
- Indonesia faces diverse climate risks: floods, droughts, heat stress, coastal impacts.
- This diversity creates **real-world environments** to test, refine, and scale AI-driven climate solutions.

❑ **Open Invitation for Global Collaboration**
- joint research initiatives.
- knowledge sharing platforms.
- capacity-building partnerships.

❑ **Bridging Research and Policy Through Co-Creation**

Indonesia offers opportunities to:
- pilot policy-relevant AI tools,
- embed research outputs into decision-making processes.

Strengthening institutional coordination is a priority, Opportunity to collaborate on:
- governance models,
- institutional frameworks,
- regulatory and operational toolkits for AI in climate policy.

❑ **Advancing Data Governance and AI Policy Through Shared Learning**

Indonesia is in a phase of:
- harmonizing standards,
- strengthening interoperability,
- improving data accessibility.

Opportunity for:
- knowledge exchange on data governance
- Policy Research

Thank you...