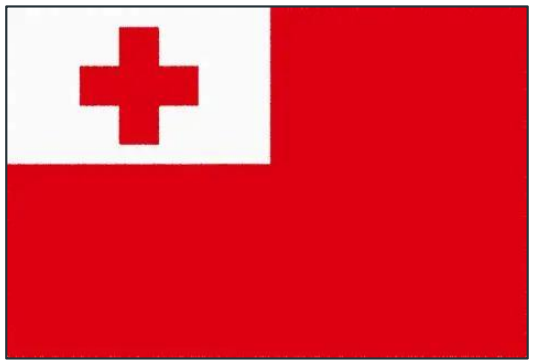
MINISTRY OF METEOROLOGY, ENERGY, INFORMATION, DISASTER MANAGEMENT,
ENVIRONMENT, CLIMATE CHANGE AND COMMUNICATIONS

United Nations Nations Unies
Economic and Social Commission for Asia and the Pacific

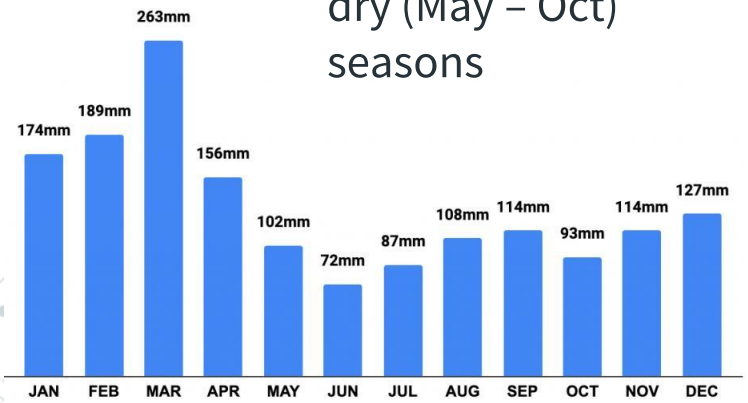
Country Report on Digital Technology and Climate Change

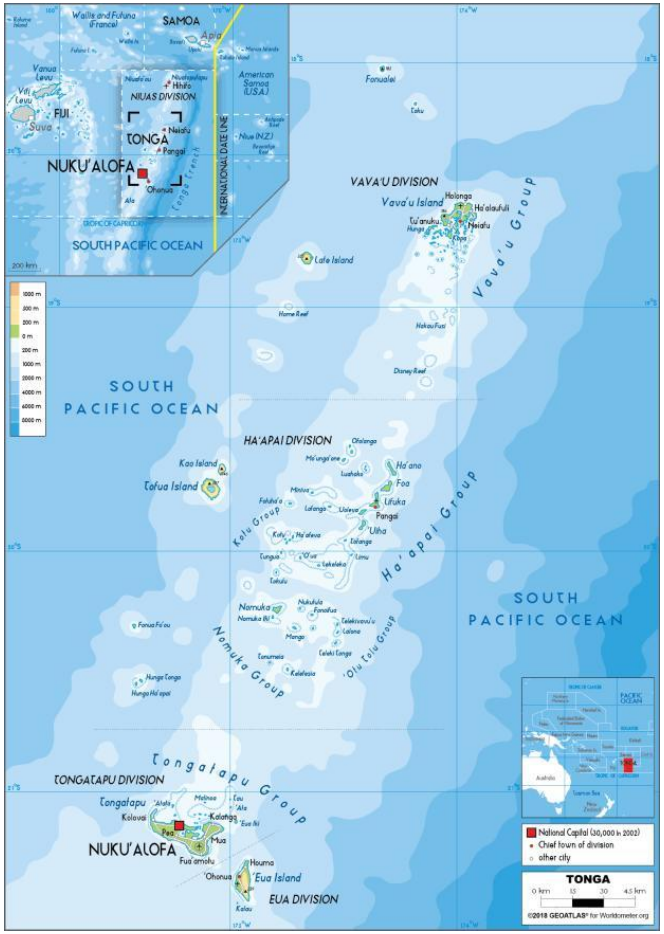


Country Overview

Geography and Climate

- Constitutional monarchy with 171 islands, 36 inhabited
- Tropical climate with wet (Nov – Apr) and dry (May – Oct) seasons





Country Overview

Population and Economy

- **Population ~106,000**, majority in Tongatapu
- **Economy –** agriculture, fisheries, remittances, and tourism







Country Overview

Climate and Hazards

- Highly exposed to cyclones, tsunamis, volcanic eruptions
- Recent events: Cyclone Gita (2018), HTHH eruption (2022)







Climate Challenges

Extreme weather

Stronger cyclones, floods, droughts

Sea level rise

Erosion, saltwater intrusion, displacement

Ocean acidification

Damage to coral reefs and fisheries

Disaster impacts

Destruction of infrastructure, displacement

Role of Digital Technology in Adaptation

Early Warning Systems

Real-time cyclone and tsunami alerts (SMS, radio)

Remote Sensing & Monitoring

Satellite and drones for coastal monitoring

GIS mapping for resilient infrastructure

Digital Governance

Digital Government Transformation Program

Community Engagement

Mobile platforms for preparedness and awareness

Challenges in Utilizing Digital Technology

- Limited infrastructure and connectivity in outer islands
- High cost of ICT deployment
- Shortage of ICT specialists and need for continuous training
- Energy demand of ICT systems
- Digital divide between urban and rural populations.

Capacity Building



Actions Needed

- Strengthen ICT infrastructure for resilience
- Expand training and digital education
- Integrate climate/disaster data platforms
- Promote regional cooperation

Goal

- Empower government, communities, and youth to use digital tools for climate resilience and sustainable development

Tonga's Situation

- Remote sensing monitors erosion and reef health
- Early warning systems save lives
- Digital platforms support disaster response
- Community outreach through mobile apps
- Digital tools help Tonga manage risks but require more investment

Assistance Needed from South Korea

- Enhance ICT infrastructure, including outer islands
- AI-driven climate forecasting, remote sensing, big data
- Cyber-resilient digital disaster response platforms
- Capacity building and training in ICT
- Partnerships in renewable energy, agriculture, fisheries



Thanks!

Any questions?

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