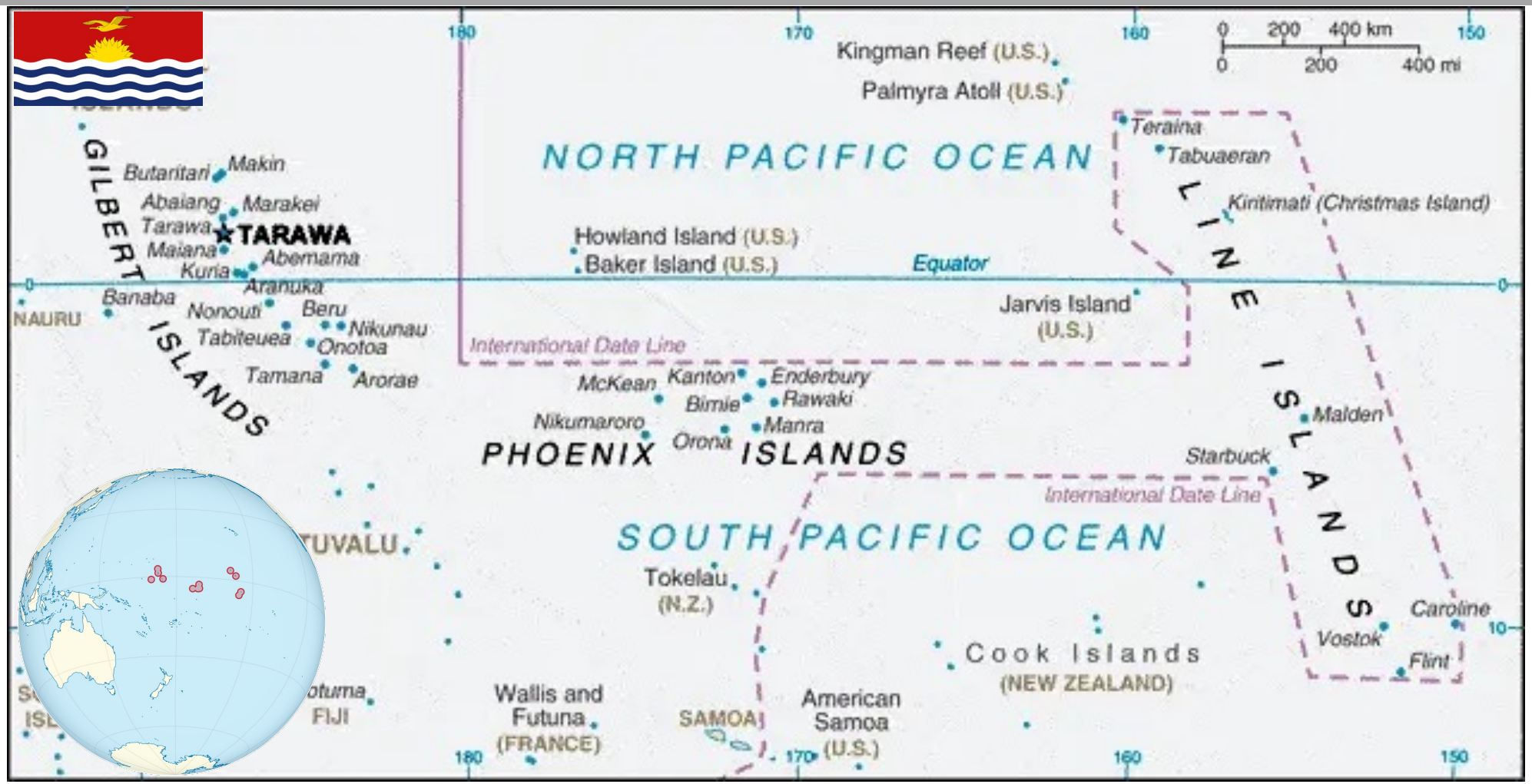

# Kiribati Tsunami Standard of Procedures

# BACKGROUND:


Kingman Reef (U.S.)
Palmyra Atoll (U.S.)
NORTH PACIFIC OCEAN
Teraina
Tabuaeran
Kiritimati (Christmas Island)
LINE ISLANDS
GILBERT ISLANDS
Butaritari
Makin
Abaiang
Marakei
Tarawa
TARAWA
Maiana
Abemama
Kuria
Aranuka
Howland Island (U.S.)
Baker Island (U.S.)
Equator
Jarvis Island (U.S.)
NAURU
Banaba
Nonouti
Beru
Nikunau
Tabiteuea
Onotoa
Tamana
Arorae
International Date Line
McKean
Kanton
Enderbury
Birnie
Rawaki
Nikumaroro
Orona
Manra
PHOENIX ISLANDS
Malden
Starbuck
International Date Line
SOUTH PACIFIC OCEAN
TUVALU
Tokelau (N.Z.)
Caroline
Vostok
Flint
Cook Islands (NEW ZEALAND)
Wallis and Futuna (FRANCE)
SAMOA
American Samoa (U.S.)
FIJI
0 200 400 km
0 200 400 mi
180
170
160
150
10

# HISTORY-Tsunami that affect Kiribati

| Date | | | | | | Tsunami Runup Location | | |
|---|---|---|---|---|---|---|---|---|
| Year | Mo | Dy | Hr | Min | EQ Mag | Name | Distance fr Source | Max Water Hgt (m) |
| 1899, PAPUA NEW GUINEA | 1 | 15 | | | | GILERT ISLANDS | 4032 | |
| 1952 - KAMCHATKA | 7 | 13 | 11 | 58 | 6.8 | CANTON ISLAND, PHOENIX ISLANDS | 2713 | |
| 1952 - KAMCHATKA | 11 | 4 | 16 | 58 | 9 | KANTON ISLAND, PHOENIX ISLANDS | 6721 | 0.1 |
| 1957 - ALEUTIANS | 3 | 9 | 14 | 22 | 8.6 | CHRISTMAS ISLAND, LINE ISLANDS | 5741 | 0.17 |
| 1957 - ALEUTIANS | 3 | 9 | 14 | 22 | 8.6 | KANTON ISLAND, PHOENIX ISLANDS | 6030 | 0.12 |
| 1960 - CHILE, SOUTHERN | 5 | 22 | 19 | 11 | 9.5 | CHRISTMAS ISLAND, LINE ISLANDS | 9629 | 0.23 |
| 1960 - CHILE, SOUTHERN | 5 | 22 | 19 | 11 | 9.5 | KANTON ISLAND, PHOENIX ISLANDS | 10541 | 0.1 |
| 1963, KURILS | 10 | 13 | 5 | 17 | 8.5 | CHRISTMAS ISLAND, LINE ISLANDS | 7007 | 0.1 |
| 1964 - ALASKA | 3 | 28 | 3 | 36 | 9.2 | CHRISTMAS ISLAND, LINE ISLANDS | 6619 | 0.05 |
| 1964 - ALASKA | 3 | 28 | 3 | 36 | 9.2 | KANTON ISLAND, PHOENIX ISLANDS | 7396 | 0.03 |
| 1966 - CHILE, NORTHERN | 12 | 28 | 8 | 18 | 7.8 | CHRISTMAS ISLAND, LINE ISLANDS | 9782 | 0.03 |
| 2013 - SANTA CRUZ, SOLOMONS | 12 | 31 | 18 | 23 | 7.8 | CHRISTMAS ISLAND, LINE ISLANDS | 4276 | |
| 2001 - PERU | 6 | 23 | 20 | 33 | 8.4 | CHRISTMAS ISLAND, LINE ISLANDS | 9414 | 0.03 |
| 2003 ALEUTIANS, RAT ISLANS | 11 | 17 | 6 | 43 | 7.8 | CHRISTMAS ISLAND, LINE ISLANDS | 5907 | 0.04 |
| 2006 - KURILS | 11 | 15 | 11 | 14 | 8.3 | BETIO, TARAWA | 5381 | 0.04 |
| 2006 - KURILS | 11 | 15 | 11 | 14 | 8.3 | KANTON ISLAND, PHOENIX ISLANDS | 6477 | 0.02 |
| 2009 - INDONESIA , PAPUA | 1 | 3 | 19 | 43 | 7.6 | BETIO, TARAWA | 4458 | 0.02 |
| 2009 - SAMOA | 9 | 29 | 17 | 48 | 8.1 | CHRISTMAS ISLAND, LINE ISLANDS | 2523 | 0.17 |
| 2011 - JAPAN | 3 | 11 | 5 | 46 | 9.1 | BETIO, TARAWA | 5154 | 0.27 |
| 2011 - JAPAN | 3 | 11 | 5 | 46 | 9.1 | CHRISTMAS ISLAND, LINE ISLANDS | 7306 | 0.53 |
| 2011 - JAPAN | 3 | 11 | 5 | 46 | 9.1 | KANTON ISLAND, PHOENIX ISLANDS | 6563 | 0.16 |
| 2012, CANADA, HAIDA GWAI | 10 | 28 | 3 | 4 | 7.7 | CHRISTMAS ISLAND, LINE ISLANDS | 6117 | 0.03 |
| 2013 - SANTA CRUZ, SOLOMONS | 2 | 6 | 1 | 12 | 7.9 | BETIO, TARAWA | 1603 | 0.12 |
| 2013 - SANTA CRUZ, SOLOMONS | 2 | 6 | 1 | 12 | 7.9 | CHRISTMAS ISLAND, LINE ISLANDS | 4376 | 0.04 |
| 2015 - CHILE, CENTRAL | 9 | 16 | 22 | 54 | 8.3 | CHRISTMAS ISLAND, LINE ISLANDS | 9728 | 0.09 |

**Source:** ***NOAA/NCEI - International Tsunami Information Center (2018)***

# CRITERIAS FOR TSUNAMI WARNING

## Warning Criteria for local events

| Criteria | Type of Advisory/Alert/Warning | EMERGENCY RESPONSE ACTIONS<br><br><br>PUBLIC |
|---|---|---|
| locals feel uncommon or unusual tremor/vibration/shaking |  <br>Warning | should immediately move in-land as fast as they could |
| | | |
| | | Locals are also expected to abide to warnings as stated in the Plan |
| | | |
| | | Report to Island Council or Police or NDMO and KMS to verify the information |
| | | |
| | | |

| Criteria | Type of Advisory/Alert/ Warning | EMERGENCY RESPONSE ACTION | | | |
|---|---|---|---|---|---|
| | | GSD | KMS | NDMO | PUBLIC |
| Kiribati on the warning list -the expected wave height <**0.3M** |  **INFORMATION** | Run model in advance for <0.3M height tsunami under different scenario conditions | Activate and disseminate **TSUNAMI INFORMATION FORM** to NDMO | Disseminate information received from KMS to relevant authorities and public | Stay tuned to radio and check updates on OB facebook |
| | | Identify potential risk areas | | | |
| | | Re-Run model when needed | | | |
| | | | | | |
| | | Update potential risk areas | | | |

# WARNING CRITERIA FOR REGIONAL OR DISTANCE SOURCE EVENTS

# CRITERIA 2

| | | | | | |
|---|---|---|---|---|---|
| Expected wave height **0.3M ≤H< 1M or greater** with expected arrival time of **3hr≤T<6hr** |   | Run model in advance for **0.3M ≤H< 1M** height under different tsunamic scenario conditions | Activate and disseminate **TSUNAMI WATCH FORM** to NDMO | Disseminate information received from KMS to relevant authorities and public | Prepare to evacuate Marine Coastal or Tsunami threat area |
| | | Identify potential risks areas | | | Report damages observed, casualties |
| | | Re-run model when needed | | | |

# CRITERIA 3

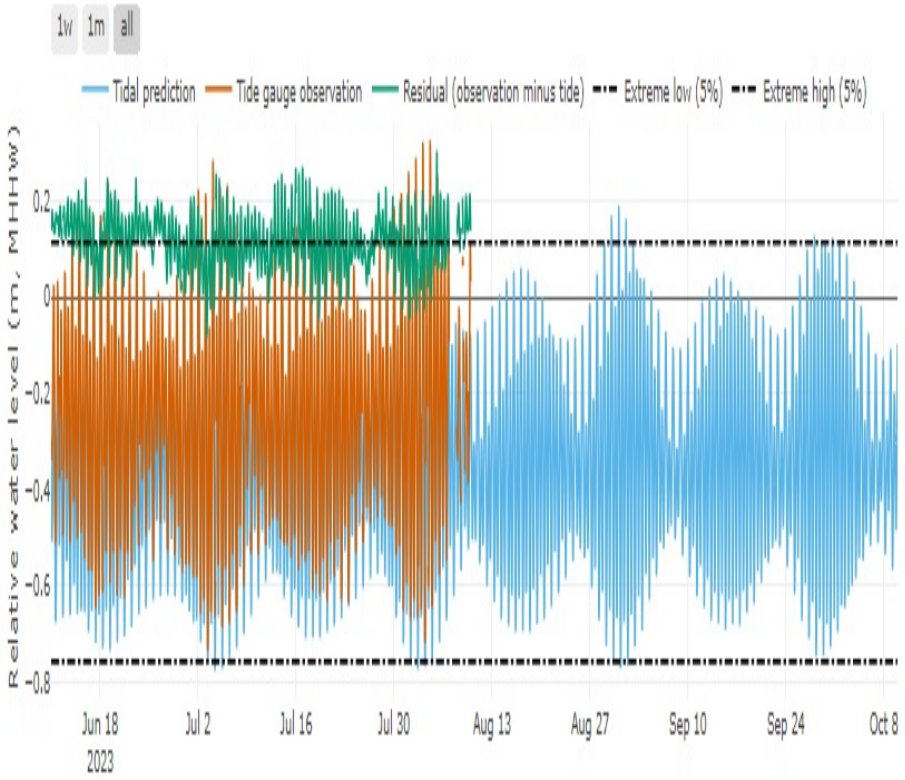
| | | | | | |
|---|---|---|---|---|---|
| Expected wave height 0.3**M ≤H< 1M or greater** wit h expected arrival time of <3hrs |  | As above | Activate and disseminate **TSUNAMI WARNING FORM** to NDMO | | Evacuate Marine Coastal or Tsunami threat area |
| | | | | | |
| | | | | | Report damages observed, casualties |

# TSUNAMI WARNINGS CANCELLATION CRITERIA

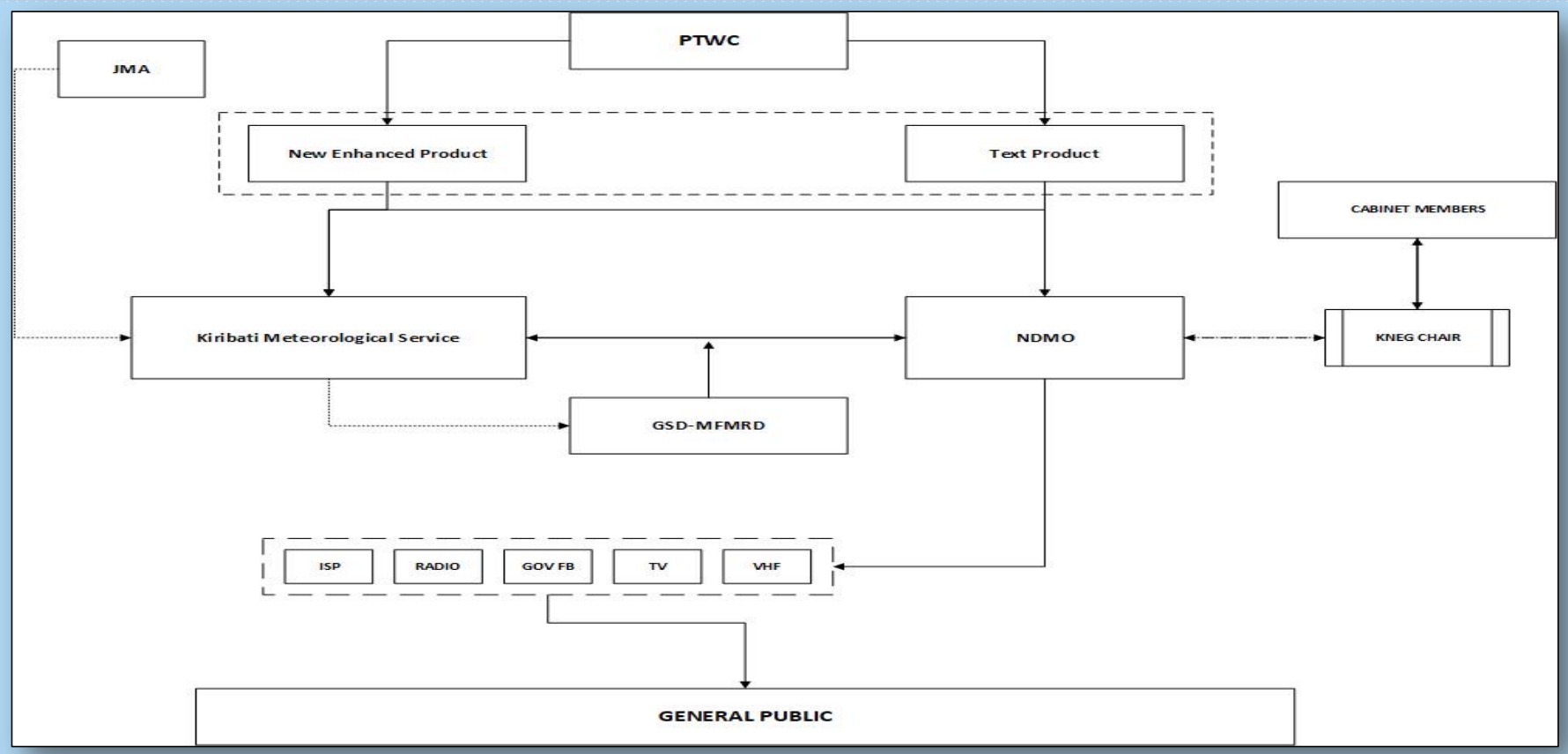
**ALERT/WARNING**: WATCH
**CANCELLATION CRITERIA:** Cancel when the expected wave height has been verified by sea level monitoring equipment to be below 0.3M within the watch period (3hr≤T<6hr) or cancel outright and advice of possible strong currents remaining.

**ALERT/WARNING:** WARNING
**CANCELLATION CRITERIA:** Cancel when the expected wave height has been verified through sea level monitoring equipment to be below **0.3M** within the warning period (3hr<T) or cancel outright and advice of possible strong currents remaining.

# TOOLS


1w
1m
all
Tidal prediction
Tide gauge observation
Residual (observation minus tide)
Extreme low (5%)
Extreme high (5%)
Relative water level (m, MHHW)
0.2
0
−0.2
−0.4
−0.6
−0.8
Jun 18
2023
Jul 2
Jul 16
Jul 30
Aug 13
Aug 27
Sep 10
Sep 24
Oct 8


Kiribati - Betio. Updated on 11th August 2023, 20:40 UTC
TEXT VIEW
Observations
Diagnostics
Settings
Latest data is not available for this tide gauge
FAQ
Sea Level
Weather
Wind
Actual
1.292 m
Predicted
1.200 m
Residual
0.092 m
Air Pressure
1011.8 hPa
Air Temperature
28.2 °C
Water Temperature
30.9 °C
Current Speed
5.1 knots
Current Maximum
5.8 knots
Direction (Meteorological)
242 °
Sea Level
Wind Direction
Date/Time (UTC)
N
W
E
S
WSW




# FLOWCHART | Communication Flowchart

# CHALLENGES:

- No proper evacuation center
- Lack of observation data
- Lack of capacity and skills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