**NOAA Pacific Tsunami Warning Center Messages – 15 January 2022**

**TSUNAMI MESSAGE NUMBER 1
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
0623 UTC SAT JAN 15 2022**
...PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

  THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE
  UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS
  MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

  NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF
  ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED
  INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

PRELIMINARY ERUPTION PARAMETERS
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   \* ORIGIN TIME    0427 UTC JAN 15 2022
   \* VOLCANO COORDINATES    20.5 SOUTH  175.4 WEST

EVALUATION
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   \* A VOLCANO ERUPTION OCCURRED IN
     THE TONGA ISLANDS AROUND 0427 UTC ON SATURDAY JANUARY 15 2022.

   \* BASED ON SUBSEQUENT SEA LEVEL MEASUREMENTS... SEE BELOW... HAZARDOUS
     TSUNAMI WAVES ARE POSSIBLE FOR COASTS LOCATED WITHIN 1000 KM
     OF THE VOLCANO.

TSUNAMI THREAT FORECAST
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   \* HAZARDOUS TSUNAMI WAVES FROM THIS ERUPTION ARE POSSIBLE
     WITHIN 1000 KM OF THE VOLCANO ALONG THE COASTS OF

       TONGA... NIUE... FIJI... WALLIS AND FUTUNA... AMERICAN
       SAMOA... SAMOA AND KERMADEC ISLANDS

   \* DUE TO THE VOLCANO SOURCE WE CANNOT PREDICT TSUNAMI
     AMPLITUDES NOR HOW FAR THE TSUNAMI HAZARD MAY EXTEND

RECOMMENDED ACTIONS
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   \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS
     SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL
     POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN
     EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

   \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT
     FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND
     LOCAL AUTHORITIES.

ESTIMATED TIMES OF ARRIVAL
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   \* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE
     FOR PLACES WITH A POTENTIAL TSUNAMI THREAT. ACTUAL ARRIVAL
     TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE
     LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN
     WAVES CAN BE FIVE MINUTES TO ONE HOUR.

     LOCATION         REGION             COORDINATES    ETA(UTC)
     ------------------------------------------------------------
     NIUE ISLAND      NIUE              19.0S 170.0W   0528 01/15
     NIUATOPUTAPU     TONGA             15.9S 173.8W   0532 01/15
     SUVA             FIJI              18.1S 178.4E   0549 01/15
     FUTUNA ISLAND    WALLIS AND FUTUN  14.3S 178.2W   0551 01/15
     PAGO PAGO        AMERICAN SAMOA    14.3S 170.7W   0552 01/15
     WALLIS ISLAND    WALLIS AND FUTUN  13.2S 176.2W   0554 01/15
     APIA             SAMOA             13.8S 171.8W   0602 01/15
     RAOUL ISLAND     KERMADEC ISLANDS  29.2S 177.9W   0609 01/15

POTENTIAL IMPACTS
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   \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS
     CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST
     FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

   \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO
     THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION
     OF THE SHORELINE.

   \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT
     THE TIME OF THE MAXIMUM TSUNAMI WAVES.

   \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE
     CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TSUNAMI OBSERVATIONS
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   \* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL
     AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED
     LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH
     RESPECT TO THE NORMAL TIDE LEVEL.

                             GAUGE      TIME OF   MAXIMUM     WAVE
                          COORDINATES   MEASURE   TSUNAMI   PERIOD
     GAUGE LOCATION        LAT   LON     (UTC)     HEIGHT    (MIN)
     -------------------------------------------------------------
     DART 01003           23.4S 173.4W    0442   0.12M/ 0.4FT  42
     NUKUALOFA TO         21.1S 175.2W    0516   0.82M/ 2.7FT  06
     PAGO PAGO AS         14.3S 170.7W    0531   0.62M/ 2.0FT  16
     APIA UPOLU WS        13.8S 171.8W    0551   0.17M/ 0.5FT  18

     NOTE - THE GAUGE AT NUKUALOFA TONGA CEASED WORKING AROUND
             0524 UTC.

NEXT UPDATE AND ADDITIONAL INFORMATION
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   \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF
     THE SITUATION WARRANTS.

   \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT
     [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

   \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND
     CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES
     SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT
     [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

   \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON...
     BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S.
     NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND
     AT [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

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**TSUNAMI MESSAGE NUMBER 2
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
0720 UTC SAT JAN 15 2022**

...PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

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  NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF
  ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED
  INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

PRELIMINARY ERUPTION PARAMETERS
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   \* ORIGIN TIME    0427 UTC JAN 15 2022
   \* COORDINATES    20.5 SOUTH  175.4 WEST

EVALUATION
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   \* A VOLCANIC ERUPTION OCCURRED IN
     THE TONGA ISLANDS AROUND 0427 UTC ON SATURDAY JANUARY 15 2022.

   \* BASED ON SUBSEQUENT SEA LEVEL MEASUREMENTS...SEE BELOW... WIDESPREAD
     HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TSUNAMI THREAT FORECAST
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   \* HAZARDOUS TSUNAMI WAVES FROM THIS ERUPTION ARE POSSIBLE
     WITHIN THE NEXT THREE HOURS ALONG SOME COASTS OF

       TONGA... NIUE... FIJI... WALLIS AND FUTUNA... AMERICAN
       SAMOA... SAMOA... KERMADEC ISLANDS... TOKELAU... COOK
       ISLANDS... VANUATU... TUVALU... NEW ZEALAND... KIRIBATI...
       HOWLAND AND BAKER... NEW CALEDONIA... FRENCH POLYNESIA...
       JARVIS ISLAND... SOLOMON ISLANDS... PALMYRA ISLAND...
       NAURU... MARSHALL ISLANDS... KOSRAE... JOHNSTON ISLAND AND
       PAPUA NEW GUINEA

   \* DUE TO THE VOLCANO SOURCE WE CANNOT PREDICT TSUNAMI
     AMPLITUDES NOR HOW FAR THE HAZARD MAY EXTEND.

RECOMMENDED ACTIONS
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   \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS
     SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL
     POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN
     EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

   \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT
     FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND
     LOCAL AUTHORITIES.

ESTIMATED TIMES OF ARRIVAL
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   \* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE
     FOR PLACES WITH A POTENTIAL TSUNAMI THREAT. ACTUAL ARRIVAL
     TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE
     LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN
     WAVES CAN BE FIVE MINUTES TO ONE HOUR.

     LOCATION         REGION             COORDINATES    ETA(UTC)
     ------------------------------------------------------------
     NUKUNONU ISLAND  TOKELAU            9.2S 171.8W   0632 01/15
     PUKAPUKA ISLAND  COOK ISLANDS      10.8S 165.9W   0635 01/15
     RAROTONGA        COOK ISLANDS      21.2S 159.8W   0642 01/15
     ANATOM ISLAND    VANUATU           20.2S 169.9E   0704 01/15
     FUNAFUTI ISLAND  TUVALU             7.9S 178.5E   0705 01/15
     LOTTIN POINT     NEW ZEALAND       37.5S 178.2E   0707 01/15
     KANTON ISLAND    KIRIBATI           2.8S 171.7W   0724 01/15
     EAST CAPE        NEW ZEALAND       37.7S 178.5E   0735 01/15
     NORTH CAPE       NEW ZEALAND       34.4S 173.3E   0737 01/15
     PENRYN ISLAND    COOK ISLANDS       8.9S 157.8W   0741 01/15
     GISBORNE         NEW ZEALAND       38.7S 178.0E   0741 01/15
     MOUNT MAUNGANUI  NEW ZEALAND       37.6S 176.2E   0746 01/15
     HOWLAND ISLAND   HOWLAND AND BAKE   0.6N 176.6W   0747 01/15
     ESPERITU SANTO   VANUATU           15.1S 167.3E   0750 01/15
     NOUMEA           NEW CALEDONIA     22.3S 166.5E   0757 01/15
     PORT TAURANGA    NEW ZEALAND       37.7S 176.2E   0800 01/15
     TUBUAI           FRENCH POLYNESIA  23.3S 149.5W   0803 01/15
     FLINT ISLAND     KIRIBATI          11.4S 151.8W   0805 01/15
     WELLINGTON       NEW ZEALAND       41.3S 174.8E   0806 01/15
     PAPEETE          FRENCH POLYNESIA  17.5S 149.6W   0813 01/15
     WHANGAREI        NEW ZEALAND       35.8S 174.5E   0815 01/15
     KAINGAROA CHATH  NEW ZEALAND       43.7S 176.3W   0817 01/15
     JARVIS ISLAND    JARVIS ISLAND      0.4S 160.1W   0819 01/15
     MALDEN ISLAND    KIRIBATI           3.9S 154.9W   0826 01/15
     MARLBOROUGH SOU  NEW ZEALAND       41.1S 174.4E   0827 01/15
     NAPIER           NEW ZEALAND       39.5S 176.9E   0829 01/15
     SANTA CRUZ ISLA  SOLOMON ISLANDS   10.9S 165.9E   0832 01/15
     WAITANGI CHATHA  NEW ZEALAND       43.9S 176.6W   0838 01/15
     AUCKLAND EAST    NEW ZEALAND       36.7S 175.0E   0842 01/15
     RAPA ITI         FRENCH POLYNESIA  27.6S 144.3W   0845 01/15
     CHRISTMAS ISLAN  KIRIBATI           2.0N 157.5W   0851 01/15
     PALMYRA ISLAND   PALMYRA ISLAND     5.9N 162.1W   0852 01/15
     PICTON           NEW ZEALAND       41.3S 174.0E   0853 01/15
     NAURU            NAURU              0.5S 166.9E   0855 01/15
     KIRAKIRA         SOLOMON ISLANDS   10.4S 161.9E   0856 01/15
     TARAWA ISLAND    KIRIBATI           1.5N 173.0E   0859 01/15
     AUCKLAND WEST    NEW ZEALAND       37.1S 174.2E   0901 01/15
     AUKI             SOLOMON ISLANDS    8.8S 160.6E   0926 01/15
     MAJURO           MARSHALL ISLANDS   7.1N 171.4E   0926 01/15
     HONIARA          SOLOMON ISLANDS    9.3S 160.0E   0932 01/15
     GHATERE          SOLOMON ISLANDS    7.8S 159.2E   0935 01/15
     WANGANUI         NEW ZEALAND       39.9S 175.0E   0939 01/15
     DUNEDIN          NEW ZEALAND       45.9S 170.5E   0941 01/15
     MUNDA            SOLOMON ISLANDS    8.4S 157.2E   0943 01/15
     NEW PLYMOUTH     NEW ZEALAND       39.1S 174.1E   0947 01/15
     GREAT BARRIER I  NEW ZEALAND       37.0S 157.4E   0952 01/15
     KWAJALEIN        MARSHALL ISLANDS   8.7N 167.7E   0953 01/15
     PANGGOE          SOLOMON ISLANDS    6.9S 157.2E   0953 01/15
     KOSRAE ISLAND    KOSRAE             5.5N 163.0E   0954 01/15
     HIVA OA          FRENCH POLYNESIA  10.0S 139.0W   0955 01/15
     RIKITEA          FRENCH POLYNESIA  23.1S 135.0W   1001 01/15
     JOHNSTON ISLAND  JOHNSTON ISLAND   16.7N 169.5W   1003 01/15
     FALAMAE          SOLOMON ISLANDS    7.4S 155.6E   1003 01/15
     TIMARU           NEW ZEALAND       44.4S 171.3E   1011 01/15
     KIETA            PAPUA NEW GUINEA   6.1S 155.6E   1012 01/15
     LYTTELTON        NEW ZEALAND       43.6S 172.7E   1016 01/15
     WOODLARK ISLAND  PAPUA NEW GUINEA   9.0S 152.9E   1016 01/15
     AMUN             PAPUA NEW GUINEA   6.0S 154.7E   1017 01/15
     JACKSON BAY      NEW ZEALAND       44.0S 168.6E   1019 01/15

POTENTIAL IMPACTS
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     CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST
     FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

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     OF THE SHORELINE.

   \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT
     THE TIME OF THE MAXIMUM TSUNAMI WAVES.

   \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE
     CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TSUNAMI OBSERVATIONS
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   \* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL
     AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED
     LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH
     RESPECT TO THE NORMAL TIDE LEVEL.

                             GAUGE      TIME OF   MAXIMUM WAVE
                          COORDINATES   MEASURE   TSUNAMI PERIOD
     GAUGE LOCATION        LAT   LON     (UTC)     HEIGHT (MIN)
-------------------------------------------------------------
     DART 01002           29.7S 175.0W    0542   0.10M/ 0.3FT  28
     EAST CAPE NZ         37.6S 178.2E    0644   0.11M/ 0.4FT  20
     DART 01001           36.0S 177.7W    0612   0.07M/ 0.2FT  24
     SUVA VITI LEVU FJ    18.1S 178.4E    0633   0.26M/ 0.9FT  18
     RAROTONGA CK         21.2S 159.8W    0631   0.25M/ 0.8FT  12
     DART 01003           23.4S 173.4W    0442   0.12M/ 0.4FT  42
     NUKUALOFA TO         21.1S 175.2W    0516   0.82M/ 2.7FT  06
     PAGO PAGO AS         14.3S 170.7W    0531   0.62M/ 2.0FT  16
     APIA UPOLU WS        13.8S 171.8W    0551   0.17M/ 0.5FT  18

NEXT UPDATE AND ADDITIONAL INFORMATION
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   \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF
     THE SITUATION WARRANTS.

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**TSUNAMI MESSAGE NUMBER 3
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
0852 UTC SAT JAN 15 2022**
...PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

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  INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

PRELIMINARY ERUPTION PARAMETERS
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   \* ORIGIN TIME    0427 UTC JAN 15 2022
   \* COORDINATES    20.5 SOUTH  175.4 WEST
   \* LOCATION       TONGA

EVALUATION
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   \* A VOLCANIC ERUPTION OCCURRED IN
     THE TONGA ISLANDS AT 0427 UTC ON SATURDAY JANUARY 15 2022.

   \* BASED ON SUBSEQUENT SEA LEVEL MEASUREMENTS... WIDESPREAD
     HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TSUNAMI THREAT FORECAST
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   \* HAZARDOUS TSUNAMI WAVES FROM THIS EARTHQUAKE ARE POSSIBLE
     WITHIN THE NEXT THREE HOURS ALONG SOME COASTS OF

       TONGA... NIUE... FIJI... WALLIS AND FUTUNA... SAMOA...
       KERMADEC ISLANDS... TOKELAU... COOK
       ISLANDS... VANUATU... TUVALU... NEW ZEALAND... KIRIBATI...
       HOWLAND AND BAKER... NEW CALEDONIA... FRENCH POLYNESIA...
       JARVIS ISLAND... SOLOMON ISLANDS... PALMYRA ISLAND...
       NAURU... MARSHALL ISLANDS... KOSRAE... JOHNSTON ISLAND...
       PAPUA NEW GUINEA... AUSTRALIA... PITCAIRN... POHNPEI...
       AND WAKE ISLAND.

   \* DUE TO THE VOLCANO SOURCE WE CANNOT PREDICT TSUNAMI
     AMPLITUDES NOR HOW FAR THE HAZARD MAY EXTEND.

RECOMMENDED ACTIONS
-------------------

   \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS
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     LOCAL AUTHORITIES.

ESTIMATED TIMES OF ARRIVAL
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   \* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE
     FOR PLACES WITH A POTENTIAL TSUNAMI THREAT. ACTUAL ARRIVAL
     TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE
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     WAVES CAN BE FIVE MINUTES TO ONE HOUR.

     LOCATION         REGION             COORDINATES    ETA(UTC)
     ------------------------------------------------------------
     NOUMEA           NEW CALEDONIA     22.3S 166.5E   0757 01/15
     PORT TAURANGA    NEW ZEALAND       37.7S 176.2E   0800 01/15
     TUBUAI           FRENCH POLYNESIA  23.3S 149.5W   0803 01/15
     FLINT ISLAND     KIRIBATI          11.4S 151.8W   0805 01/15
     WELLINGTON       NEW ZEALAND       41.3S 174.8E   0806 01/15
     PAPEETE          FRENCH POLYNESIA  17.5S 149.6W   0813 01/15
     WHANGAREI        NEW ZEALAND       35.8S 174.5E   0815 01/15
     KAINGAROA CHATH  NEW ZEALAND       43.7S 176.3W   0817 01/15
     JARVIS ISLAND    JARVIS ISLAND      0.4S 160.1W   0819 01/15
     MALDEN ISLAND    KIRIBATI           3.9S 154.9W   0826 01/15
     MARLBOROUGH SOU  NEW ZEALAND       41.1S 174.4E   0827 01/15
     NAPIER           NEW ZEALAND       39.5S 176.9E   0829 01/15
     SANTA CRUZ ISLA  SOLOMON ISLANDS   10.9S 165.9E   0832 01/15
     WAITANGI CHATHA  NEW ZEALAND       43.9S 176.6W   0838 01/15
     AUCKLAND EAST    NEW ZEALAND       36.7S 175.0E   0842 01/15
     RAPA ITI         FRENCH POLYNESIA  27.6S 144.3W   0845 01/15
     CHRISTMAS ISLAN  KIRIBATI           2.0N 157.5W   0851 01/15
     PALMYRA ISLAND   PALMYRA ISLAND     5.9N 162.1W   0852 01/15
     PICTON           NEW ZEALAND       41.3S 174.0E   0853 01/15
     NAURU            NAURU              0.5S 166.9E   0855 01/15
     KIRAKIRA         SOLOMON ISLANDS   10.4S 161.9E   0856 01/15
     TARAWA ISLAND    KIRIBATI           1.5N 173.0E   0859 01/15
     AUCKLAND WEST    NEW ZEALAND       37.1S 174.2E   0901 01/15
     AUKI             SOLOMON ISLANDS    8.8S 160.6E   0926 01/15
     MAJURO           MARSHALL ISLANDS   7.1N 171.4E   0926 01/15
     HONIARA          SOLOMON ISLANDS    9.3S 160.0E   0932 01/15
     GHATERE          SOLOMON ISLANDS    7.8S 159.2E   0935 01/15
     WANGANUI         NEW ZEALAND       39.9S 175.0E   0939 01/15
     DUNEDIN          NEW ZEALAND       45.9S 170.5E   0941 01/15
     MUNDA            SOLOMON ISLANDS    8.4S 157.2E   0943 01/15
     NEW PLYMOUTH     NEW ZEALAND       39.1S 174.1E   0947 01/15
     GREAT BARRIER I  NEW ZEALAND       37.0S 157.4E   0952 01/15
     KWAJALEIN        MARSHALL ISLANDS   8.7N 167.7E   0953 01/15
     PANGGOE          SOLOMON ISLANDS    6.9S 157.2E   0953 01/15
     KOSRAE ISLAND    KOSRAE             5.5N 163.0E   0954 01/15
     HIVA OA          FRENCH POLYNESIA  10.0S 139.0W   0955 01/15
     RIKITEA          FRENCH POLYNESIA  23.1S 135.0W   1001 01/15
     JOHNSTON ISLAND  JOHNSTON ISLAND   16.7N 169.5W   1003 01/15
     FALAMAE          SOLOMON ISLANDS    7.4S 155.6E   1003 01/15
     TIMARU           NEW ZEALAND       44.4S 171.3E   1011 01/15
     KIETA            PAPUA NEW GUINEA   6.1S 155.6E   1012 01/15
     LYTTELTON        NEW ZEALAND       43.6S 172.7E   1016 01/15
     WOODLARK ISLAND  PAPUA NEW GUINEA   9.0S 152.9E   1016 01/15
     AMUN             PAPUA NEW GUINEA   6.0S 154.7E   1017 01/15
     JACKSON BAY      NEW ZEALAND       44.0S 168.6E   1019 01/15
     MILFORD SOUND    NEW ZEALAND       44.6S 167.9E   1027 01/15
     WESTPORT         NEW ZEALAND       41.8S 171.6E   1028 01/15
     SYDNEY           AUSTRALIA         33.9S 151.4E   1031 01/15
     BRISBANE         AUSTRALIA         27.2S 153.3E   1038 01/15
     RABAUL           PAPUA NEW GUINEA   4.2S 152.3E   1041 01/15
     PITCAIRN ISLAND  PITCAIRN          25.1S 130.1W   1042 01/15
     GREYMOUTH        NEW ZEALAND       42.5S 171.2E   1046 01/15
     ENIWETOK         MARSHALL ISLANDS  11.4N 162.3E   1047 01/15
     POHNPEI ISLAND   POHNPEI            7.0N 158.2E   1049 01/15
     WAKE ISLAND      WAKE ISLAND       19.3N 166.6E   1057 01/15
     STEWART ISLAND   NEW ZEALAND       47.3S 167.5E   1106 01/15
     PORT MORESBY     PAPUA NEW GUINEA   9.3S 146.9E   1106 01/15
     LAE              PAPUA NEW GUINEA   6.8S 147.0E   1112 01/15
     ULAMONA          PAPUA NEW GUINEA   5.0S 151.2E   1114 01/15
     KAVIENG          PAPUA NEW GUINEA   2.5S 150.7E   1117 01/15
     NELSON           NEW ZEALAND       41.3S 173.3E   1129 01/15
     MADANG           PAPUA NEW GUINEA   5.2S 145.8E   1138 01/15
     HOBART           AUSTRALIA         43.3S 147.6E   1139 01/15
     CAIRNS           AUSTRALIA         16.7S 145.8E   1152 01/15

POTENTIAL IMPACTS
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   \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS
     CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST
     FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

   \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO
     THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION
     OF THE SHORELINE.

   \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT
     THE TIME OF THE MAXIMUM TSUNAMI WAVES.

   \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE
     CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TSUNAMI OBSERVATIONS
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   \* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL
     AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED
     LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH
     RESPECT TO THE NORMAL TIDE LEVEL.

                             GAUGE      TIME OF   MAXIMUM WAVE
                          COORDINATES   MEASURE   TSUNAMI PERIOD
     GAUGE LOCATION        LAT   LON     (UTC)     HEIGHT (MIN)
-------------------------------------------------------------
     KINGSTON NORFOLK IS  29.1S 168.0E    0840   0.78M/ 2.6FT  10
     HIENGHENE NEW CALED  20.7S 164.9E    0836   0.38M/ 1.3FT  26
     LUGANVILLE VU        15.5S 167.2E    0826   0.37M/ 1.2FT  24
     OUINNE NEW CALEDONI  22.0S 166.7E    0826   1.13M/ 3.7FT  08
     THIO NEW CALEDONIA   21.6S 166.2E    0819   0.57M/ 1.9FT  20
     LIFOU NEW CALEDONIA  20.9S 167.3E    0746   0.89M/ 2.9FT  16
     EAST CAPE NZ         37.6S 178.2E    0834   0.26M/ 0.8FT  08
     VANUATU              17.8S 168.3E    0724   0.17M/ 0.6FT  32
     DART 01002           29.7S 175.0W    0542   0.10M/ 0.3FT  28
     DART 01001           36.0S 177.7W    0612   0.07M/ 0.2FT  24
     SUVA VITI LEVU FJ    18.1S 178.4E    0633   0.26M/ 0.9FT  18
     RAROTONGA CK         21.2S 159.8W    0631   0.25M/ 0.8FT  12
     DART 01003           23.4S 173.4W    0442   0.12M/ 0.4FT  42
     NUKUALOFA TO         21.1S 175.2W    0516   0.82M/ 2.7FT  06
     PAGO PAGO AS         14.3S 170.7W    0531   0.62M/ 2.0FT  16
     APIA UPOLU WS        13.8S 171.8W    0551   0.17M/ 0.5FT  18

NEXT UPDATE AND ADDITIONAL INFORMATION
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   \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF
     THE SITUATION WARRANTS.

   \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT
     [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

   \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND
     CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES
     SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT
     [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

   \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON...
     BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S.
     NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND
     AT [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

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**TSUNAMI MESSAGE NUMBER 4
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
1246 UTC SAT JAN 15 2022**...PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

  THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE
  UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS
  MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

  NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF
  ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED
  INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

PRELIMINARY ERUPTION PARAMETERS
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   \* ORIGIN TIME    0427 UTC JAN 15 2022
   \* COORDINATES    20.5 SOUTH  175.4 WEST
   \* LOCATION       TONGA

EVALUATION
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   \* A VOLCANIC ERUPTION OCCURRED IN
     THE TONGA ISLANDS AT 0427 UTC ON SATURDAY JANUARY 15 2022.

   \* BASED ON SUBSEQUENT SEA LEVEL MEASUREMENTS... WIDESPREAD
     HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TSUNAMI THREAT FORECAST
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   \* HAZARDOUS TSUNAMI WAVES FROM THIS EARTHQUAKE ARE POSSIBLE
     WITHIN THE NEXT THREE HOURS ALONG SOME COASTS OF

       TONGA... NIUE... FIJI... WALLIS AND FUTUNA...
       SAMOA... KERMADEC ISLANDS... TOKELAU... COOK
       ISLANDS... VANUATU... TUVALU... NEW ZEALAND... KIRIBATI...
       HOWLAND AND BAKER... NEW CALEDONIA... FRENCH POLYNESIA...
       JARVIS ISLAND... SOLOMON ISLANDS... PALMYRA ISLAND...
       NAURU... MARSHALL ISLANDS... KOSRAE... JOHNSTON ISLAND...
       PAPUA NEW GUINEA... AUSTRALIA... PITCAIRN... POHNPEI...
       WAKE ISLAND... ANTARCTICA... CHUUK... MINAMITORISHIMA...
       INDONESIA... YAP... CHILE...
       JAPAN... PALAU... RUSSIA... PHILIPPINES AND MEXICO

RECOMMENDED ACTIONS
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   \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS
     SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL
     POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN
     EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

   \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT
     FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND
     LOCAL AUTHORITIES.

ESTIMATED TIMES OF ARRIVAL
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   \* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE
     FOR PLACES WITH A POTENTIAL TSUNAMI THREAT. ACTUAL ARRIVAL
     TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE
     LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN
     WAVES CAN BE FIVE MINUTES TO ONE HOUR.

     LOCATION         REGION             COORDINATES    ETA(UTC)
     ------------------------------------------------------------
     CAIRNS           AUSTRALIA         16.7S 145.8E   1152 01/15
     MANUS ISLAND     PAPUA NEW GUINEA   2.0S 147.5E   1155 01/15
     BLUFF            NEW ZEALAND       46.6S 168.3E   1156 01/15
     GLADSTONE        AUSTRALIA         23.8S 151.4E   1213 01/15
     CAPE ADARE       ANTARCTICA        71.0S 170.0E   1216 01/15
     WEWAK            PAPUA NEW GUINEA   3.5S 143.6E   1220 01/15
     CHUUK ISLAND     CHUUK              7.4N 151.8E   1221 01/15
     MINAMITORISHIMA  MINAMITORISHIMA   24.3N 154.0E   1234 01/15
     VANIMO           PAPUA NEW GUINEA   2.6S 141.3E   1241 01/15
     JAYAPURA         INDONESIA          2.4S 140.8E   1248 01/15
     YAP ISLAND       YAP                9.5N 138.1E   1323 01/15
     WARSA            INDONESIA          0.6S 135.8E   1332 01/15
     EASTER ISLAND    CHILE             27.1S 109.4W   1338 01/15
     MANOKWARI        INDONESIA          0.8S 134.2E   1351 01/15
     MACKAY           AUSTRALIA         21.1S 149.3E   1353 01/15
     CHICHI JIMA      JAPAN             27.0N 142.2E   1356 01/15
     MALAKAL          PALAU              7.3N 134.5E   1409 01/15
     SORONG           INDONESIA          0.8S 131.1E   1421 01/15
     BEREBERE         INDONESIA          2.5N 128.7E   1440 01/15
     KATSUURA         JAPAN             35.1N 140.3E   1443 01/15
     HACHIJO JIMA     JAPAN             33.1N 139.8E   1444 01/15
     THURSTON ISLAND  ANTARCTICA        72.0S 100.0W   1446 01/15
     PATANI           INDONESIA          0.4N 128.8E   1450 01/15
     URUP ISLAND      RUSSIA            46.1N 150.5E   1500 01/15
     GEME             INDONESIA          4.6N 126.8E   1500 01/15
     KUSHIRO          JAPAN             42.9N 144.3E   1506 01/15
     DAVAO            PHILIPPINES        6.8N 125.7E   1516 01/15
     TABUKAN TENGAH   INDONESIA          3.6N 125.6E   1527 01/15
     LEGASPI          PHILIPPINES       13.2N 123.8E   1528 01/15
     SOCORRO          MEXICO            18.8N 111.0W   1530 01/15
     HACHINOHE        JAPAN             40.5N 141.5E   1533 01/15
     PALANAN          PHILIPPINES       17.1N 122.6E   1533 01/15
     MEDNNY ISLAND    RUSSIA            54.7N 167.4E   1540 01/15
     MANADO           INDONESIA          1.6N 124.9E   1540 01/15
     UST KAMCHATSK    RUSSIA            56.1N 162.6E   1541 01/15
     NOBEOKA          JAPAN             32.5N 131.8E   1542 01/15
     SHIMIZU          JAPAN             32.8N 133.0E   1542 01/15
     PETROPAVLOVSK    RUSSIA            53.2N 159.6E   1543 01/15
     COTABUTO CITY    PHILIPPINES        7.2N 124.2E   1544 01/15

POTENTIAL IMPACTS
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   \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS
     CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST
     FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

   \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO
     THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION
     OF THE SHORELINE.

   \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT
     THE TIME OF THE MAXIMUM TSUNAMI WAVES.

   \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE
     CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TSUNAMI OBSERVATIONS
--------------------

   \* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL
     AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED
     LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH
     RESPECT TO THE NORMAL TIDE LEVEL.

                             GAUGE      TIME OF   MAXIMUM     WAVE
                          COORDINATES   MEASURE   TSUNAMI   PERIOD
     GAUGE LOCATION        LAT   LON     (UTC)     HEIGHT    (MIN)
     -------------------------------------------------------------
     NAURU                 0.5S 166.9E    1118   0.15M/ 0.5FT  04
     KAHULUI MAUI         20.9N 156.5W    1203   0.57M/ 1.9FT  20
     GISBORNE EASTLAND N  38.7S 178.0E    1141   0.68M/ 2.2FT  42
     NUKU HIVA MARQUESAS   8.9S 140.1W    1055   0.67M/ 2.2FT  12
     KAWAIHAE HAWAII      20.0N 155.8W    1132   0.37M/ 1.2FT  10
     HONOKOHAU HI         19.7N 156.0W    1145   0.34M/ 1.1FT  10
     HALEIWA HI           21.6N 158.1W    1138   0.70M/ 2.3FT  10
     HONOLULU OAHU        21.3N 157.9W    1112   0.12M/ 0.4FT  14
     BARBERS PT HI        21.3N 158.1W    1135   0.19M/ 0.6FT  04
     MAKAI PIER WAIMANAL  21.3N 157.7W    1128   0.28M/ 0.9FT  10
     HILO HAWAII          19.7N 155.1W    0929   0.10M/ 0.3FT  16
     NAWILIWILI KAUAI     22.0N 159.4W    1057   0.31M/ 1.0FT  12
     HIENGHENE NEW CALED  20.7S 164.9E    0910   0.45M/ 1.5FT  10
     VANUATU              17.8S 168.3E    0924   1.41M/ 4.6FT  20
     RAROTONGA CK         21.2S 159.8W    0853   0.90M/ 3.0FT  02
     GREAT BARRIER IS NZ  36.2S 175.5E    0849   0.70M/ 2.3FT  10
     OWENGA CHATHAM NZ    44.0S 176.4W    0902   0.44M/ 1.4FT  40
     KINGSTON NORFOLK IS  29.1S 168.0E    0840   0.78M/ 2.6FT  10
     LUGANVILLE VU        15.5S 167.2E    0826   0.37M/ 1.2FT  24
     OUINNE NEW CALEDONI  22.0S 166.7E    0826   1.13M/ 3.7FT  08
     THIO NEW CALEDONIA   21.6S 166.2E    0819   0.57M/ 1.9FT  20
     LIFOU NEW CALEDONIA  20.9S 167.3E    0746   0.89M/ 2.9FT  16
     EAST CAPE NZ         37.6S 178.2E    0834   0.26M/ 0.8FT  08
     DART 01002           29.7S 175.0W    0542   0.10M/ 0.3FT  28
     DART 01001           36.0S 177.7W    0612   0.07M/ 0.2FT  24
     SUVA VITI LEVU FJ    18.1S 178.4E    0633   0.26M/ 0.9FT  18
     DART 01003           23.4S 173.4W    0442   0.12M/ 0.4FT  42
     NUKUALOFA TO         21.1S 175.2W    0516   0.82M/ 2.7FT  06
     PAGO PAGO AS         14.3S 170.7W    0531   0.62M/ 2.0FT  16
     APIA UPOLU WS        13.8S 171.8W    0551   0.17M/ 0.5FT  18

NEXT UPDATE AND ADDITIONAL INFORMATION
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   \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF
     THE SITUATION WARRANTS.

   \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT
     [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

   \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND
     CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES
     SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT
     [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

   \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON...
     BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S.
     NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND
     AT [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

**$$**

**TSUNAMI MESSAGE NUMBER 5
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
1432 UTC SAT JAN 15 2022**
...PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

  THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE
  UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS
  MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

  NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF
  ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED
  INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

PRELIMINARY ERUPTION PARAMETERS
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   \* ORIGIN TIME    0427 UTC JAN 15 2022
   \* COORDINATES    20.5 SOUTH  175.4 WEST
   \* LOCATION       TONGA

EVALUATION
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   \* A VOLCANIC ERUPTION OCCURRED IN
     THE TONGA ISLANDS AT 0427 UTC ON SATURDAY JANUARY 15 2022.

   \* BASED ON SUBSEQUENT READINGS FROM SEA LEVEL GAUGES...
     WIDESPREAD HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TSUNAMI THREAT FORECAST
-----------------------

   \* HAZARDOUS TSUNAMI WAVES FROM THIS EARTHQUAKE ARE POSSIBLE
     WITHIN THE NEXT THREE HOURS ALONG SOME COASTS OF

       TONGA... NIUE... FIJI... WALLIS AND FUTUNA...
       SAMOA... KERMADEC ISLANDS... TOKELAU... COOK
       ISLANDS... VANUATU... TUVALU... NEW ZEALAND... KIRIBATI...
       HOWLAND AND BAKER... NEW CALEDONIA... FRENCH POLYNESIA...
       JARVIS ISLAND... SOLOMON ISLANDS... PALMYRA ISLAND...
       NAURU... MARSHALL ISLANDS... KOSRAE... JOHNSTON ISLAND...
       PAPUA NEW GUINEA... AUSTRALIA... PITCAIRN... POHNPEI...
       WAKE ISLAND... ANTARCTICA... CHUUK... MINAMITORISHIMA...
       INDONESIA... YAP... CHILE... JAPAN... PALAU... RUSSIA...
       PHILIPPINES... MEXICO AND TAIWAN

RECOMMENDED ACTIONS
-------------------

   \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS
     SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL
     POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN
     EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

   \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT
     FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND
     LOCAL AUTHORITIES.

ESTIMATED TIMES OF ARRIVAL
--------------------------

   \* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE
     FOR PLACES WITH A POTENTIAL TSUNAMI THREAT. ACTUAL ARRIVAL
     TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE
     LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN
     WAVES CAN BE FIVE MINUTES TO ONE HOUR.

     LOCATION         REGION             COORDINATES    ETA(UTC)
     ------------------------------------------------------------
     EASTER ISLAND    CHILE             27.1S 109.4W   1338 01/15
     MANOKWARI        INDONESIA          0.8S 134.2E   1351 01/15
     MACKAY           AUSTRALIA         21.1S 149.3E   1353 01/15
     CHICHI JIMA      JAPAN             27.0N 142.2E   1356 01/15
     MALAKAL          PALAU              7.3N 134.5E   1409 01/15
     SORONG           INDONESIA          0.8S 131.1E   1421 01/15
     BEREBERE         INDONESIA          2.5N 128.7E   1440 01/15
     KATSUURA         JAPAN             35.1N 140.3E   1443 01/15
     HACHIJO JIMA     JAPAN             33.1N 139.8E   1444 01/15
     THURSTON ISLAND  ANTARCTICA        72.0S 100.0W   1446 01/15
     PATANI           INDONESIA          0.4N 128.8E   1450 01/15
     URUP ISLAND      RUSSIA            46.1N 150.5E   1500 01/15
     GEME             INDONESIA          4.6N 126.8E   1500 01/15
     KUSHIRO          JAPAN             42.9N 144.3E   1506 01/15
     DAVAO            PHILIPPINES        6.8N 125.7E   1516 01/15
     TABUKAN TENGAH   INDONESIA          3.6N 125.6E   1527 01/15
     LEGASPI          PHILIPPINES       13.2N 123.8E   1528 01/15
     SOCORRO          MEXICO            18.8N 111.0W   1530 01/15
     HACHINOHE        JAPAN             40.5N 141.5E   1533 01/15
     PALANAN          PHILIPPINES       17.1N 122.6E   1533 01/15
     MEDNNY ISLAND    RUSSIA            54.7N 167.4E   1540 01/15
     MANADO           INDONESIA          1.6N 124.9E   1540 01/15
     UST KAMCHATSK    RUSSIA            56.1N 162.6E   1541 01/15
     NOBEOKA          JAPAN             32.5N 131.8E   1542 01/15
     SHIMIZU          JAPAN             32.8N 133.0E   1542 01/15
     PETROPAVLOVSK    RUSSIA            53.2N 159.6E   1543 01/15
     COTABUTO CITY    PHILIPPINES        7.2N 124.2E   1544 01/15
     ENSENADA         MEXICO            31.8N 116.8W   1551 01/15
     PUNTA ABREOJOS   MEXICO            26.7N 113.6W   1555 01/15
     HUALIEN          TAIWAN            24.0N 121.7E   1558 01/15
     CABO SAN LUCAS   MEXICO            22.8N 110.0W   1558 01/15
     TAITUNG          TAIWAN            22.7N 121.2E   1600 01/15
     OKINAWA          JAPAN             26.2N 127.8E   1601 01/15
     SEVERO KURILSK   RUSSIA            50.8N 156.1E   1603 01/15
     OSTROV KARAGINS  RUSSIA            58.8N 164.5E   1608 01/15
     ZAMBOANGA        PHILIPPINES        7.0N 122.3E   1621 01/15
     LAOAG            PHILIPPINES       18.2N 120.6E   1622 01/15
     CHILUNG          TAIWAN            25.2N 121.8E   1631 01/15
     KAOHSIUNG        TAIWAN            22.5N 120.3E   1635 01/15
     PUERTO VALLARTA  MEXICO            20.6N 105.2W   1637 01/15
     MANZANILLO       MEXICO            19.1N 104.3W   1639 01/15
     SAN FERNANDO     PHILIPPINES       16.6N 120.3E   1642 01/15
     MAZATLAN         MEXICO            23.2N 106.4W   1644 01/15
     GOLFO DE PENAS   CHILE             47.1S  74.9W   1649 01/15
     LAZARO CARDENAS  MEXICO            17.9N 102.2W   1650 01/15
     ACAPULCO         MEXICO            16.9N  99.9W   1659 01/15
     MAIMBUNG         PHILIPPINES        5.9N 121.0E   1704 01/15
     SAPPORO          JAPAN             43.5N 141.0E   1704 01/15
     NAGASAKI         JAPAN             32.7N 129.7E   1706 01/15
     SAN BLAS         MEXICO            21.5N 105.3W   1706 01/15
     GUAYMAS          MEXICO            27.9N 110.9W   1720 01/15
     NIIGATA          JAPAN             38.0N 139.0E   1723 01/15

POTENTIAL IMPACTS
-----------------

   \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS
     CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST
     FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

   \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO
     THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION
     OF THE SHORELINE.

   \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT
     THE TIME OF THE MAXIMUM TSUNAMI WAVES.

   \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE
     CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TSUNAMI OBSERVATIONS
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   \* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL
     AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED
     LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH
     RESPECT TO THE NORMAL TIDE LEVEL.

                             GAUGE      TIME OF   MAXIMUM     WAVE
                          COORDINATES   MEASURE   TSUNAMI   PERIOD
     GAUGE LOCATION        LAT   LON     (UTC)     HEIGHT    (MIN)
     -------------------------------------------------------------
     EASTER CL            27.2S 109.4W    1402   0.26M/ 0.9FT  12
     HIVA OA MARQUESAS     9.8S 139.0W    1026   0.53M/ 1.8FT  12
     NUKU HIVA MARQUESAS   8.9S 140.1W    1055   0.67M/ 2.2FT  12
     HANALEI HI           22.2N 159.5W    1233   0.82M/ 2.7FT  14
     KAHULUI MAUI         20.9N 156.5W    1228   0.83M/ 2.7FT  20
     RIKITEA PF           23.1S 135.0W    1038   0.21M/ 0.7FT  14
     HUAHINE PF           16.7S 151.0W    0813   0.53M/ 1.8FT  12
     NAURU                 0.5S 166.9E    1118   0.15M/ 0.5FT  04
     GISBORNE EASTLAND N  38.7S 178.0E    1141   0.68M/ 2.2FT  42
     KAWAIHAE HAWAII      20.0N 155.8W    1132   0.37M/ 1.2FT  10
     HONOKOHAU HI         19.7N 156.0W    1145   0.34M/ 1.1FT  10
     HALEIWA HI           21.6N 158.1W    1138   0.70M/ 2.3FT  10
     HONOLULU OAHU        21.3N 157.9W    1112   0.12M/ 0.4FT  14
     BARBERS PT HI        21.3N 158.1W    1135   0.19M/ 0.6FT  04
     MAKAI PIER WAIMANAL  21.3N 157.7W    1128   0.28M/ 0.9FT  10
     HILO HAWAII          19.7N 155.1W    0929   0.10M/ 0.3FT  16
     NAWILIWILI KAUAI     22.0N 159.4W    1057   0.31M/ 1.0FT  12
     HIENGHENE NEW CALED  20.7S 164.9E    0910   0.45M/ 1.5FT  10
     VANUATU              17.8S 168.3E    0924   1.41M/ 4.6FT  20
     RAROTONGA CK         21.2S 159.8W    0853   0.90M/ 3.0FT  02
     GREAT BARRIER IS NZ  36.2S 175.5E    0849   0.70M/ 2.3FT  10
     OWENGA CHATHAM NZ    44.0S 176.4W    0902   0.44M/ 1.4FT  40
     KINGSTON NORFOLK IS  29.1S 168.0E    0840   0.78M/ 2.6FT  10
     LUGANVILLE VU        15.5S 167.2E    0826   0.37M/ 1.2FT  24
     OUINNE NEW CALEDONI  22.0S 166.7E    0826   1.13M/ 3.7FT  08
     THIO NEW CALEDONIA   21.6S 166.2E    0819   0.57M/ 1.9FT  20
     LIFOU NEW CALEDONIA  20.9S 167.3E    0746   0.89M/ 2.9FT  16
     EAST CAPE NZ         37.6S 178.2E    0834   0.26M/ 0.8FT  08
     DART 01002           29.7S 175.0W    0542   0.10M/ 0.3FT  28
     DART 01001           36.0S 177.7W    0612   0.07M/ 0.2FT  24
     SUVA VITI LEVU FJ    18.1S 178.4E    0633   0.26M/ 0.9FT  18
     DART 01003           23.4S 173.4W    0442   0.12M/ 0.4FT  42
     NUKUALOFA TO         21.1S 175.2W    0516   0.82M/ 2.7FT  06
     PAGO PAGO AS         14.3S 170.7W    0531   0.62M/ 2.0FT  16
     APIA UPOLU WS        13.8S 171.8W    0551   0.17M/ 0.5FT  18

NEXT UPDATE AND ADDITIONAL INFORMATION
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   \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF
     THE SITUATION WARRANTS.

   \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT
     [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

   \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND
     CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES
     SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT
     [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

   \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON...
     BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S.
     NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND
     AT [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

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**TSUNAMI MESSAGE NUMBER 6
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
1645 UTC SAT JAN 15 2022**...PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

  THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE
  UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS
  MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

  NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF
  ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED
  INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

PRELIMINARY ERUPTION PARAMETERS
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   \* ORIGIN TIME    0427 UTC JAN 15 2022
   \* COORDINATES    20.5 SOUTH  175.4 WEST
   \* LOCATION       TONGA

EVALUATION
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   \* A VOLCANIC ERUPTION OCCURRED IN
     THE TONGA ISLANDS AT 0427 UTC ON SATURDAY JANUARY 15 2022.

   \* BASED ON SUBSEQUENT SEA LEVEL READINGS.. WIDESPREAD
     HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TSUNAMI THREAT FORECAST
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   \* HAZARDOUS TSUNAMI WAVES FROM THIS EARTHQUAKE ARE POSSIBLE
     WITHIN THE NEXT THREE HOURS ALONG SOME COASTS OF

       TONGA... NIUE... FIJI... WALLIS AND FUTUNA...
       SAMOA... KERMADEC ISLANDS... TOKELAU... COOK
       ISLANDS... VANUATU... TUVALU... NEW ZEALAND... KIRIBATI...
       HOWLAND AND BAKER... NEW CALEDONIA... FRENCH POLYNESIA...
       JARVIS ISLAND... SOLOMON ISLANDS... PALMYRA ISLAND...
       NAURU... MARSHALL ISLANDS... KOSRAE... JOHNSTON ISLAND...
       PAPUA NEW GUINEA... AUSTRALIA... PITCAIRN... POHNPEI...
       WAKE ISLAND... ANTARCTICA... CHUUK... MINAMITORISHIMA...
       INDONESIA... YAP... CHILE...
       JAPAN... PALAU... RUSSIA... PHILIPPINES... MEXICO...
       TAIWAN... DPR OF KOREA... REPUBLIC OF KOREA... ECUADOR...
       COSTA RICA... CHINA... GUATEMALA... EL SALVADOR... PERU...
       VIETNAM... MALAYSIA... NICARAGUA... PANAMA AND HONDURAS

RECOMMENDED ACTIONS
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   \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS
     SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL
     POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN
     EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

   \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT
     FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND
     LOCAL AUTHORITIES.

ESTIMATED TIMES OF ARRIVAL
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   \* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE
     FOR PLACES WITH A POTENTIAL TSUNAMI THREAT. ACTUAL ARRIVAL
     TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE
     LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN
     WAVES CAN BE FIVE MINUTES TO ONE HOUR.

     LOCATION         REGION             COORDINATES    ETA(UTC)
     ------------------------------------------------------------
     ENSENADA         MEXICO            31.8N 116.8W   1551 01/15
     PUNTA ABREOJOS   MEXICO            26.7N 113.6W   1555 01/15
     HUALIEN          TAIWAN            24.0N 121.7E   1558 01/15
     CABO SAN LUCAS   MEXICO            22.8N 110.0W   1558 01/15
     TAITUNG          TAIWAN            22.7N 121.2E   1600 01/15
     OKINAWA          JAPAN             26.2N 127.8E   1601 01/15
     SEVERO KURILSK   RUSSIA            50.8N 156.1E   1603 01/15
     OSTROV KARAGINS  RUSSIA            58.8N 164.5E   1608 01/15
     ZAMBOANGA        PHILIPPINES        7.0N 122.3E   1621 01/15
     LAOAG            PHILIPPINES       18.2N 120.6E   1622 01/15
     CHILUNG          TAIWAN            25.2N 121.8E   1631 01/15
     KAOHSIUNG        TAIWAN            22.5N 120.3E   1635 01/15
     PUERTO VALLARTA  MEXICO            20.6N 105.2W   1637 01/15
     MANZANILLO       MEXICO            19.1N 104.3W   1639 01/15
     SAN FERNANDO     PHILIPPINES       16.6N 120.3E   1642 01/15
     MAZATLAN         MEXICO            23.2N 106.4W   1644 01/15
     GOLFO DE PENAS   CHILE             47.1S  74.9W   1649 01/15
     LAZARO CARDENAS  MEXICO            17.9N 102.2W   1650 01/15
     ACAPULCO         MEXICO            16.9N  99.9W   1659 01/15
     MAIMBUNG         PHILIPPINES        5.9N 121.0E   1704 01/15
     SAPPORO          JAPAN             43.5N 141.0E   1704 01/15
     NAGASAKI         JAPAN             32.7N 129.7E   1706 01/15
     SAN BLAS         MEXICO            21.5N 105.3W   1706 01/15
     GUAYMAS          MEXICO            27.9N 110.9W   1720 01/15
     NIIGATA          JAPAN             38.0N 139.0E   1723 01/15
     CORRAL           CHILE             39.8S  73.5W   1732 01/15
     TARAKAN          INDONESIA          3.3N 117.6E   1733 01/15
     PUERTO PRINCESA  PHILIPPINES        9.8N 118.8E   1735 01/15
     VLADIVOSTOK      RUSSIA            42.8N 132.0E   1738 01/15
     TALCAHUANO       CHILE             36.7S  73.1W   1742 01/15
     ILOILO           PHILIPPINES       10.7N 122.5E   1743 01/15
     GASTELLO         RUSSIA            49.1N 143.0E   1754 01/15
     SINCHANG         DPR OF KOREA      40.1N 128.5E   1756 01/15
     VALPARAISO       CHILE             33.0S  71.6W   1758 01/15
     CHEJU ISLAND     REPUBLIC OF KORE  33.5N 127.0E   1809 01/15
     COQUIMBO         CHILE             29.9S  71.4W   1813 01/15
     BALTRA ISLAND    ECUADOR            0.5S  90.3W   1815 01/15
     SALINA CRUZ      MEXICO            16.5N  95.2W   1818 01/15
     SHIMANE          JAPAN             35.8N 133.0E   1822 01/15
     PUERTO MADERO    MEXICO            14.8N  92.5W   1825 01/15
     ISLA DEL COCO    COSTA RICA         5.5N  87.1W   1827 01/15
     HAINAN ISLAND    CHINA             18.8N 110.5E   1827 01/15
     CALDERA          CHILE             27.1S  70.8W   1827 01/15
     HOMEL            TAIWAN            24.2N 120.4E   1829 01/15
     SIPICATE         GUATEMALA         13.9N  91.2W   1837 01/15
     ACAJUTLA         EL SALVADOR       13.6N  89.8W   1842 01/15
     TALARA           PERU               4.6S  81.5W   1844 01/15
     ANTOFAGASTA      CHILE             23.3S  70.4W   1846 01/15
     QUI NHON         VIETNAM           13.7N 109.2E   1849 01/15
     CABO SAN ELENA   COSTA RICA        10.9N  86.0W   1855 01/15
     SAN JUAN         PERU              15.3S  75.2W   1855 01/15
     LA PUNTA         PERU              12.1S  77.2W   1856 01/15
     LAHAD DATU       MALAYSIA           4.9N 118.4E   1857 01/15
     LA LIBERTAD      ECUADOR            2.2S  81.2W   1900 01/15
     MANILA           PHILIPPINES       14.6N 121.0E   1901 01/15
     VANINO           RUSSIA            49.0N 140.4E   1903 01/15
     CORINTO          NICARAGUA         12.5N  87.2W   1903 01/15
     BUSAN            REPUBLIC OF KORE  35.0N 129.1E   1906 01/15
     PUERTO SANDINO   NICARAGUA         12.2N  86.8W   1909 01/15
     IQUIQUE          CHILE             20.2S  70.1W   1912 01/15
     MOLLENDO         PERU              17.1S  72.0W   1912 01/15
     WENZHOU          CHINA             27.8N 121.2E   1914 01/15
     SANDAKAN         MALAYSIA           5.9N 118.1E   1915 01/15
     PUERTO QUEPOS    COSTA RICA         9.4N  84.2W   1916 01/15
     CABO MATAPALO    COSTA RICA         8.4N  83.3W   1917 01/15
     ARICA            CHILE             18.5S  70.3W   1919 01/15
     SAN JUAN DL SUR  NICARAGUA         11.2N  85.9W   1919 01/15
     QUANZHOU         CHINA             24.8N 118.8E   1924 01/15
     CHIMBOTE         PERU               9.0S  78.8W   1924 01/15
     PUNTA BURICA     PANAMA             8.0N  82.9W   1928 01/15
     PUERTO MONTT     CHILE             41.5S  73.0W   1928 01/15
     PIMENTAL         PERU               6.9S  80.0W   1936 01/15
     ESMERELDAS       ECUADOR            1.2N  79.8W   1939 01/15
     AMAPALA          HONDURAS          13.2N  87.6W   1939 01/15

POTENTIAL IMPACTS
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   \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS
     CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST
     FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

   \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO
     THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION
     OF THE SHORELINE.

   \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT
     THE TIME OF THE MAXIMUM TSUNAMI WAVES.

   \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE
     CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TSUNAMI OBSERVATIONS
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   \* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL
     AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED
     LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH
     RESPECT TO THE NORMAL TIDE LEVEL.

                             GAUGE      TIME OF   MAXIMUM WAVE
                          COORDINATES   MEASURE   TSUNAMI PERIOD
     GAUGE LOCATION        LAT   LON     (UTC)     HEIGHT (MIN)
-------------------------------------------------------------
     CHICHIJIMA JP        27.1N 142.2E    1344   0.74M/ 2.4FT  14
     VODOPADNAYA RU       51.7N 158.0E    1434   0.45M/ 1.5FT  12
     KUSHIRO JP           43.0N 144.4E    1411   0.40M/ 1.3FT  42
     TOSASHIMIZU SHIKOKU  32.8N 133.0E    1537   0.93M/ 3.0FT  30
     OMAEZAKI HONSHU JP   34.6N 138.2E    1526   0.71M/ 2.3FT  22
     EASTER CL            27.2S 109.4W    1530   0.32M/ 1.0FT  04
     DART 46403           52.7N 156.8W    1431   0.06M/ 0.2FT  14
     DART 46409           55.3N 148.6W    1520   0.04M/ 0.1FT  14
     DUTCH HBR UNALASKA   53.9N 166.5W    1452   0.09M/ 0.3FT  36
     KING COVE AK         55.1N 162.3W    1449   0.32M/ 1.1FT  16
     ATKA AK              52.2N 174.2W    1358   0.22M/ 0.7FT  20
     NIKOLSKI AK          52.9N 168.9W    1528   0.36M/ 1.2FT  12
     LIHOU REEF AU        17.1S 152.1E    1241   0.12M/ 0.4FT  14
     GOLD COAST SAND BYP  27.9S 153.4E    1135   0.70M/ 2.3FT  42
     PORT KEMBLA AU       34.5S 150.9E    1206   0.39M/ 1.3FT  32
     TWOFOLD BAY AU       37.1S 149.9E    1205   0.67M/ 2.2FT  48
     SPRING BAY AU        42.5S 147.9E    1041   0.35M/ 1.1FT  70
     HIVA OA MARQUESAS     9.8S 139.0W    1026   0.53M/ 1.8FT  12
     NUKU HIVA MARQUESAS   8.9S 140.1W    1055   0.67M/ 2.2FT  12
     HANALEI HI           22.2N 159.5W    1233   0.82M/ 2.7FT  14
     KAHULUI MAUI         20.9N 156.5W    1228   0.83M/ 2.7FT  20
     RIKITEA PF           23.1S 135.0W    1038   0.21M/ 0.7FT  14
     HUAHINE PF           16.7S 151.0W    0813   0.53M/ 1.8FT  12
     NAURU                 0.5S 166.9E    1118   0.15M/ 0.5FT  04
     GISBORNE EASTLAND N  38.7S 178.0E    1141   0.68M/ 2.2FT  42
     KAWAIHAE HAWAII      20.0N 155.8W    1132   0.37M/ 1.2FT  10
     HONOKOHAU HI         19.7N 156.0W    1145   0.34M/ 1.1FT  10
     HALEIWA HI           21.6N 158.1W    1138   0.70M/ 2.3FT  10
     HONOLULU OAHU        21.3N 157.9W    1112   0.12M/ 0.4FT  14
     BARBERS PT HI        21.3N 158.1W    1135   0.19M/ 0.6FT  04
     MAKAI PIER WAIMANAL  21.3N 157.7W    1128   0.28M/ 0.9FT  10
     HILO HAWAII          19.7N 155.1W    0929   0.10M/ 0.3FT  16
     NAWILIWILI KAUAI     22.0N 159.4W    1057   0.31M/ 1.0FT  12
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     OUINNE NEW CALEDONI  22.0S 166.7E    0826   1.13M/ 3.7FT  08
     THIO NEW CALEDONIA   21.6S 166.2E    0819   0.57M/ 1.9FT  20
     LIFOU NEW CALEDONIA  20.9S 167.3E    0746   0.89M/ 2.9FT  16
     EAST CAPE NZ         37.6S 178.2E    0834   0.26M/ 0.8FT  08
     DART 01002           29.7S 175.0W    0542   0.10M/ 0.3FT  28
     DART 01001           36.0S 177.7W    0612   0.07M/ 0.2FT  24
     SUVA VITI LEVU FJ    18.1S 178.4E    0633   0.26M/ 0.9FT  18
     DART 01003           23.4S 173.4W    0442   0.12M/ 0.4FT  42
     NUKUALOFA TO         21.1S 175.2W    0516   0.82M/ 2.7FT  06
     PAGO PAGO AS         14.3S 170.7W    0531   0.62M/ 2.0FT  16
     APIA UPOLU WS        13.8S 171.8W    0551   0.17M/ 0.5FT  18

NEXT UPDATE AND ADDITIONAL INFORMATION
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   \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF
     THE SITUATION WARRANTS.

   \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT
     [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

   \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND
     CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES
     SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT
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     BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S.
     NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND
     AT [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

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**TSUNAMI MESSAGE NUMBER 7
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
2006 UTC SAT JAN 15 2022**

..PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

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 UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS
 MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

 NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF
 ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED
 INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

PRELIMINARY VOLCANO PARAMETERS
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  \* ORIGIN TIME    0427 UTC JAN 15 2022
  \* COORDINATES    20.5 SOUTH  175.4 WEST
  \* LOCATION       TONGA

EVALUATION
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  \* A VOLCANIC ERUPTION OCCURRED IN
    THE TONGA ISLANDS AT 0427 UTC ON SATURDAY JANUARY 15 2022.

  \* BASED ON SUBSEQUENT SEA LEVEL READINGS... WIDESPREAD
    HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TSUNAMI THREAT FORECAST
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  \* HAZARDOUS TSUNAMI WAVES FROM THIS EARTHQUAKE ARE POSSIBLE
    WITHIN THE NEXT THREE HOURS ALONG SOME COASTS OF

      TONGA... NIUE... FIJI... WALLIS AND FUTUNA...
      SAMOA... KERMADEC ISLANDS... TOKELAU... COOK
      ISLANDS... VANUATU... TUVALU... NEW ZEALAND... KIRIBATI...
      HOWLAND AND BAKER... NEW CALEDONIA... FRENCH POLYNESIA...
      JARVIS ISLAND... SOLOMON ISLANDS... PALMYRA ISLAND...
      NAURU... MARSHALL ISLANDS... KOSRAE... JOHNSTON ISLAND...
      PAPUA NEW GUINEA... AUSTRALIA... PITCAIRN... POHNPEI...
      WAKE ISLAND...
      ANTARCTICA... CHUUK... MINAMITORISHIMA...
      INDONESIA... YAP... CHILE...
      JAPAN... PALAU... RUSSIA... PHILIPPINES... MEXICO...
      TAIWAN... DPR OF KOREA... REPUBLIC OF KOREA... ECUADOR...
      COSTA RICA... CHINA... GUATEMALA... EL SALVADOR... PERU...
      VIETNAM... MALAYSIA... NICARAGUA... PANAMA... HONDURAS...
      COLOMBIA AND BRUNEI

RECOMMENDED ACTIONS
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  \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS
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    FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND
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ESTIMATED TIMES OF ARRIVAL
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  \* ESTIMATED TIMES OF ARRIVAL -ETA- OF THE INITIAL TSUNAMI WAVE
    FOR PLACES WITH A POTENTIAL TSUNAMI THREAT. ACTUAL ARRIVAL
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    LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN
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    LOCATION         REGION             COORDINATES    ETA(UTC)
    ------------------------------------------------------------
    BUSAN            REPUBLIC OF KORE  35.0N 129.1E   1906 01/15
    PUERTO SANDINO   NICARAGUA         12.2N  86.8W   1909 01/15
    IQUIQUE          CHILE             20.2S  70.1W   1912 01/15
    MOLLENDO         PERU              17.1S  72.0W   1912 01/15
    WENZHOU          CHINA             27.8N 121.2E   1914 01/15
    SANDAKAN         MALAYSIA           5.9N 118.1E   1915 01/15
    PUERTO QUEPOS    COSTA RICA         9.4N  84.2W   1916 01/15
    CABO MATAPALO    COSTA RICA         8.4N  83.3W   1917 01/15
    ARICA            CHILE             18.5S  70.3W   1919 01/15
    SAN JUAN DL SUR  NICARAGUA         11.2N  85.9W   1919 01/15
    QUANZHOU         CHINA             24.8N 118.8E   1924 01/15
    CHIMBOTE         PERU               9.0S  78.8W   1924 01/15
    PUNTA BURICA     PANAMA             8.0N  82.9W   1928 01/15
    PUERTO MONTT     CHILE             41.5S  73.0W   1928 01/15
    PIMENTAL         PERU               6.9S  80.0W   1936 01/15
    ESMERELDAS       ECUADOR            1.2N  79.8W   1939 01/15
    AMAPALA          HONDURAS          13.2N  87.6W   1939 01/15
    SAN FELIPE       MEXICO            31.0N 114.8W   1952 01/15
    TUMACO           COLOMBIA           1.8N  78.9W   1957 01/15
    HONG KONG        CHINA             22.3N 114.2E   2001 01/15
    KOTA KINABALU    MALAYSIA           6.0N 116.0E   2006 01/15
    PUNTA MALA       PANAMA             7.5N  80.0W   2007 01/15
    BAHIA SOLANO     COLOMBIA           6.3N  77.4W   2015 01/15
    PUERTO PINA      PANAMA             7.4N  78.0W   2016 01/15
    UST KAHYRYUZOVO  RUSSIA            57.1N 156.7E   2017 01/15
    PUERTO WILLIAMS  CHILE             54.9S  67.6W   2017 01/15
    ALEXANDROVSK SA  RUSSIA            50.9N 142.1E   2018 01/15
    OKHOTSK          RUSSIA            59.3N 143.2E   2032 01/15
    BUENAVENTURA     COLOMBIA           3.8N  77.2W   2041 01/15
    MUARA            BRUNEI             5.0N 115.1E   2042 01/15
    KEPULAUAN RIAU   INDONESIA          4.0N 108.5E   2117 01/15
    BINTULU          MALAYSIA           3.2N 113.0E   2157 01/15
    BALBOA HEIGHTS   PANAMA             9.0N  79.6W   2227 01/15
    SHANGHAI         CHINA             31.2N 122.3E   2229 01/15

POTENTIAL IMPACTS
-----------------

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  \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO
    THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION
    OF THE SHORELINE.

  \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT
    THE TIME OF THE MAXIMUM TSUNAMI WAVES.

  \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE
    CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TSUNAMI OBSERVATIONS
--------------------

  \* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL
    AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED
    LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH
    RESPECT TO THE NORMAL TIDE LEVEL.

                            GAUGE      TIME OF   MAXIMUM     WAVE
                         COORDINATES   MEASURE   TSUNAMI   PERIOD
    GAUGE LOCATION        LAT   LON     (UTC)     HEIGHT    (MIN)
    -------------------------------------------------------------
    COQUIMBO CL          30.0S  71.3W    1939   1.08M/ 3.5FT  18
    MATARANI PE          17.0S  72.1W    1935   0.31M/ 1.0FT  24
    TALARA PE             4.6S  81.3W    1918   0.34M/ 1.1FT  18
    CALLAO LA-PUNTA PE   12.1S  77.2W    1939   0.28M/ 0.9FT  18
    QUINTERO CL          32.8S  71.5W    1846   0.52M/ 1.7FT  12
    TALCAHUANO CL        36.7S  73.1W    1858   0.35M/ 1.2FT  46
    BUCALEMU CL          34.6S  72.0W    1937   0.52M/ 1.7FT  08
    BAHIA MANSA CL       40.6S  73.7W    1815   1.03M/ 3.4FT  16
    CORRAL CL            39.9S  73.4W    1909   0.80M/ 2.6FT  26
    QUEPOS CR             9.4N  84.2W    1953   0.11M/ 0.4FT  30
    SANTACRUZ GALAPAGOS   0.7S  90.3W    1903   0.75M/ 2.5FT  18
    PUERTO VALLARTA MX   20.7N 105.2W    1820   0.39M/ 1.3FT  78
    PUERTO MADERO MX     14.7N  92.4W    1914   0.21M/ 0.7FT  32
    ROCKPORT TX          28.0N  97.0W    1338   0.04M/ 0.1FT  64
    MAYAGUEZ PR          18.2N  67.2W    1633   0.06M/ 0.2FT  28
    DESHAIES GUADELOUPE  16.3N  61.8W    1741   0.06M/ 0.2FT  06
    LIMETREE VI          17.7N  64.8W    1615   0.04M/ 0.1FT  14
    MONA ISLAND PR       18.1N  67.9W    1601   0.12M/ 0.4FT  08
    ISLA MUJERES MX      21.3N  86.7W    1744   0.03M/ 0.1FT  24
    PUERTO MORELOS MX    20.9N  86.9W    1730   0.03M/ 0.1FT  30
    HALEIWA HI           21.6N 158.1W    1717   0.41M/ 1.3FT  18
    YAKUTAT AK           59.5N 139.7W    1748   0.22M/ 0.7FT  20
    MEJILLONES CL        23.1S  70.5W    1518   0.20M/ 0.7FT  22
    ZIHUATANEJO MX       17.6N 101.6W    1724   0.46M/ 1.5FT  18
    ACAPULCO MX          16.8N  99.9W    1707   0.13M/ 0.4FT  48
    PATACHE CL           20.8S  70.2W    1633   0.15M/ 0.5FT  18
    CHANARAL CL          26.4S  70.6W    1436   0.19M/ 0.6FT  32
    CHICHIJIMA JP        27.1N 142.2E    1344   0.74M/ 2.4FT  14
    VODOPADNAYA RU       51.7N 158.0E    1434   0.45M/ 1.5FT  12
    KUSHIRO JP           43.0N 144.4E    1411   0.40M/ 1.3FT  42
    TOSASHIMIZU SHIKOKU  32.8N 133.0E    1537   0.93M/ 3.0FT  30
    OMAEZAKI HONSHU JP   34.6N 138.2E    1526   0.71M/ 2.3FT  22
    EASTER CL            27.2S 109.4W    1530   0.32M/ 1.0FT  04
    DART 46403           52.7N 156.8W    1431   0.06M/ 0.2FT  14
    DART 46409           55.3N 148.6W    1520   0.04M/ 0.1FT  14
    DUTCH HBR UNALASKA   53.9N 166.5W    1452   0.09M/ 0.3FT  36
    KING COVE AK         55.1N 162.3W    1449   0.32M/ 1.1FT  16
    ATKA AK              52.2N 174.2W    1358   0.22M/ 0.7FT  20
    NIKOLSKI AK          52.9N 168.9W    1528   0.36M/ 1.2FT  12
    LIHOU REEF AU        17.1S 152.1E    1241   0.12M/ 0.4FT  14
    GOLD COAST SAND BYP  27.9S 153.4E    1135   0.70M/ 2.3FT  42
    PORT KEMBLA AU       34.5S 150.9E    1206   0.39M/ 1.3FT  32
    TWOFOLD BAY AU       37.1S 149.9E    1205   0.67M/ 2.2FT  48
    SPRING BAY AU        42.5S 147.9E    1041   0.35M/ 1.1FT  70
    HIVA OA MARQUESAS     9.8S 139.0W    1026   0.53M/ 1.8FT  12
    NUKU HIVA MARQUESAS   8.9S 140.1W    1055   0.67M/ 2.2FT  12
    HANALEI HI           22.2N 159.5W    1233   0.82M/ 2.7FT  14
    KAHULUI MAUI         20.9N 156.5W    1228   0.83M/ 2.7FT  20
    RIKITEA PF           23.1S 135.0W    1038   0.21M/ 0.7FT  14
    HUAHINE PF           16.7S 151.0W    0813   0.53M/ 1.8FT  12
    NAURU                 0.5S 166.9E    1118   0.15M/ 0.5FT  04
    GISBORNE EASTLAND N  38.7S 178.0E    1141   0.68M/ 2.2FT  42
    KAWAIHAE HAWAII      20.0N 155.8W    1132   0.37M/ 1.2FT  10
    HONOKOHAU HI         19.7N 156.0W    1145   0.34M/ 1.1FT  10
    HONOLULU OAHU        21.3N 157.9W    1112   0.12M/ 0.4FT  14
    BARBERS PT HI        21.3N 158.1W    1135   0.19M/ 0.6FT  04
    MAKAI PIER WAIMANAL  21.3N 157.7W    1128   0.28M/ 0.9FT  10
    HILO HAWAII          19.7N 155.1W    0929   0.10M/ 0.3FT  16
    NAWILIWILI KAUAI     22.0N 159.4W    1057   0.31M/ 1.0FT  12
    HIENGHENE NEW CALED  20.7S 164.9E    0910   0.45M/ 1.5FT  10
    VANUATU              17.8S 168.3E    0924   1.41M/ 4.6FT  20
    RAROTONGA CK         21.2S 159.8W    0853   0.90M/ 3.0FT  02
    GREAT BARRIER IS NZ  36.2S 175.5E    0849   0.70M/ 2.3FT  10
    OWENGA CHATHAM NZ    44.0S 176.4W    0902   0.44M/ 1.4FT  40
    KINGSTON NORFOLK IS  29.1S 168.0E    0840   0.78M/ 2.6FT  10
    LUGANVILLE VU        15.5S 167.2E    0826   0.37M/ 1.2FT  24
    OUINNE NEW CALEDONI  22.0S 166.7E    0826   1.13M/ 3.7FT  08
    THIO NEW CALEDONIA   21.6S 166.2E    0819   0.57M/ 1.9FT  20
    LIFOU NEW CALEDONIA  20.9S 167.3E    0746   0.89M/ 2.9FT  16
    EAST CAPE NZ         37.6S 178.2E    0834   0.26M/ 0.8FT  08
    DART 01002           29.7S 175.0W    0542   0.10M/ 0.3FT  28
    DART 01001           36.0S 177.7W    0612   0.07M/ 0.2FT  24
    SUVA VITI LEVU FJ    18.1S 178.4E    0633   0.26M/ 0.9FT  18
    DART 01003           23.4S 173.4W    0442   0.12M/ 0.4FT  42
    NUKUALOFA TO         21.1S 175.2W    0516   0.82M/ 2.7FT  06
    PAGO PAGO AS         14.3S 170.7W    0531   0.62M/ 2.0FT  16
    APIA UPOLU WS        13.8S 171.8W    0551   0.17M/ 0.5FT  18

NEXT UPDATE AND ADDITIONAL INFORMATION
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  \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF
    THE SITUATION WARRANTS.

  \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT
    [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

  \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND
    CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES
    SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT
    [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

  \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON...
    BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S.
    NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND
    AT [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

$$

**TSUNAMI MESSAGE NUMBER 8
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
2146 UTC SAT JAN 15 2022**

..PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

 THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE
 UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS
 MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

 NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF
 ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED
 INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

THE TSUNAMI FORECAST IS UNCHANGED IN THIS MESSAGE.

PRELIMINARY VOLCANO PARAMETERS
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  \* ORIGIN TIME    0427 UTC JAN 15 2022
  \* COORDINATES    20.5 SOUTH  175.4 WEST
  \* LOCATION       TONGA

EVALUATION
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  \* A VOLCANIC ERUPTION OCCURRED IN
    THE TONGA ISLANDS AT 0427 UTC ON SATURDAY JANUARY 15 2022.

  \* BASED ON SUBSEQUENT SEA LEVEL READINGS... WIDESPREAD
    HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TSUNAMI THREAT FORECAST
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  \* HAZARDOUS TSUNAMI WAVES FROM THIS EARTHQUAKE ARE POSSIBLE
    WITHIN THE NEXT THREE HOURS ALONG SOME COASTS OF

      TONGA... NIUE... FIJI... WALLIS AND FUTUNA...
      SAMOA... KERMADEC ISLANDS... TOKELAU... COOK
      ISLANDS... VANUATU... TUVALU... NEW ZEALAND... KIRIBATI...
      HOWLAND AND BAKER... NEW CALEDONIA... FRENCH POLYNESIA...
      JARVIS ISLAND... SOLOMON ISLANDS... PALMYRA ISLAND...
      NAURU... MARSHALL ISLANDS... KOSRAE... JOHNSTON ISLAND...
      PAPUA NEW GUINEA... AUSTRALIA... PITCAIRN... POHNPEI...
      WAKE ISLAND... NORTHWEST HAWAII... MIDWAY
      ISLAND... ANTARCTICA... CHUUK... MINAMITORISHIMA...
      INDONESIA... YAP... CHILE...
      JAPAN... PALAU... RUSSIA... PHILIPPINES... MEXICO...
      TAIWAN... DPR OF KOREA... REPUBLIC OF KOREA... ECUADOR...
      COSTA RICA... CHINA... GUATEMALA... EL SALVADOR... PERU...
      VIETNAM... MALAYSIA... NICARAGUA... PANAMA... HONDURAS...
      COLOMBIA AND BRUNEI

RECOMMENDED ACTIONS
-------------------

  \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS
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    POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN
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    FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND
    LOCAL AUTHORITIES.

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    WAVES CAN BE FIVE MINUTES TO ONE HOUR.

    LOCATION         REGION             COORDINATES    ETA(UTC)
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    BINTULU          MALAYSIA           3.2N 113.0E   2157 01/15
    BALBOA HEIGHTS   PANAMA             9.0N  79.6W   2227 01/15
    SHANGHAI         CHINA             31.2N 122.3E   2229 01/15
    VINH             VIETNAM           18.6N 105.7E   2316 01/15
    INCHON           REPUBLIC OF KORE  37.3N 126.4E   0004 01/16

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-----------------

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                            GAUGE      TIME OF   MAXIMUM     WAVE
                         COORDINATES   MEASURE   TSUNAMI   PERIOD
    GAUGE LOCATION        LAT   LON     (UTC)     HEIGHT    (MIN)
    -------------------------------------------------------------
    ABURATSU JP          31.6N 131.4E    1642   0.65M/ 2.1FT  28
    PICHIDANGUI CL       32.1S  71.5W    2012   0.71M/ 2.3FT  12
    TOCOPILLA CL         22.1S  70.2W    2015   0.51M/ 1.7FT  14
    TALTAL CL            25.4S  70.5W    2012   0.49M/ 1.6FT  22
    CHANARAL CL          26.4S  70.6W    2114   1.74M/ 5.7FT  20
    CALLAO LA-PUNTA PE   12.1S  77.2W    2052   0.68M/ 2.2FT  18
    HAKODATE JP          41.8N 140.7E    1936   0.33M/ 1.1FT  28
    KUSHIMOTO JP         33.5N 135.8E    1629   0.96M/ 3.1FT  14
    MERA JP              34.9N 139.8E    1714   0.53M/ 1.7FT  18
    OFUNATO HONSHU JP    39.0N 141.8E    1744   0.29M/ 1.0FT  14
    SAIPAN US            15.2N 145.7E    1627   0.11M/ 0.4FT  10
    PUERTO MELINKA CL    43.9S  73.7W    1947   0.11M/ 0.4FT  18
    LA LIBERTAD EC        2.2S  80.9W    2103   0.60M/ 2.0FT  30
    PISAGUA CL           19.6S  70.2W    2058   0.26M/ 0.9FT  16
    ESPERANCE AU         33.9S 121.9E    1721   0.17M/ 0.6FT  36
    OUVEA NEW CALEDONIA  20.5S 166.6E    0823   0.39M/ 1.3FT  24
    PORTLAND AU          38.3S 141.6E    1934   0.15M/ 0.5FT  52
    PORT NAPIER NZ       39.5S 176.9E    1943   0.35M/ 1.2FT  36
    BURNIE TASMANIA AU   41.1S 145.9E    1721   0.26M/ 0.8FT  22
    COCOS ISLAND CR       5.6N  87.0W    2030   0.01M/ 0.0FT  02
    PUERTO ANGEL MX      15.7N  96.5W    2053   0.38M/ 1.2FT  04
    WINTER HARBOUR CA    50.5N 128.0W    1740   0.28M/ 0.9FT  66
    HENSLUNG COVE CA     54.2N 133.0W    1731   0.23M/ 0.8FT  28
    PORT ALEXANDER AK    56.2N 134.6W    2056   0.34M/ 1.1FT  08
    JACKSON BAY NZ       44.0S 168.6E    1233   0.91M/ 3.0FT  34
    WELLINGTON NZ        41.3S 174.8E    1950   0.18M/ 0.6FT  32
    NORTH CAPE NZ        34.4S 173.0E    0917   0.69M/ 2.3FT  06
    ISHIGAKIJIMA JP      24.3N 124.2E    1509   0.15M/ 0.5FT  16
    DART 32402           26.7S  74.0W    1936   0.09M/ 0.3FT  30
    VERNADSKY UK         65.2S  64.3W    1740   0.28M/ 0.9FT  06
    ANTARCTICA BASE PRA  62.5S  59.7W    1851   0.27M/ 0.9FT  32
    COQUIMBO CL          30.0S  71.3W    1939   1.08M/ 3.5FT  18
    MATARANI PE          17.0S  72.1W    1935   0.31M/ 1.0FT  24
    TALARA PE             4.6S  81.3W    1918   0.34M/ 1.1FT  18
    QUINTERO CL          32.8S  71.5W    1846   0.52M/ 1.7FT  12
    TALCAHUANO CL        36.7S  73.1W    1858   0.35M/ 1.2FT  46
    BUCALEMU CL          34.6S  72.0W    1937   0.52M/ 1.7FT  08
    BAHIA MANSA CL       40.6S  73.7W    1815   1.03M/ 3.4FT  16
    CORRAL CL            39.9S  73.4W    1909   0.80M/ 2.6FT  26
    QUEPOS CR             9.4N  84.2W    1953   0.11M/ 0.4FT  30
    SANTACRUZ GALAPAGOS   0.7S  90.3W    1903   0.75M/ 2.5FT  18
    HALEIWA HI           21.6N 158.1W    1717   0.41M/ 1.3FT  18
    YAKUTAT AK           59.5N 139.7W    1748   0.22M/ 0.7FT  20
    MEJILLONES CL        23.1S  70.5W    1518   0.20M/ 0.7FT  22
    ZIHUATANEJO MX       17.6N 101.6W    1724   0.46M/ 1.5FT  18
    ACAPULCO MX          16.8N  99.9W    1707   0.13M/ 0.4FT  48
    PATACHE CL           20.8S  70.2W    1633   0.15M/ 0.5FT  18
    CHICHIJIMA JP        27.1N 142.2E    1344   0.74M/ 2.4FT  14
    VODOPADNAYA RU       51.7N 158.0E    1434   0.45M/ 1.5FT  12
    KUSHIRO JP           43.0N 144.4E    1411   0.40M/ 1.3FT  42
    TOSASHIMIZU SHIKOKU  32.8N 133.0E    1537   0.93M/ 3.0FT  30
    OMAEZAKI HONSHU JP   34.6N 138.2E    1526   0.71M/ 2.3FT  22
    EASTER CL            27.2S 109.4W    1530   0.32M/ 1.0FT  04
    DART 46403           52.7N 156.8W    1431   0.06M/ 0.2FT  14
    DART 46409           55.3N 148.6W    1520   0.04M/ 0.1FT  14
    DUTCH HBR UNALASKA   53.9N 166.5W    1452   0.09M/ 0.3FT  36
    KING COVE AK         55.1N 162.3W    1449   0.32M/ 1.1FT  16
    ATKA AK              52.2N 174.2W    1358   0.22M/ 0.7FT  20
    NIKOLSKI AK          52.9N 168.9W    1528   0.36M/ 1.2FT  12
    LIHOU REEF AU        17.1S 152.1E    1241   0.12M/ 0.4FT  14
    GOLD COAST SAND BYP  27.9S 153.4E    1135   0.70M/ 2.3FT  42
    PORT KEMBLA AU       34.5S 150.9E    1206   0.39M/ 1.3FT  32
    TWOFOLD BAY AU       37.1S 149.9E    1205   0.67M/ 2.2FT  48
    SPRING BAY AU        42.5S 147.9E    1041   0.35M/ 1.1FT  70
    HIVA OA MARQUESAS     9.8S 139.0W    1026   0.53M/ 1.8FT  12
    NUKU HIVA MARQUESAS   8.9S 140.1W    1055   0.67M/ 2.2FT  12
    HANALEI HI           22.2N 159.5W    1233   0.82M/ 2.7FT  14
    KAHULUI MAUI         20.9N 156.5W    1228   0.83M/ 2.7FT  20
    RIKITEA PF           23.1S 135.0W    1038   0.21M/ 0.7FT  14
    HUAHINE PF           16.7S 151.0W    0813   0.53M/ 1.8FT  12
    NAURU                 0.5S 166.9E    1118   0.15M/ 0.5FT  04
    GISBORNE EASTLAND N  38.7S 178.0E    1141   0.68M/ 2.2FT  42
    KAWAIHAE HAWAII      20.0N 155.8W    1132   0.37M/ 1.2FT  10
    HONOKOHAU HI         19.7N 156.0W    1145   0.34M/ 1.1FT  10
    HONOLULU OAHU        21.3N 157.9W    1112   0.12M/ 0.4FT  14
    BARBERS PT HI        21.3N 158.1W    1135   0.19M/ 0.6FT  04
    MAKAI PIER WAIMANAL  21.3N 157.7W    1128   0.28M/ 0.9FT  10
    HILO HAWAII          19.7N 155.1W    0929   0.10M/ 0.3FT  16
    NAWILIWILI KAUAI     22.0N 159.4W    1057   0.31M/ 1.0FT  12
    HIENGHENE NEW CALED  20.7S 164.9E    0910   0.45M/ 1.5FT  10
    VANUATU              17.8S 168.3E    0924   1.41M/ 4.6FT  20
    RAROTONGA CK         21.2S 159.8W    0853   0.90M/ 3.0FT  02
    GREAT BARRIER IS NZ  36.2S 175.5E    0849   0.70M/ 2.3FT  10
    OWENGA CHATHAM NZ    44.0S 176.4W    0902   0.44M/ 1.4FT  40
    KINGSTON NORFOLK IS  29.1S 168.0E    0840   0.78M/ 2.6FT  10
    LUGANVILLE VU        15.5S 167.2E    0826   0.37M/ 1.2FT  24
    OUINNE NEW CALEDONI  22.0S 166.7E    0826   1.13M/ 3.7FT  08
    THIO NEW CALEDONIA   21.6S 166.2E    0819   0.57M/ 1.9FT  20
    LIFOU NEW CALEDONIA  20.9S 167.3E    0746   0.89M/ 2.9FT  16
    EAST CAPE NZ         37.6S 178.2E    0834   0.26M/ 0.8FT  08
    DART 01002           29.7S 175.0W    0542   0.10M/ 0.3FT  28
    DART 01001           36.0S 177.7W    0612   0.07M/ 0.2FT  24
    SUVA VITI LEVU FJ    18.1S 178.4E    0633   0.26M/ 0.9FT  18
    DART 01003           23.4S 173.4W    0442   0.12M/ 0.4FT  42
    NUKUALOFA TO         21.1S 175.2W    0516   0.82M/ 2.7FT  06
    PAGO PAGO AS         14.3S 170.7W    0531   0.62M/ 2.0FT  16
    APIA UPOLU WS        13.8S 171.8W    0551   0.17M/ 0.5FT  18

NEXT UPDATE AND ADDITIONAL INFORMATION
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  \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF
    THE SITUATION WARRANTS.

  \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT
    [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

  \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND
    CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES
    SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT
    [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

  \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON...
    BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S.
    NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND
    AT [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

$$

**TSUNAMI MESSAGE NUMBER 9
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
2311 UTC SAT JAN 15 2022**

..PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

 THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE
 UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS
 MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

 NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF
 ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED
 INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

PRELIMINARY VOLCANO PARAMETERS
---------------------------------

  \* ORIGIN TIME    0427 UTC JAN 15 2022
  \* COORDINATES    20.5 SOUTH  175.4 WEST
  \* LOCATION       TONGA

EVALUATION
----------

  \* A VOLCANIC ERUPTION OCCURRED IN
    THE TONGA ISLANDS AT 0427 UTC ON SATURDAY JANUARY 15 2022.

  \* BASED ON SUBSEQUENT SEA LEVEL READINGS... WIDESPREAD
    HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TSUNAMI THREAT FORECAST
-----------------------

  \* HAZARDOUS TSUNAMI WAVES FROM THIS ERUPTION ARE POSSIBLE
    ALONG THE COAST OF

      ANTARCTICA... CHILE... JAPAN... RUSSIA... MEXICO...
      ECUADOR... COSTA RICA... GUATEMALA... EL SALVADOR... PERU...
      NICARAGUA... PANAMA... HONDURAS... COLOMBIA

RECOMMENDED ACTIONS
-------------------

  \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS
    SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL
    POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN
    EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

  \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT
    FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND
    LOCAL AUTHORITIES.

POTENTIAL IMPACTS
-----------------

  \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS
    CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST
    FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

  \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO
    THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION
    OF THE SHORELINE.

  \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT
    THE TIME OF THE MAXIMUM TSUNAMI WAVES.

  \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE
    CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TSUNAMI OBSERVATIONS
--------------------

  \* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL
    AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED
    LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH
    RESPECT TO THE NORMAL TIDE LEVEL.

                            GAUGE      TIME OF   MAXIMUM     WAVE
                         COORDINATES   MEASURE   TSUNAMI   PERIOD
    GAUGE LOCATION        LAT   LON     (UTC)     HEIGHT    (MIN)
    -------------------------------------------------------------
    MEJILLONES CL        23.1S  70.5W    2148   0.74M/ 2.4FT  48



    ABURATSU JP          31.6N 131.4E    1642   0.65M/ 2.1FT  28
    PICHIDANGUI CL       32.1S  71.5W    2012   0.71M/ 2.3FT  12
    TOCOPILLA CL         22.1S  70.2W    2015   0.51M/ 1.7FT  14
    TALTAL CL            25.4S  70.5W    2012   0.49M/ 1.6FT  22
    CHANARAL CL          26.4S  70.6W    2114   1.74M/ 5.7FT  20
    CALLAO LA-PUNTA PE   12.1S  77.2W    2052   0.68M/ 2.2FT  18
    HAKODATE JP          41.8N 140.7E    1936   0.33M/ 1.1FT  28
    KUSHIMOTO JP         33.5N 135.8E    1629   0.96M/ 3.1FT  14
    MERA JP              34.9N 139.8E    1714   0.53M/ 1.7FT  18
    OFUNATO HONSHU JP    39.0N 141.8E    1744   0.29M/ 1.0FT  14
    SAIPAN US            15.2N 145.7E    1627   0.11M/ 0.4FT  10
    PUERTO MELINKA CL    43.9S  73.7W    1947   0.11M/ 0.4FT  18
    LA LIBERTAD EC        2.2S  80.9W    2103   0.60M/ 2.0FT  30
    PISAGUA CL           19.6S  70.2W    2058   0.26M/ 0.9FT  16
    ESPERANCE AU         33.9S 121.9E    1721   0.17M/ 0.6FT  36
    OUVEA NEW CALEDONIA  20.5S 166.6E    0823   0.39M/ 1.3FT  24
    PORTLAND AU          38.3S 141.6E    1934   0.15M/ 0.5FT  52
    PORT NAPIER NZ       39.5S 176.9E    1943   0.35M/ 1.2FT  36
    BURNIE TASMANIA AU   41.1S 145.9E    1721   0.26M/ 0.8FT  22
    COCOS ISLAND CR       5.6N  87.0W    2030   0.01M/ 0.0FT  02
    PUERTO ANGEL MX      15.7N  96.5W    2053   0.38M/ 1.2FT  04
    WINTER HARBOUR CA    50.5N 128.0W    1740   0.28M/ 0.9FT  66
    HENSLUNG COVE CA     54.2N 133.0W    1731   0.23M/ 0.8FT  28
    PORT ALEXANDER AK    56.2N 134.6W    2056   0.34M/ 1.1FT  08
    JACKSON BAY NZ       44.0S 168.6E    1233   0.91M/ 3.0FT  34
    WELLINGTON NZ        41.3S 174.8E    1950   0.18M/ 0.6FT  32
    NORTH CAPE NZ        34.4S 173.0E    0917   0.69M/ 2.3FT  06
    ISHIGAKIJIMA JP      24.3N 124.2E    1509   0.15M/ 0.5FT  16
    DART 32402           26.7S  74.0W    1936   0.09M/ 0.3FT  30
    VERNADSKY UK         65.2S  64.3W    1740   0.28M/ 0.9FT  06
    ANTARCTICA BASE PRA  62.5S  59.7W    1851   0.27M/ 0.9FT  32
    COQUIMBO CL          30.0S  71.3W    1939   1.08M/ 3.5FT  18
    MATARANI PE          17.0S  72.1W    1935   0.31M/ 1.0FT  24
    TALARA PE             4.6S  81.3W    1918   0.34M/ 1.1FT  18
    QUINTERO CL          32.8S  71.5W    1846   0.52M/ 1.7FT  12
    TALCAHUANO CL        36.7S  73.1W    1858   0.35M/ 1.2FT  46
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    QUEPOS CR             9.4N  84.2W    1953   0.11M/ 0.4FT  30
    SANTACRUZ GALAPAGOS   0.7S  90.3W    1903   0.75M/ 2.5FT  18

    PUERTO VALLARTA MX   20.7N 105.2W    1820   0.39M/ 1.3FT  78
    PUERTO MADERO MX     14.7N  92.4W    1914   0.21M/ 0.7FT  32
    ROCKPORT TX          28.0N  97.0W    1338   0.04M/ 0.1FT  64
    MAYAGUEZ PR          18.2N  67.2W    1633   0.06M/ 0.2FT  28
    DESHAIES GUADELOUPE  16.3N  61.8W    1741   0.06M/ 0.2FT  06
    LIMETREE VI          17.7N  64.8W    1615   0.04M/ 0.1FT  14
    MONA ISLAND PR       18.1N  67.9W    1601   0.12M/ 0.4FT  08
    ISLA MUJERES MX      21.3N  86.7W    1744   0.03M/ 0.1FT  24
    PUERTO MORELOS MX    20.9N  86.9W    1730   0.03M/ 0.1FT  30
    HALEIWA HI           21.6N 158.1W    1717   0.41M/ 1.3FT  18
    YAKUTAT AK           59.5N 139.7W    1748   0.22M/ 0.7FT  20

    ZIHUATANEJO MX       17.6N 101.6W    1724   0.46M/ 1.5FT  18
    ACAPULCO MX          16.8N  99.9W    1707   0.13M/ 0.4FT  48
    PATACHE CL           20.8S  70.2W    1633   0.15M/ 0.5FT  18
    CHICHIJIMA JP        27.1N 142.2E    1344   0.74M/ 2.4FT  14
    VODOPADNAYA RU       51.7N 158.0E    1434   0.45M/ 1.5FT  12
    KUSHIRO JP           43.0N 144.4E    1411   0.40M/ 1.3FT  42
    TOSASHIMIZU SHIKOKU  32.8N 133.0E    1537   0.93M/ 3.0FT  30
    OMAEZAKI HONSHU JP   34.6N 138.2E    1526   0.71M/ 2.3FT  22
    EASTER CL            27.2S 109.4W    1530   0.32M/ 1.0FT  04
    DART 46403           52.7N 156.8W    1431   0.06M/ 0.2FT  14
    DART 46409           55.3N 148.6W    1520   0.04M/ 0.1FT  14
    DUTCH HBR UNALASKA   53.9N 166.5W    1452   0.09M/ 0.3FT  36
    KING COVE AK         55.1N 162.3W    1449   0.32M/ 1.1FT  16
    ATKA AK              52.2N 174.2W    1358   0.22M/ 0.7FT  20
    NIKOLSKI AK          52.9N 168.9W    1528   0.36M/ 1.2FT  12
    LIHOU REEF AU        17.1S 152.1E    1241   0.12M/ 0.4FT  14
    GOLD COAST SAND BYP  27.9S 153.4E    1135   0.70M/ 2.3FT  42
    PORT KEMBLA AU       34.5S 150.9E    1206   0.39M/ 1.3FT  32
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    SPRING BAY AU        42.5S 147.9E    1041   0.35M/ 1.1FT  70
    HIVA OA MARQUESAS     9.8S 139.0W    1026   0.53M/ 1.8FT  12
    NUKU HIVA MARQUESAS   8.9S 140.1W    1055   0.67M/ 2.2FT  12
    HANALEI HI           22.2N 159.5W    1233   0.82M/ 2.7FT  14
    KAHULUI MAUI         20.9N 156.5W    1228   0.83M/ 2.7FT  20
    RIKITEA PF           23.1S 135.0W    1038   0.21M/ 0.7FT  14
    HUAHINE PF           16.7S 151.0W    0813   0.53M/ 1.8FT  12
    NAURU                 0.5S 166.9E    1118   0.15M/ 0.5FT  04
    GISBORNE EASTLAND N  38.7S 178.0E    1141   0.68M/ 2.2FT  42
    KAWAIHAE HAWAII      20.0N 155.8W    1132   0.37M/ 1.2FT  10
    HONOKOHAU HI         19.7N 156.0W    1145   0.34M/ 1.1FT  10
    HONOLULU OAHU        21.3N 157.9W    1112   0.12M/ 0.4FT  14
    BARBERS PT HI        21.3N 158.1W    1135   0.19M/ 0.6FT  04
    MAKAI PIER WAIMANAL  21.3N 157.7W    1128   0.28M/ 0.9FT  10
    HILO HAWAII          19.7N 155.1W    0929   0.10M/ 0.3FT  16
    NAWILIWILI KAUAI     22.0N 159.4W    1057   0.31M/ 1.0FT  12
    HIENGHENE NEW CALED  20.7S 164.9E    0910   0.45M/ 1.5FT  10
    VANUATU              17.8S 168.3E    0924   1.41M/ 4.6FT  20
    RAROTONGA CK         21.2S 159.8W    0853   0.90M/ 3.0FT  02
    GREAT BARRIER IS NZ  36.2S 175.5E    0849   0.70M/ 2.3FT  10
    OWENGA CHATHAM NZ    44.0S 176.4W    0902   0.44M/ 1.4FT  40
    KINGSTON NORFOLK IS  29.1S 168.0E    0840   0.78M/ 2.6FT  10
    LUGANVILLE VU        15.5S 167.2E    0826   0.37M/ 1.2FT  24
    OUINNE NEW CALEDONI  22.0S 166.7E    0826   1.13M/ 3.7FT  08
    THIO NEW CALEDONIA   21.6S 166.2E    0819   0.57M/ 1.9FT  20
    LIFOU NEW CALEDONIA  20.9S 167.3E    0746   0.89M/ 2.9FT  16
    EAST CAPE NZ         37.6S 178.2E    0834   0.26M/ 0.8FT  08
    DART 01002           29.7S 175.0W    0542   0.10M/ 0.3FT  28
    DART 01001           36.0S 177.7W    0612   0.07M/ 0.2FT  24
    SUVA VITI LEVU FJ    18.1S 178.4E    0633   0.26M/ 0.9FT  18
    DART 01003           23.4S 173.4W    0442   0.12M/ 0.4FT  42
    NUKUALOFA TO         21.1S 175.2W    0516   0.82M/ 2.7FT  06
    PAGO PAGO AS         14.3S 170.7W    0531   0.62M/ 2.0FT  16
    APIA UPOLU WS        13.8S 171.8W    0551   0.17M/ 0.5FT  18

NEXT UPDATE AND ADDITIONAL INFORMATION
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  \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF
    THE SITUATION WARRANTS.

  \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT
    [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

  \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND
    CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES
    SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT
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**TSUNAMI MESSAGE NUMBER 10
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
0043 UTC SUN JAN 16 2022**

..PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

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 UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS
 MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

 NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF
 ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED
 INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

THE TSUNAMI FORECAST IS UNCHANGED IN THIS MESSAGE.

PRELIMINARY VOLCANO PARAMETERS
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  \* ORIGIN TIME    0427 UTC JAN 15 2022
  \* COORDINATES    20.5 SOUTH  175.4 WEST
  \* LOCATION       TONGA

EVALUATION
----------

  \* A VOLCANIC ERUPTION OCCURRED IN
    THE TONGA ISLANDS AT 0427 UTC ON SATURDAY JANUARY 15 2022.

  \* BASED ON SUBSEQUENT SEA LEVEL READINGS... WIDESPREAD
    HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TSUNAMI THREAT FORECAST
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TSUNAMI THREAT FORECAST
-----------------------

  \* HAZARDOUS TSUNAMI WAVES FROM THIS ERUPTION ARE POSSIBLE
    ALONG THE COAST OF

      CHILE... JAPAN... PERU...

RECOMMENDED ACTIONS
-------------------

  \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS
    SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL
    POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN
    EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

  \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT
    FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND
    LOCAL AUTHORITIES.

POTENTIAL IMPACTS
-----------------

  \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS
    CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST
    FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

  \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO
    THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION
    OF THE SHORELINE.

  \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT
    THE TIME OF THE MAXIMUM TSUNAMI WAVES.

  \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE
    CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TSUNAMI OBSERVATIONS
--------------------

  \* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL
    AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED
    LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH
    RESPECT TO THE NORMAL TIDE LEVEL.

                            GAUGE      TIME OF   MAXIMUM     WAVE
                         COORDINATES   MEASURE   TSUNAMI   PERIOD
    GAUGE LOCATION        LAT   LON     (UTC)     HEIGHT    (MIN)
    -------------------------------------------------------------

    BALTRA GALAPAGS EC    0.4S  90.3W    2048   0.40M/ 1.3FT  14
    MAZATLAN MX          23.2N 106.4W    1649   0.24M/ 0.8FT  32
    LAZARO CARDENAS MX   17.9N 102.2W    2235   0.19M/ 0.6FT  26
    MATARANI PE          17.0S  72.1W    2224   0.48M/ 1.6FT  08
    ARICA CL             18.5S  70.3W    2234   1.22M/ 4.0FT  10



    MEJILLONES CL        23.1S  70.5W    2148   0.74M/ 2.4FT  48
    ABURATSU JP          31.6N 131.4E    1642   0.65M/ 2.1FT  28
    PICHIDANGUI CL       32.1S  71.5W    2012   0.71M/ 2.3FT  12
    TOCOPILLA CL         22.1S  70.2W    2015   0.51M/ 1.7FT  14
    TALTAL CL            25.4S  70.5W    2012   0.49M/ 1.6FT  22
    CHANARAL CL          26.4S  70.6W    2114   1.74M/ 5.7FT  20
    CALLAO LA-PUNTA PE   12.1S  77.2W    2052   0.68M/ 2.2FT  18
    HAKODATE JP          41.8N 140.7E    1936   0.33M/ 1.1FT  28
    KUSHIMOTO JP         33.5N 135.8E    1629   0.96M/ 3.1FT  14
    MERA JP              34.9N 139.8E    1714   0.53M/ 1.7FT  18
    OFUNATO HONSHU JP    39.0N 141.8E    1744   0.29M/ 1.0FT  14
    SAIPAN US            15.2N 145.7E    1627   0.11M/ 0.4FT  10
    PUERTO MELINKA CL    43.9S  73.7W    1947   0.11M/ 0.4FT  18
    LA LIBERTAD EC        2.2S  80.9W    2103   0.60M/ 2.0FT  30
    PISAGUA CL           19.6S  70.2W    2058   0.26M/ 0.9FT  16
    ESPERANCE AU         33.9S 121.9E    1721   0.17M/ 0.6FT  36
    OUVEA NEW CALEDONIA  20.5S 166.6E    0823   0.39M/ 1.3FT  24
    PORTLAND AU          38.3S 141.6E    1934   0.15M/ 0.5FT  52
    PORT NAPIER NZ       39.5S 176.9E    1943   0.35M/ 1.2FT  36
    BURNIE TASMANIA AU   41.1S 145.9E    1721   0.26M/ 0.8FT  22
    COCOS ISLAND CR       5.6N  87.0W    2030   0.01M/ 0.0FT  02
    PUERTO ANGEL MX      15.7N  96.5W    2053   0.38M/ 1.2FT  04
    WINTER HARBOUR CA    50.5N 128.0W    1740   0.28M/ 0.9FT  66
    HENSLUNG COVE CA     54.2N 133.0W    1731   0.23M/ 0.8FT  28
    PORT ALEXANDER AK    56.2N 134.6W    2056   0.34M/ 1.1FT  08
    JACKSON BAY NZ       44.0S 168.6E    1233   0.91M/ 3.0FT  34
    WELLINGTON NZ        41.3S 174.8E    1950   0.18M/ 0.6FT  32
    NORTH CAPE NZ        34.4S 173.0E    0917   0.69M/ 2.3FT  06
    ISHIGAKIJIMA JP      24.3N 124.2E    1509   0.15M/ 0.5FT  16
    DART 32402           26.7S  74.0W    1936   0.09M/ 0.3FT  30
    VERNADSKY UK         65.2S  64.3W    1740   0.28M/ 0.9FT  06
    ANTARCTICA BASE PRA  62.5S  59.7W    1851   0.27M/ 0.9FT  32
    COQUIMBO CL          30.0S  71.3W    1939   1.08M/ 3.5FT  18

    TALARA PE             4.6S  81.3W    1918   0.34M/ 1.1FT  18
    QUINTERO CL          32.8S  71.5W    1846   0.52M/ 1.7FT  12
    TALCAHUANO CL        36.7S  73.1W    1858   0.35M/ 1.2FT  46
    BUCALEMU CL          34.6S  72.0W    1937   0.52M/ 1.7FT  08
    BAHIA MANSA CL       40.6S  73.7W    1815   1.03M/ 3.4FT  16
    CORRAL CL            39.9S  73.4W    1909   0.80M/ 2.6FT  26
    QUEPOS CR             9.4N  84.2W    1953   0.11M/ 0.4FT  30
    SANTACRUZ GALAPAGOS   0.7S  90.3W    1903   0.75M/ 2.5FT  18
    PUERTO VALLARTA MX   20.7N 105.2W    1820   0.39M/ 1.3FT  78
    PUERTO MADERO MX     14.7N  92.4W    1914   0.21M/ 0.7FT  32

    HALEIWA HI           21.6N 158.1W    1717   0.41M/ 1.3FT  18
    YAKUTAT AK           59.5N 139.7W    1748   0.22M/ 0.7FT  20
    ZIHUATANEJO MX       17.6N 101.6W    1724   0.46M/ 1.5FT  18
    ACAPULCO MX          16.8N  99.9W    1707   0.13M/ 0.4FT  48
    PATACHE CL           20.8S  70.2W    1633   0.15M/ 0.5FT  18
    CHICHIJIMA JP        27.1N 142.2E    1344   0.74M/ 2.4FT  14
    VODOPADNAYA RU       51.7N 158.0E    1434   0.45M/ 1.5FT  12
    KUSHIRO JP           43.0N 144.4E    1411   0.40M/ 1.3FT  42
    TOSASHIMIZU SHIKOKU  32.8N 133.0E    1537   0.93M/ 3.0FT  30
    OMAEZAKI HONSHU JP   34.6N 138.2E    1526   0.71M/ 2.3FT  22
    EASTER CL            27.2S 109.4W    1530   0.32M/ 1.0FT  04
    DART 46403           52.7N 156.8W    1431   0.06M/ 0.2FT  14
    DART 46409           55.3N 148.6W    1520   0.04M/ 0.1FT  14
    DUTCH HBR UNALASKA   53.9N 166.5W    1452   0.09M/ 0.3FT  36
    KING COVE AK         55.1N 162.3W    1449   0.32M/ 1.1FT  16
    ATKA AK              52.2N 174.2W    1358   0.22M/ 0.7FT  20
    NIKOLSKI AK          52.9N 168.9W    1528   0.36M/ 1.2FT  12
    LIHOU REEF AU        17.1S 152.1E    1241   0.12M/ 0.4FT  14
    GOLD COAST SAND BYP  27.9S 153.4E    1135   0.70M/ 2.3FT  42
    PORT KEMBLA AU       34.5S 150.9E    1206   0.39M/ 1.3FT  32
    TWOFOLD BAY AU       37.1S 149.9E    1205   0.67M/ 2.2FT  48
    SPRING BAY AU        42.5S 147.9E    1041   0.35M/ 1.1FT  70
    HIVA OA MARQUESAS     9.8S 139.0W    1026   0.53M/ 1.8FT  12
    NUKU HIVA MARQUESAS   8.9S 140.1W    1055   0.67M/ 2.2FT  12
    HANALEI HI           22.2N 159.5W    1233   0.82M/ 2.7FT  14
    KAHULUI MAUI         20.9N 156.5W    1228   0.83M/ 2.7FT  20
    RIKITEA PF           23.1S 135.0W    1038   0.21M/ 0.7FT  14
    HUAHINE PF           16.7S 151.0W    0813   0.53M/ 1.8FT  12
    NAURU                 0.5S 166.9E    1118   0.15M/ 0.5FT  04
    GISBORNE EASTLAND N  38.7S 178.0E    1141   0.68M/ 2.2FT  42
    KAWAIHAE HAWAII      20.0N 155.8W    1132   0.37M/ 1.2FT  10
    HONOKOHAU HI         19.7N 156.0W    1145   0.34M/ 1.1FT  10
    HONOLULU OAHU        21.3N 157.9W    1112   0.12M/ 0.4FT  14
    BARBERS PT HI        21.3N 158.1W    1135   0.19M/ 0.6FT  04
    MAKAI PIER WAIMANAL  21.3N 157.7W    1128   0.28M/ 0.9FT  10
    HILO HAWAII          19.7N 155.1W    0929   0.10M/ 0.3FT  16
    NAWILIWILI KAUAI     22.0N 159.4W    1057   0.31M/ 1.0FT  12
    HIENGHENE NEW CALED  20.7S 164.9E    0910   0.45M/ 1.5FT  10
    VANUATU              17.8S 168.3E    0924   1.41M/ 4.6FT  20
    RAROTONGA CK         21.2S 159.8W    0853   0.90M/ 3.0FT  02
    GREAT BARRIER IS NZ  36.2S 175.5E    0849   0.70M/ 2.3FT  10
    OWENGA CHATHAM NZ    44.0S 176.4W    0902   0.44M/ 1.4FT  40
    KINGSTON NORFOLK IS  29.1S 168.0E    0840   0.78M/ 2.6FT  10
    LUGANVILLE VU        15.5S 167.2E    0826   0.37M/ 1.2FT  24
    OUINNE NEW CALEDONI  22.0S 166.7E    0826   1.13M/ 3.7FT  08
    THIO NEW CALEDONIA   21.6S 166.2E    0819   0.57M/ 1.9FT  20
    LIFOU NEW CALEDONIA  20.9S 167.3E    0746   0.89M/ 2.9FT  16
    EAST CAPE NZ         37.6S 178.2E    0834   0.26M/ 0.8FT  08
    DART 01002           29.7S 175.0W    0542   0.10M/ 0.3FT  28
    DART 01001           36.0S 177.7W    0612   0.07M/ 0.2FT  24
    SUVA VITI LEVU FJ    18.1S 178.4E    0633   0.26M/ 0.9FT  18
    DART 01003           23.4S 173.4W    0442   0.12M/ 0.4FT  42
    NUKUALOFA TO         21.1S 175.2W    0516   0.82M/ 2.7FT  06
    PAGO PAGO AS         14.3S 170.7W    0531   0.62M/ 2.0FT  16
    APIA UPOLU WS        13.8S 171.8W    0551   0.17M/ 0.5FT  18

NEXT UPDATE AND ADDITIONAL INFORMATION
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**TSUNAMI MESSAGE NUMBER 11
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
0145 UTC SUN JAN 16 2022**

..PTWC TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

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 INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

THE TSUNAMI FORECAST IS UNCHANGED IN THIS MESSAGE.

PRELIMINARY VOLCANO PARAMETERS
---------------------------------

  \* ORIGIN TIME    0427 UTC JAN 15 2022
  \* COORDINATES    20.5 SOUTH  175.4 WEST
  \* LOCATION       TONGA

EVALUATION
----------

\* A VOLCANIC ERUPTION OCCURRED IN
    THE TONGA ISLANDS AT 0427 UTC ON SATURDAY JANUARY 15 2022.

  \* BASED ON SUBSEQUENT SEA LEVEL READINGS... WIDESPREAD
    HAZARDOUS TSUNAMI WAVES ARE POSSIBLE.

TSUNAMI THREAT FORECAST
-----------------------

 \* HAZARDOUS TSUNAMI WAVES FROM THIS ERUPTION ARE POSSIBLE
    ALONG THE COAST OF

    CHILE... JAPAN... PERU

RECOMMENDED ACTIONS
-------------------

  \* GOVERNMENT AGENCIES RESPONSIBLE FOR THREATENED COASTAL AREAS
    SHOULD TAKE ACTION TO INFORM AND INSTRUCT ANY COASTAL
    POPULATIONS AT RISK IN ACCORDANCE WITH THEIR OWN
    EVALUATION... PROCEDURES AND THE LEVEL OF THREAT.

  \* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD STAY ALERT
    FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM NATIONAL AND
    LOCAL AUTHORITIES.

POTENTIAL IMPACTS
-----------------

  \* A TSUNAMI IS A SERIES OF WAVES. THE TIME BETWEEN WAVE CRESTS
    CAN VARY FROM 5 MINUTES TO AN HOUR. THE HAZARD MAY PERSIST
    FOR MANY HOURS OR LONGER AFTER THE INITIAL WAVE.

  \* IMPACTS CAN VARY SIGNIFICANTLY FROM ONE SECTION OF COAST TO
    THE NEXT DUE TO LOCAL BATHYMETRY AND THE SHAPE AND ELEVATION
    OF THE SHORELINE.

  \* IMPACTS CAN ALSO VARY DEPENDING UPON THE STATE OF THE TIDE AT
    THE TIME OF THE MAXIMUM TSUNAMI WAVES.

  \* PERSONS CAUGHT IN THE WATER OF A TSUNAMI MAY DROWN... BE
    CRUSHED BY DEBRIS IN THE WATER... OR BE SWEPT OUT TO SEA.

TSUNAMI OBSERVATIONS
--------------------

  \* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL
    AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED
    LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH
    RESPECT TO THE NORMAL TIDE LEVEL.

                            GAUGE      TIME OF   MAXIMUM     WAVE
                         COORDINATES   MEASURE   TSUNAMI   PERIOD
    GAUGE LOCATION        LAT   LON     (UTC)     HEIGHT    (MIN)
    -------------------------------------------------------------

    DAVAO PH              7.2N 125.7E    1328   0.22M/ 0.7FT  30
    LEGASPI PH           13.1N 123.8E    1749   0.13M/ 0.4FT  \*\*
    LOMBRUM MANUS IS PG   2.0S 147.4E    1344   0.20M/ 0.7FT  62
    TAREKUKURE WHARF SB   6.7S 156.4E    1430   0.20M/ 0.6FT  28
    DART 01004           36.1S 178.6E    0829   0.11M/ 0.4FT  26
    FONGAFALE TV          8.5S 179.2E    0735   0.12M/ 0.4FT  10
    CHUUK FM              7.5N 151.9E    2124   0.06M/ 0.2FT  40
    TUBUAI PF            23.3S 149.5W    0800   0.33M/ 1.1FT  12
    PAPEETE TAHITI       17.5S 149.6W    0811   0.27M/ 0.9FT  10
    VAIRAO FP FR         17.8S 149.3W    0813   0.43M/ 1.4FT  12
    CHRISTMAS KI          2.0N 157.5W    1209   0.20M/ 0.7FT  04
    WAKE US              19.3N 166.6E    1041   0.13M/ 0.4FT  10
    MIDWAY               28.2N 177.4W    1144   0.22M/ 0.7FT  10
    JOHNSTON US          16.7N 169.5W    0924   0.11M/ 0.4FT  46



    BALTRA GALAPAGS EC    0.4S  90.3W    2048   0.40M/ 1.3FT  14
    MAZATLAN MX          23.2N 106.4W    1649   0.24M/ 0.8FT  32
    LAZARO CARDENAS MX   17.9N 102.2W    2235   0.19M/ 0.6FT  26
    MATARANI PE          17.0S  72.1W    2224   0.48M/ 1.6FT  08
    ARICA CL             18.5S  70.3W    2234   1.22M/ 4.0FT  10
    MEJILLONES CL        23.1S  70.5W    2148   0.74M/ 2.4FT  48
    ABURATSU JP          31.6N 131.4E    1642   0.65M/ 2.1FT  28
    PICHIDANGUI CL       32.1S  71.5W    2012   0.71M/ 2.3FT  12
    TOCOPILLA CL         22.1S  70.2W    2015   0.51M/ 1.7FT  14
    TALTAL CL            25.4S  70.5W    2012   0.49M/ 1.6FT  22
    CHANARAL CL          26.4S  70.6W    2114   1.74M/ 5.7FT  20
    CALLAO LA-PUNTA PE   12.1S  77.2W    2052   0.68M/ 2.2FT  18
    HAKODATE JP          41.8N 140.7E    1936   0.33M/ 1.1FT  28
    KUSHIMOTO JP         33.5N 135.8E    1629   0.96M/ 3.1FT  14
    MERA JP              34.9N 139.8E    1714   0.53M/ 1.7FT  18
    OFUNATO HONSHU JP    39.0N 141.8E    1744   0.29M/ 1.0FT  14
    SAIPAN US            15.2N 145.7E    1627   0.11M/ 0.4FT  10
    PUERTO MELINKA CL    43.9S  73.7W    1947   0.11M/ 0.4FT  18
    LA LIBERTAD EC        2.2S  80.9W    2103   0.60M/ 2.0FT  30
    PISAGUA CL           19.6S  70.2W    2058   0.26M/ 0.9FT  16
    ESPERANCE AU         33.9S 121.9E    1721   0.17M/ 0.6FT  36
    OUVEA NEW CALEDONIA  20.5S 166.6E    0823   0.39M/ 1.3FT  24
    PORTLAND AU          38.3S 141.6E    1934   0.15M/ 0.5FT  52
    PORT NAPIER NZ       39.5S 176.9E    1943   0.35M/ 1.2FT  36
    BURNIE TASMANIA AU   41.1S 145.9E    1721   0.26M/ 0.8FT  22
    COCOS ISLAND CR       5.6N  87.0W    2030   0.01M/ 0.0FT  02
    PUERTO ANGEL MX      15.7N  96.5W    2053   0.38M/ 1.2FT  04
    WINTER HARBOUR CA    50.5N 128.0W    1740   0.28M/ 0.9FT  66
    HENSLUNG COVE CA     54.2N 133.0W    1731   0.23M/ 0.8FT  28
    PORT ALEXANDER AK    56.2N 134.6W    2056   0.34M/ 1.1FT  08
    JACKSON BAY NZ       44.0S 168.6E    1233   0.91M/ 3.0FT  34
    WELLINGTON NZ        41.3S 174.8E    1950   0.18M/ 0.6FT  32
    NORTH CAPE NZ        34.4S 173.0E    0917   0.69M/ 2.3FT  06
    ISHIGAKIJIMA JP      24.3N 124.2E    1509   0.15M/ 0.5FT  16
    DART 32402           26.7S  74.0W    1936   0.09M/ 0.3FT  30
    VERNADSKY UK         65.2S  64.3W    1740   0.28M/ 0.9FT  06
    ANTARCTICA BASE PRA  62.5S  59.7W    1851   0.27M/ 0.9FT  32
    COQUIMBO CL          30.0S  71.3W    1939   1.08M/ 3.5FT  18
    TALARA PE             4.6S  81.3W    1918   0.34M/ 1.1FT  18
    QUINTERO CL          32.8S  71.5W    1846   0.52M/ 1.7FT  12
    TALCAHUANO CL        36.7S  73.1W    1858   0.35M/ 1.2FT  46
    BUCALEMU CL          34.6S  72.0W    1937   0.52M/ 1.7FT  08
    BAHIA MANSA CL       40.6S  73.7W    1815   1.03M/ 3.4FT  16
    CORRAL CL            39.9S  73.4W    1909   0.80M/ 2.6FT  26
    QUEPOS CR             9.4N  84.2W    1953   0.11M/ 0.4FT  30
    SANTACRUZ GALAPAGOS   0.7S  90.3W    1903   0.75M/ 2.5FT  18
    PUERTO VALLARTA MX   20.7N 105.2W    1820   0.39M/ 1.3FT  78
    PUERTO MADERO MX     14.7N  92.4W    1914   0.21M/ 0.7FT  32
    HALEIWA HI           21.6N 158.1W    1717   0.41M/ 1.3FT  18
    YAKUTAT AK           59.5N 139.7W    1748   0.22M/ 0.7FT  20
    ZIHUATANEJO MX       17.6N 101.6W    1724   0.46M/ 1.5FT  18
    ACAPULCO MX          16.8N  99.9W    1707   0.13M/ 0.4FT  48
    PATACHE CL           20.8S  70.2W    1633   0.15M/ 0.5FT  18
    CHICHIJIMA JP        27.1N 142.2E    1344   0.74M/ 2.4FT  14
    VODOPADNAYA RU       51.7N 158.0E    1434   0.45M/ 1.5FT  12
    KUSHIRO JP           43.0N 144.4E    1411   0.40M/ 1.3FT  42
    TOSASHIMIZU SHIKOKU  32.8N 133.0E    1537   0.93M/ 3.0FT  30
    OMAEZAKI HONSHU JP   34.6N 138.2E    1526   0.71M/ 2.3FT  22
    EASTER CL            27.2S 109.4W    1530   0.32M/ 1.0FT  04
    DART 46403           52.7N 156.8W    1431   0.06M/ 0.2FT  14
    DART 46409           55.3N 148.6W    1520   0.04M/ 0.1FT  14
    DUTCH HBR UNALASKA   53.9N 166.5W    1452   0.09M/ 0.3FT  36
    KING COVE AK         55.1N 162.3W    1449   0.32M/ 1.1FT  16
    ATKA AK              52.2N 174.2W    1358   0.22M/ 0.7FT  20
    NIKOLSKI AK          52.9N 168.9W    1528   0.36M/ 1.2FT  12
    LIHOU REEF AU        17.1S 152.1E    1241   0.12M/ 0.4FT  14
    GOLD COAST SAND BYP  27.9S 153.4E    1135   0.70M/ 2.3FT  42
    PORT KEMBLA AU       34.5S 150.9E    1206   0.39M/ 1.3FT  32
    TWOFOLD BAY AU       37.1S 149.9E    1205   0.67M/ 2.2FT  48
    SPRING BAY AU        42.5S 147.9E    1041   0.35M/ 1.1FT  70
    HIVA OA MARQUESAS     9.8S 139.0W    1026   0.53M/ 1.8FT  12
    NUKU HIVA MARQUESAS   8.9S 140.1W    1055   0.67M/ 2.2FT  12
    HANALEI HI           22.2N 159.5W    1233   0.82M/ 2.7FT  14
    KAHULUI MAUI         20.9N 156.5W    1228   0.83M/ 2.7FT  20
    RIKITEA PF           23.1S 135.0W    1038   0.21M/ 0.7FT  14
    HUAHINE PF           16.7S 151.0W    0813   0.53M/ 1.8FT  12
    NAURU                 0.5S 166.9E    1118   0.15M/ 0.5FT  04
    GISBORNE EASTLAND N  38.7S 178.0E    1141   0.68M/ 2.2FT  42
    KAWAIHAE HAWAII      20.0N 155.8W    1132   0.37M/ 1.2FT  10
    HONOKOHAU HI         19.7N 156.0W    1145   0.34M/ 1.1FT  10
    HONOLULU OAHU        21.3N 157.9W    1112   0.12M/ 0.4FT  14
    BARBERS PT HI        21.3N 158.1W    1135   0.19M/ 0.6FT  04
    MAKAI PIER WAIMANAL  21.3N 157.7W    1128   0.28M/ 0.9FT  10
    HILO HAWAII          19.7N 155.1W    0929   0.10M/ 0.3FT  16
    NAWILIWILI KAUAI     22.0N 159.4W    1057   0.31M/ 1.0FT  12
    HIENGHENE NEW CALED  20.7S 164.9E    0910   0.45M/ 1.5FT  10
    VANUATU              17.8S 168.3E    0924   1.41M/ 4.6FT  20
    RAROTONGA CK         21.2S 159.8W    0853   0.90M/ 3.0FT  02
    GREAT BARRIER IS NZ  36.2S 175.5E    0849   0.70M/ 2.3FT  10
    OWENGA CHATHAM NZ    44.0S 176.4W    0902   0.44M/ 1.4FT  40
    KINGSTON NORFOLK IS  29.1S 168.0E    0840   0.78M/ 2.6FT  10
    LUGANVILLE VU        15.5S 167.2E    0826   0.37M/ 1.2FT  24
    OUINNE NEW CALEDONI  22.0S 166.7E    0826   1.13M/ 3.7FT  08
    THIO NEW CALEDONIA   21.6S 166.2E    0819   0.57M/ 1.9FT  20
    LIFOU NEW CALEDONIA  20.9S 167.3E    0746   0.89M/ 2.9FT  16
    EAST CAPE NZ         37.6S 178.2E    0834   0.26M/ 0.8FT  08
    DART 01002           29.7S 175.0W    0542   0.10M/ 0.3FT  28
    DART 01001           36.0S 177.7W    0612   0.07M/ 0.2FT  24
    SUVA VITI LEVU FJ    18.1S 178.4E    0633   0.26M/ 0.9FT  18
    DART 01003           23.4S 173.4W    0442   0.12M/ 0.4FT  42
    NUKUALOFA TO         21.1S 175.2W    0516   0.82M/ 2.7FT  06
    PAGO PAGO AS         14.3S 170.7W    0531   0.62M/ 2.0FT  16
    APIA UPOLU WS        13.8S 171.8W    0551   0.17M/ 0.5FT  18

NEXT UPDATE AND ADDITIONAL INFORMATION
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  \* THE NEXT MESSAGE WILL BE ISSUED IN ONE HOUR... OR SOONER IF
    THE SITUATION WARRANTS.

  \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT
    [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

  \* COASTAL REGIONS OF HAWAII... AMERICAN SAMOA... GUAM... AND
    CNMI SHOULD REFER TO PACIFIC TSUNAMI WARNING CENTER MESSAGES
    SPECIFICALLY FOR THOSE PLACES THAT CAN BE FOUND AT
    [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

  \* COASTAL REGIONS OF CALIFORNIA... OREGON... WASHINGTON...
    BRITISH COLUMBIA AND ALASKA SHOULD ONLY REFER TO U.S.
    NATIONAL TSUNAMI WARNING CENTER MESSAGES THAT CAN BE FOUND
    AT [WWW.TSUNAMI.GOV](http://www.tsunami.gov/).

$$

**TSUNAMI MESSAGE NUMBER 12
NWS PACIFIC TSUNAMI WARNING CENTER HONOLULU HI
0246 UTC SUN JAN 16 2022**

..PTWC FINAL TSUNAMI THREAT MESSAGE...

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

 THIS MESSAGE IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE
 UNESCO/IOC PACIFIC TSUNAMI WARNING AND MITIGATION SYSTEM AND IS
 MEANT FOR NATIONAL AUTHORITIES IN EACH COUNTRY OF THAT SYSTEM.

 NATIONAL AUTHORITIES WILL DETERMINE THE APPROPRIATE LEVEL OF
 ALERT FOR EACH COUNTRY AND MAY ISSUE ADDITIONAL OR MORE REFINED
 INFORMATION.

\*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\* NOTICE \*\*\*\*\*

THE TSUNAMI FORECAST IS UNCHANGED IN THIS MESSAGE.

PRELIMINARY VOLCANO PARAMETERS
---------------------------------

  \* ORIGIN TIME    0427 UTC JAN 15 2022
  \* COORDINATES    20.5 SOUTH  175.4 WEST
  \* LOCATION       TONGA

EVALUATION
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  \* BASED ON ALL AVAILABLE DATA... THE TSUNAMI THREAT FROM THIS
    VOLCANIC EXPLOSION HAS NOW PASSED.

TSUNAMI THREAT FORECAST...UPDATED
---------------------------------

  \* THE TSUNAMI THREAT HAS NOW LARGELY PASSED.

RECOMMENDED ACTIONS
-------------------

  \* GOVERNMENT AGENCIES RESPONSIBLE FOR ANY IMPACTED COASTAL
    AREAS SHOULD MONITOR CONDITIONS AT THE COAST TO DETERMINE IF
    AND WHEN IT IS SAFE TO RESUME NORMAL ACTIVITIES.

  \* PERSONS LOCATED NEAR IMPACTED COASTAL AREAS SHOULD STAY ALERT
    FOR INFORMATION AND FOLLOW INSTRUCTIONS FROM LOCAL
    AUTHORITIES.

  \* REMAIN OBSERVANT AND EXERCISE NORMAL CAUTION NEAR THE SEA.

POTENTIAL IMPACTS
-----------------

  \* MINOR SEA LEVEL FLUCTUATIONS OF UP TO 0.3 METERS ABOVE AND
    BELOW THE NORMAL TIDE MAY CONTINUE OVER THE NEXT FEW HOURS.

TSUNAMI OBSERVATIONS
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  \* THE FOLLOWING ARE TSUNAMI WAVE OBSERVATIONS FROM COASTAL
    AND/OR DEEP-OCEAN SEA LEVEL GAUGES AT THE INDICATED
    LOCATIONS. THE MAXIMUM TSUNAMI HEIGHT IS MEASURED WITH
    RESPECT TO THE NORMAL TIDE LEVEL.

                            GAUGE      TIME OF   MAXIMUM     WAVE
                         COORDINATES   MEASURE   TSUNAMI   PERIOD
    GAUGE LOCATION        LAT   LON     (UTC)     HEIGHT    (MIN)
    -------------------------------------------------------------
    CALLAO LA-PUNTA PE   12.1S  77.2W    0234   0.79M/ 2.6FT  24
    DAVAO PH              7.2N 125.7E    1328   0.22M/ 0.7FT  30
    LEGASPI PH           13.1N 123.8E    1749   0.13M/ 0.4FT  \*\*
    LOMBRUM MANUS IS PG   2.0S 147.4E    1344   0.20M/ 0.7FT  62
    TAREKUKURE WHARF SB   6.7S 156.4E    1430   0.20M/ 0.6FT  28
    DART 01004           36.1S 178.6E    0829   0.11M/ 0.4FT  26
    FONGAFALE TV          8.5S 179.2E    0735   0.12M/ 0.4FT  10
    CHUUK FM              7.5N 151.9E    2124   0.06M/ 0.2FT  40
    TUBUAI PF            23.3S 149.5W    0800   0.33M/ 1.1FT  12
    PAPEETE TAHITI       17.5S 149.6W    0811   0.27M/ 0.9FT  10
    VAIRAO FP FR         17.8S 149.3W    0813   0.43M/ 1.4FT  12
    CHRISTMAS KI          2.0N 157.5W    1209   0.20M/ 0.7FT  04
    WAKE US              19.3N 166.6E    1041   0.13M/ 0.4FT  10
    MIDWAY               28.2N 177.4W    1144   0.22M/ 0.7FT  10
    JOHNSTON US          16.7N 169.5W    0924   0.11M/ 0.4FT  46
    BALTRA GALAPAGS EC    0.4S  90.3W    2048   0.40M/ 1.3FT  14
    MAZATLAN MX          23.2N 106.4W    1649   0.24M/ 0.8FT  32
    LAZARO CARDENAS MX   17.9N 102.2W    2235   0.19M/ 0.6FT  26
    MATARANI PE          17.0S  72.1W    2224   0.48M/ 1.6FT  08
    ARICA CL             18.5S  70.3W    2234   1.22M/ 4.0FT  10
    MEJILLONES CL        23.1S  70.5W    2148   0.74M/ 2.4FT  48
    ABURATSU JP          31.6N 131.4E    1642   0.65M/ 2.1FT  28
    PICHIDANGUI CL       32.1S  71.5W    2012   0.71M/ 2.3FT  12
    TOCOPILLA CL         22.1S  70.2W    2015   0.51M/ 1.7FT  14
    TALTAL CL            25.4S  70.5W    2012   0.49M/ 1.6FT  22
    CHANARAL CL          26.4S  70.6W    2114   1.74M/ 5.7FT  20
    HAKODATE JP          41.8N 140.7E    1936   0.33M/ 1.1FT  28
    KUSHIMOTO JP         33.5N 135.8E    1629   0.96M/ 3.1FT  14
    MERA JP              34.9N 139.8E    1714   0.53M/ 1.7FT  18
    OFUNATO HONSHU JP    39.0N 141.8E    1744   0.29M/ 1.0FT  14
    SAIPAN US            15.2N 145.7E    1627   0.11M/ 0.4FT  10
    PUERTO MELINKA CL    43.9S  73.7W    1947   0.11M/ 0.4FT  18
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    PISAGUA CL           19.6S  70.2W    2058   0.26M/ 0.9FT  16
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    OUVEA NEW CALEDONIA  20.5S 166.6E    0823   0.39M/ 1.3FT  24
    PORTLAND AU          38.3S 141.6E    1934   0.15M/ 0.5FT  52
    PORT NAPIER NZ       39.5S 176.9E    1943   0.35M/ 1.2FT  36
    BURNIE TASMANIA AU   41.1S 145.9E    1721   0.26M/ 0.8FT  22
    COCOS ISLAND CR       5.6N  87.0W    2030   0.01M/ 0.0FT  02
    PUERTO ANGEL MX      15.7N  96.5W    2053   0.38M/ 1.2FT  04
    WINTER HARBOUR CA    50.5N 128.0W    1740   0.28M/ 0.9FT  66
    HENSLUNG COVE CA     54.2N 133.0W    1731   0.23M/ 0.8FT  28
    PORT ALEXANDER AK    56.2N 134.6W    2056   0.34M/ 1.1FT  08
    JACKSON BAY NZ       44.0S 168.6E    1233   0.91M/ 3.0FT  34
    WELLINGTON NZ        41.3S 174.8E    1950   0.18M/ 0.6FT  32
    NORTH CAPE NZ        34.4S 173.0E    0917   0.69M/ 2.3FT  06
    ISHIGAKIJIMA JP      24.3N 124.2E    1509   0.15M/ 0.5FT  16
    DART 32402           26.7S  74.0W    1936   0.09M/ 0.3FT  30
    VERNADSKY UK         65.2S  64.3W    1740   0.28M/ 0.9FT  06
    ANTARCTICA BASE PRA  62.5S  59.7W    1851   0.27M/ 0.9FT  32
    COQUIMBO CL          30.0S  71.3W    1939   1.08M/ 3.5FT  18
    TALARA PE             4.6S  81.3W    1918   0.34M/ 1.1FT  18
    QUINTERO CL          32.8S  71.5W    1846   0.52M/ 1.7FT  12
    TALCAHUANO CL        36.7S  73.1W    1858   0.35M/ 1.2FT  46
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    BAHIA MANSA CL       40.6S  73.7W    1815   1.03M/ 3.4FT  16
    CORRAL CL            39.9S  73.4W    1909   0.80M/ 2.6FT  26
    QUEPOS CR             9.4N  84.2W    1953   0.11M/ 0.4FT  30
    SANTACRUZ GALAPAGOS   0.7S  90.3W    1903   0.75M/ 2.5FT  18
    PUERTO VALLARTA MX   20.7N 105.2W    1820   0.39M/ 1.3FT  78
    PUERTO MADERO MX     14.7N  92.4W    1914   0.21M/ 0.7FT  32
    HALEIWA HI           21.6N 158.1W    1717   0.41M/ 1.3FT  18
    YAKUTAT AK           59.5N 139.7W    1748   0.22M/ 0.7FT  20
    ZIHUATANEJO MX       17.6N 101.6W    1724   0.46M/ 1.5FT  18
    ACAPULCO MX          16.8N  99.9W    1707   0.13M/ 0.4FT  48
    PATACHE CL           20.8S  70.2W    1633   0.15M/ 0.5FT  18
    CHICHIJIMA JP        27.1N 142.2E    1344   0.74M/ 2.4FT  14
    VODOPADNAYA RU       51.7N 158.0E    1434   0.45M/ 1.5FT  12
    KUSHIRO JP           43.0N 144.4E    1411   0.40M/ 1.3FT  42
    TOSASHIMIZU SHIKOKU  32.8N 133.0E    1537   0.93M/ 3.0FT  30
    OMAEZAKI HONSHU JP   34.6N 138.2E    1526   0.71M/ 2.3FT  22
    EASTER CL            27.2S 109.4W    1530   0.32M/ 1.0FT  04
    DART 46403           52.7N 156.8W    1431   0.06M/ 0.2FT  14
    DART 46409           55.3N 148.6W    1520   0.04M/ 0.1FT  14
    DUTCH HBR UNALASKA   53.9N 166.5W    1452   0.09M/ 0.3FT  36
    KING COVE AK         55.1N 162.3W    1449   0.32M/ 1.1FT  16
    ATKA AK              52.2N 174.2W    1358   0.22M/ 0.7FT  20
    NIKOLSKI AK          52.9N 168.9W    1528   0.36M/ 1.2FT  12
    LIHOU REEF AU        17.1S 152.1E    1241   0.12M/ 0.4FT  14
    GOLD COAST SAND BYP  27.9S 153.4E    1135   0.70M/ 2.3FT  42
    PORT KEMBLA AU       34.5S 150.9E    1206   0.39M/ 1.3FT  32
    TWOFOLD BAY AU       37.1S 149.9E    1205   0.67M/ 2.2FT  48
    SPRING BAY AU        42.5S 147.9E    1041   0.35M/ 1.1FT  70
    HIVA OA MARQUESAS     9.8S 139.0W    1026   0.53M/ 1.8FT  12
    NUKU HIVA MARQUESAS   8.9S 140.1W    1055   0.67M/ 2.2FT  12
    HANALEI HI           22.2N 159.5W    1233   0.82M/ 2.7FT  14
    KAHULUI MAUI         20.9N 156.5W    1228   0.83M/ 2.7FT  20
    RIKITEA PF           23.1S 135.0W    1038   0.21M/ 0.7FT  14
    HUAHINE PF           16.7S 151.0W    0813   0.53M/ 1.8FT  12
    NAURU                 0.5S 166.9E    1118   0.15M/ 0.5FT  04
    GISBORNE EASTLAND N  38.7S 178.0E    1141   0.68M/ 2.2FT  42
    KAWAIHAE HAWAII      20.0N 155.8W    1132   0.37M/ 1.2FT  10
    HONOKOHAU HI         19.7N 156.0W    1145   0.34M/ 1.1FT  10
    HONOLULU OAHU        21.3N 157.9W    1112   0.12M/ 0.4FT  14
    BARBERS PT HI        21.3N 158.1W    1135   0.19M/ 0.6FT  04
    MAKAI PIER WAIMANAL  21.3N 157.7W    1128   0.28M/ 0.9FT  10
    HILO HAWAII          19.7N 155.1W    0929   0.10M/ 0.3FT  16
    NAWILIWILI KAUAI     22.0N 159.4W    1057   0.31M/ 1.0FT  12
    HIENGHENE NEW CALED  20.7S 164.9E    0910   0.45M/ 1.5FT  10
    VANUATU              17.8S 168.3E    0924   1.41M/ 4.6FT  20
    RAROTONGA CK         21.2S 159.8W    0853   0.90M/ 3.0FT  02
    GREAT BARRIER IS NZ  36.2S 175.5E    0849   0.70M/ 2.3FT  10
    OWENGA CHATHAM NZ    44.0S 176.4W    0902   0.44M/ 1.4FT  40
    KINGSTON NORFOLK IS  29.1S 168.0E    0840   0.78M/ 2.6FT  10
    LUGANVILLE VU        15.5S 167.2E    0826   0.37M/ 1.2FT  24
    OUINNE NEW CALEDONI  22.0S 166.7E    0826   1.13M/ 3.7FT  08
    THIO NEW CALEDONIA   21.6S 166.2E    0819   0.57M/ 1.9FT  20
    LIFOU NEW CALEDONIA  20.9S 167.3E    0746   0.89M/ 2.9FT  16
    EAST CAPE NZ         37.6S 178.2E    0834   0.26M/ 0.8FT  08
    DART 01002           29.7S 175.0W    0542   0.10M/ 0.3FT  28
    DART 01001           36.0S 177.7W    0612   0.07M/ 0.2FT  24
    SUVA VITI LEVU FJ    18.1S 178.4E    0633   0.26M/ 0.9FT  18
    DART 01003           23.4S 173.4W    0442   0.12M/ 0.4FT  42
    NUKUALOFA TO         21.1S 175.2W    0516   0.82M/ 2.7FT  06
    PAGO PAGO AS         14.3S 170.7W    0531   0.62M/ 2.0FT  16
    APIA UPOLU WS        13.8S 171.8W    0551   0.17M/ 0.5FT  18

NEXT UPDATE AND ADDITIONAL INFORMATION
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  \* THIS WILL BE THE FINAL STATEMENT ISSUED FOR THIS EVENT UNLESS
    NEW INFORMATION IS RECEIVED OR THE SITUATION CHANGES.

  \* FURTHER INFORMATION ABOUT THIS EVENT MAY BE FOUND AT
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