OCHA United Nations Office for the Coordination of Humanitarian Affairs

How OCHA uses geo-referenced data to prepared for and respond to humanitarian emergencies

John Marinos, Information Management Officer

Bangkok, 20 February

www.unocha.org

Understanding the region

The UN-OCHA Regional Office provides access to information products which show the nature of natural hazards which threaten member states in the Asia-Pacific region.

We do this to:

- Raise awareness
- Prioritize preparedness activities

Natural Hazard Risk in Asia-Pacific

Issued: 01 May 2011

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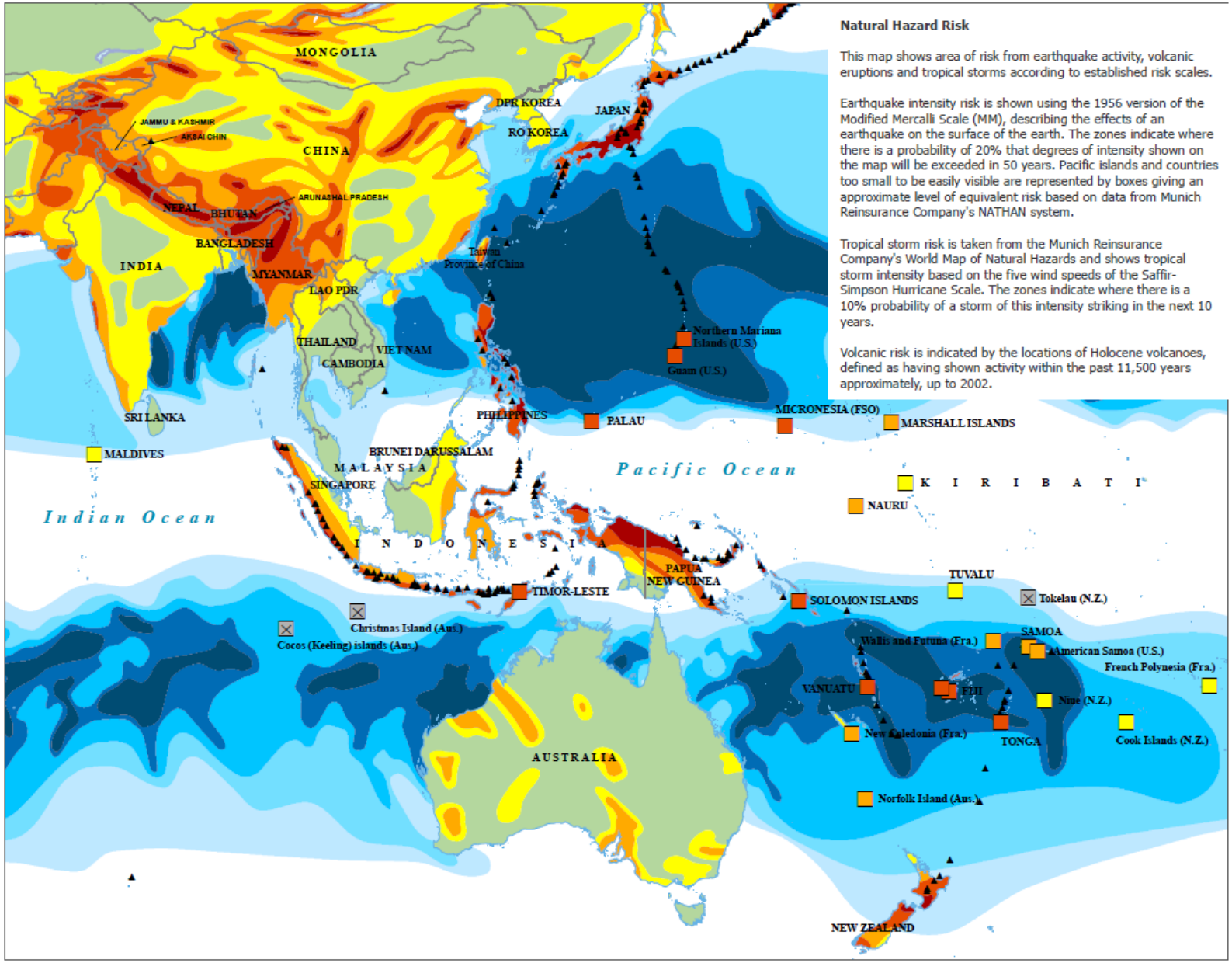

Natural Hazard Risk

This map shows area of risk from earthquake activity, volcanic eruptions and tropical storms according to established risk scales.

Earthquake intensity risk is shown using the 1956 version of the Modified Mercalli Scale (MM), describing the effects of an earthquake on the surface of the earth. The zones indicate where there is a probability of 20% that degrees of intensity shown on the map will be exceeded in 50 years. Pacific islands and countries too small to be easily visible are represented by boxes giving an approximate level of equivalent risk based on data from Munich Reinsurance Company's NATHAN system.

Tropical storm risk is taken from the Munich Reinsurance Company's World Map of Natural Hazards and shows tropical storm intensity based on the five wind speeds of the Saffir-Simpson Hurricane Scale. The zones indicate where there is a 10% probability of a storm of this intensity striking in the next 10 years.

Volcanic risk is indicated by the locations of Holocene volcanoes, defined as having shown activity within the past 11,500 years approximately, up to 2002.

Earthquake Intensity
(Modified Mercalli Scale)

- Degree I-V
- Degree VI
- Degree VII
- Degree VIII
- Degree IX-XII
- Insufficient data

Tropical Storm Intensity
(Saffir-Simpson Scale)

- One: 118-153 kmh
- Two: 154-177 kmh
- Three: 178-209 kmh
- Four: 210-249 kmh
- Five: 250+ kmh
- Holocene Volcano

Country Naming Convention

UN MEMBER STATE
Territory or Associated State
DISPUTED TERRITORY

Map Doc Name: OCHA_ROAP_Hazards_v6_110501

Creation Date: 01 May 2011
Projection/Datum: Behrmann/WGS84
Web Resources: http://ochaonline.un.org/roap

0 1,000 2,000
Kilometers

Map data source(s):
UN Cartographic Section, Pacific Disaster Center (PDC), Natural Hazard Assessment Network (NATHAN) by the Munich Reinsurance Company (Munich Re.), UNISYS, Smithsonian Institute, UNEP/GRID

Disclaimers:
The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

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Regional Office for Asia Pacific (ROAP)
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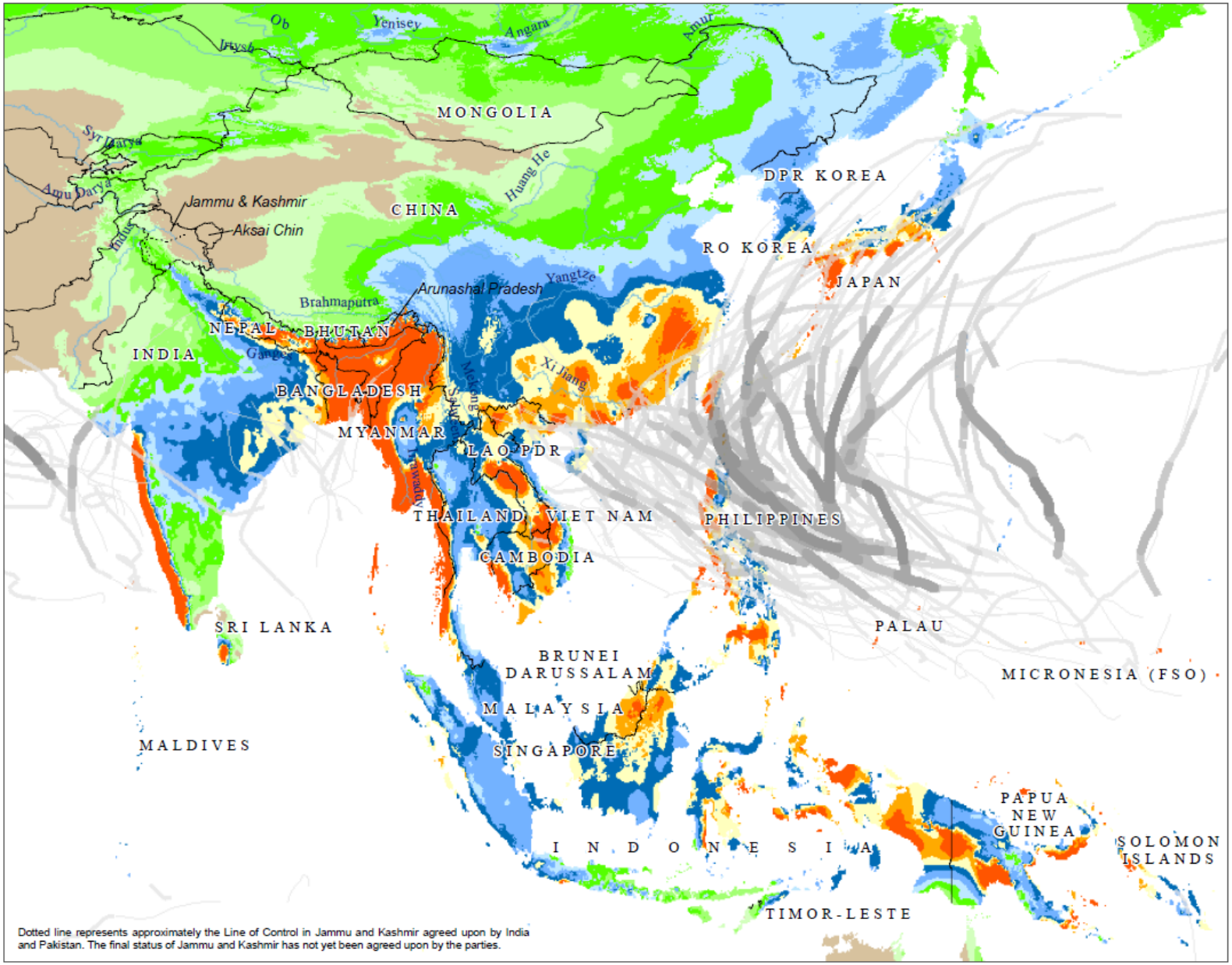
Historical Monthly Data on Average Precipitation and Tropical Storms

Average monthly precipitation and all tropical storms recorded for the month between 1956 and 2009

JUNE

OCHA Regional Office for Asia-Pacific



Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

Historical Average Monthly Precipitation (mm) - WORLDCLIM

Below 10	100 - 150
10 - 25	150 - 200
25 - 50	200 - 250
50 - 75	250 - 300
75 - 100	Above 300

All tropical storms recorded from 1956 to 2006 - UNISYS

- Tropical Depression
- Tropical Storm
- Category 1
- Category 2
- Category 3
- Category 4
- Category 5

Map Doc Name:
OCHA_ROAP_Monthly_Climate_JUN_v3_110519
Creation Date:
19 May 2011
Projection/Datum:
Behrmann
Web Resources:
http://ochaonline.un.org/roap

0 750 1,500
Kilometers

Map data source(s):
WOLRDCLIM, UNISYS, UN Cartographic Section, Global Discovery

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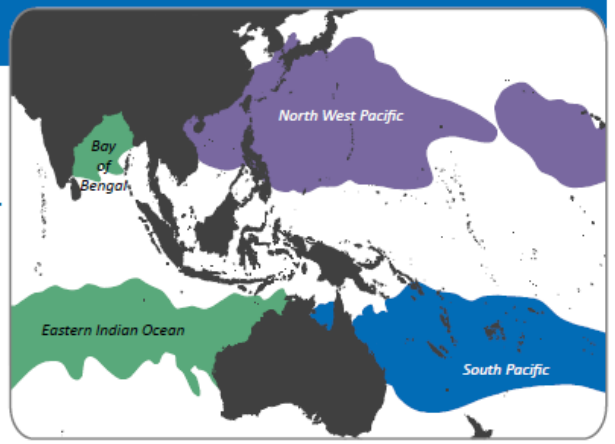
Storm Seasons in the Asia-Pacific

As of August 2011

Storm season in the **South Pacific** runs from **November to April.** **February** is the **peak month** for storm activity.

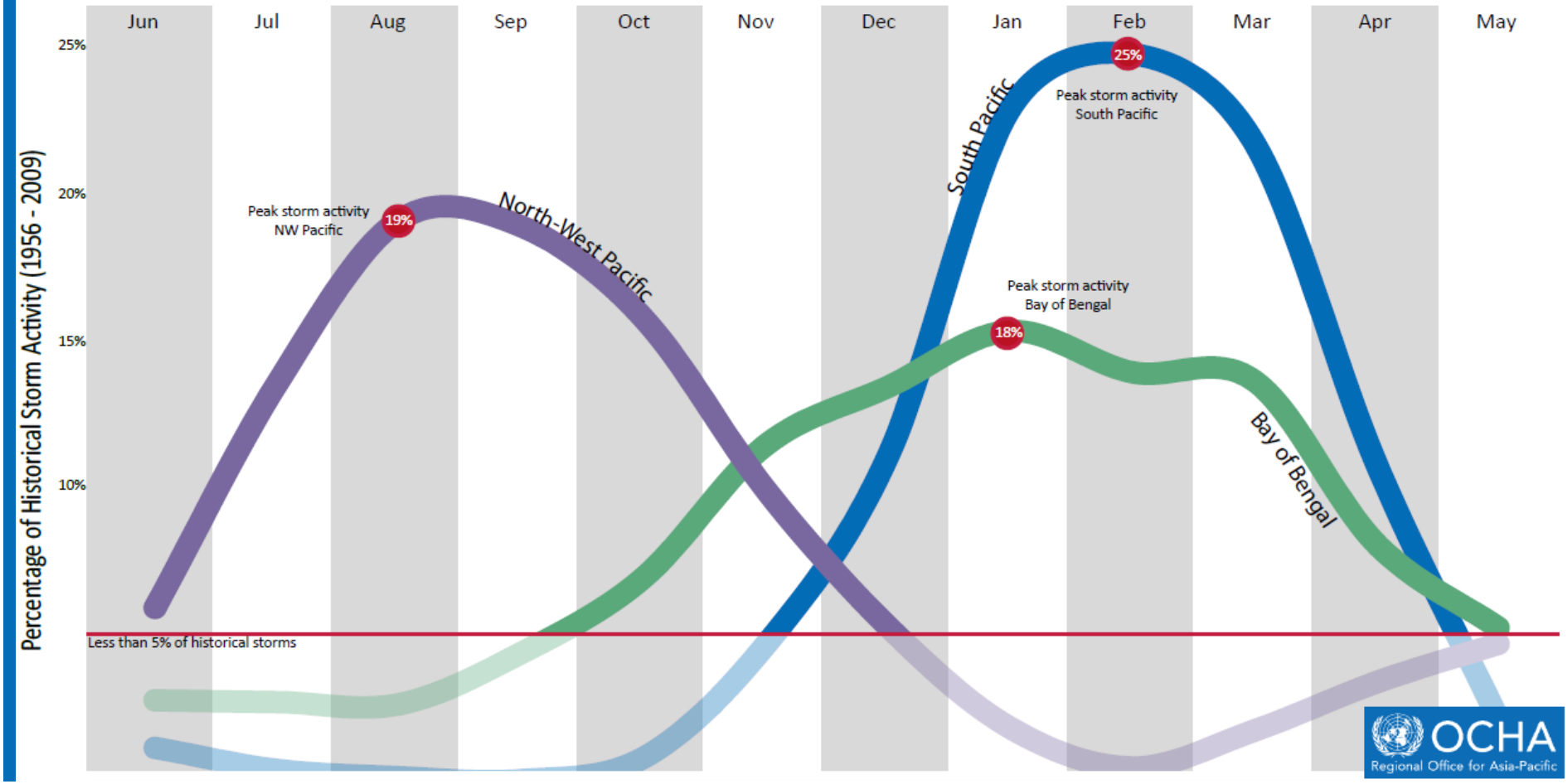
Storm season in the **Eastern Indian Ocean/Bay of Bengal** runs from **September to May.** **January** is the **peak month** for storm activity.

Storm season in the **Northwest Pacific** runs from **June to December.** **August** is the **peak month** for storm activity.



The graph below was created by calculating the historical storm activity for each region and for each month as a percentage of the total for that region. For example approximately 25% of all storm activity in the South Pacific occurred in February, while nearly 0% took place in August and September.

Data Source: UNISYS Storm tracks 1956-2009



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Humanitarian Snapshot: Natural Disasters in Asia-Pacific - 2012[1]

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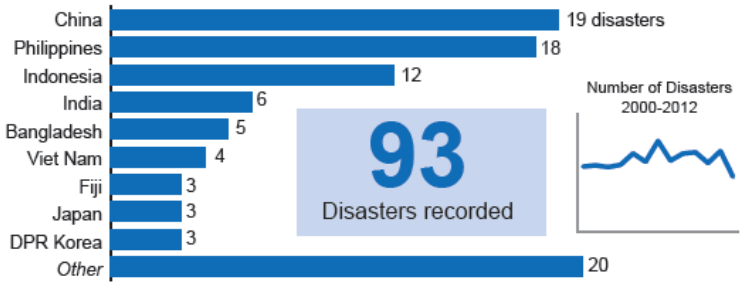
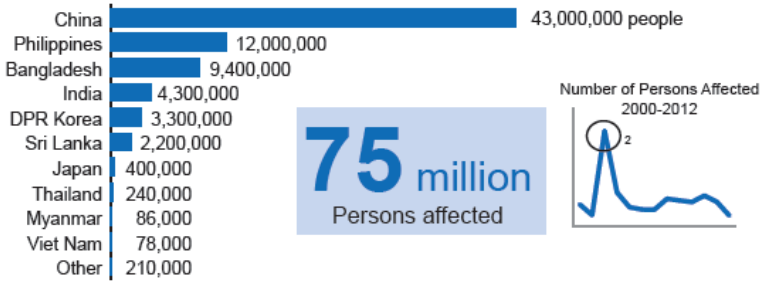
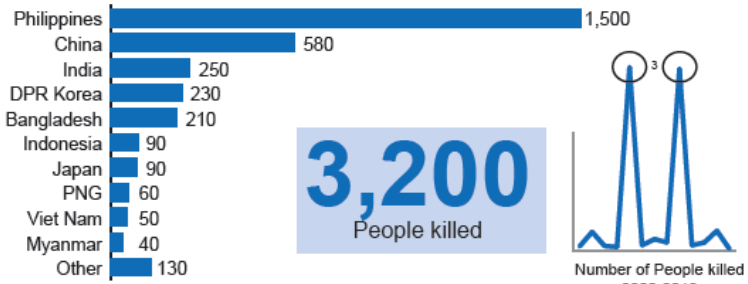


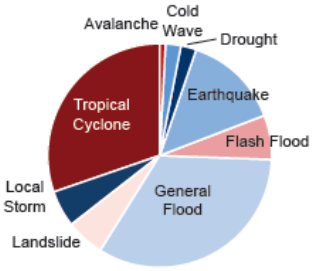
93
Disasters recorded



75 million
Persons affected

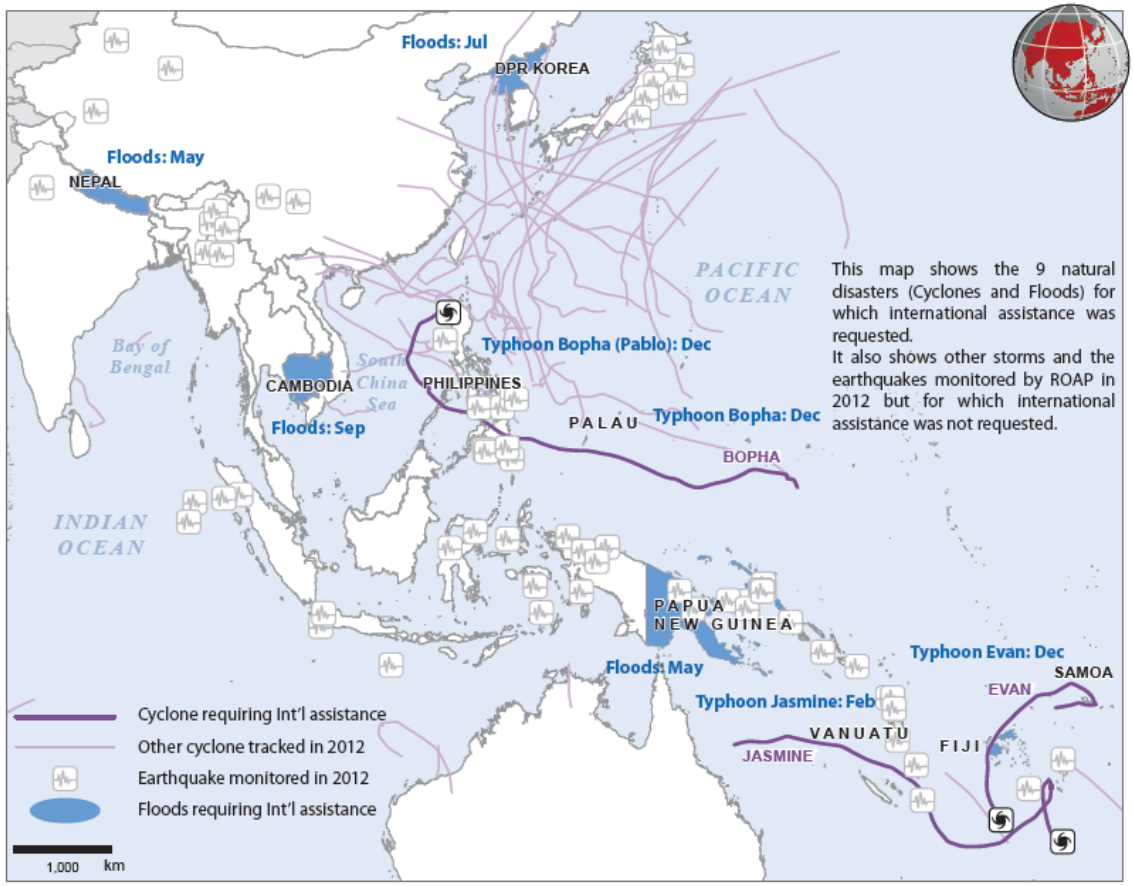


3,200
People killed

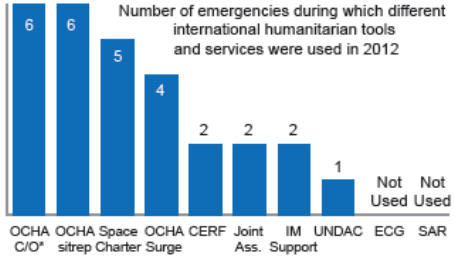


The chart at left shows the number of disasters in 2012, by disaster-type.
The breakdown of disasters for 2012 is consistant with the pattern observed 2000-2012

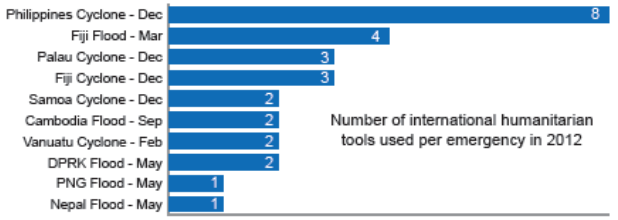
[1] All data comes from EM-DAT database managed by CRED, except for data for Nov-Dec 2012 which was added by OCHA-ROAP.
[2] In 2002 drought in India affected 300 million persons and a storm in China affected 100 million.
[3] In 2004 nearly 226,000 casualties are attributed to the 2004 tsunami and in 2008 Cyclone Nargis killed 138,000 and the Wenchuan earthquake killed 87,000



This map shows the 9 natural disasters (Cyclones and Floods) for which international assistance was requested.
It also shows other storms and the earthquakes monitored by ROAP in 2012 but for which international assistance was not requested.



* OCHA C/O refers to cases when coordination support was provided by an OCHA Country Office rather than ROAP



Map Data: UN Cartographic Section, OCHA-ROAP, GDACS, PDC, UNISYS

Responding to emergencies

The UN-OCHA Regional Office (and all other OCHA offices) use Geo-referenced data to:

- understand
- explain
- visualize
- coordinate….

…. Emergency response operations, on behalf of the international community, in support of, and under the overall leadership of national governments.

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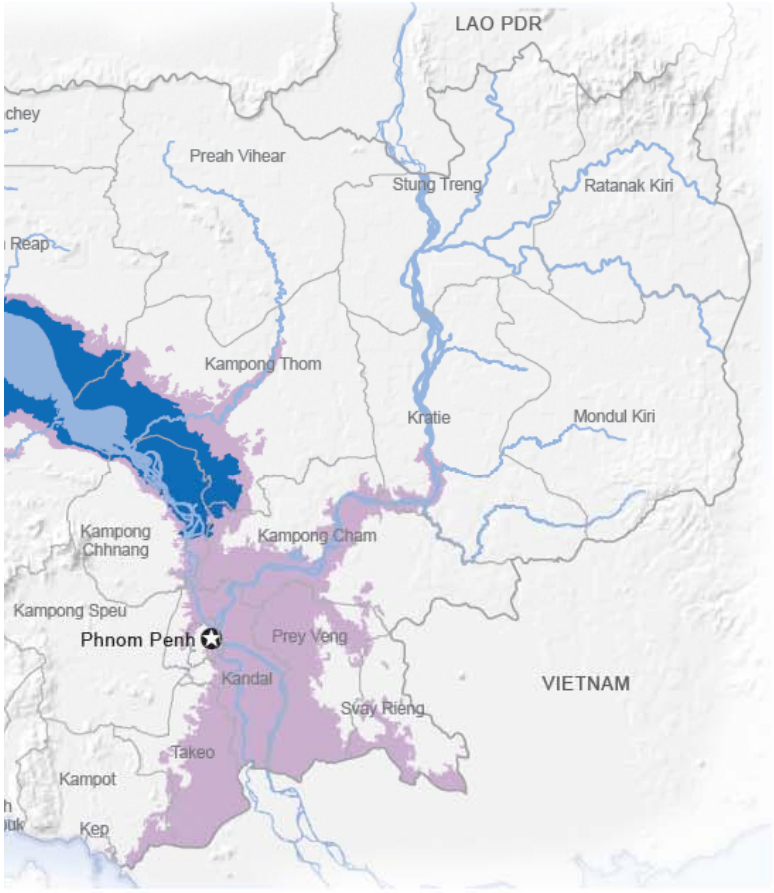
y monsoon rains and a series of tropical storms caused
sia, affecting 18 of Cambodia's 24 provinces.

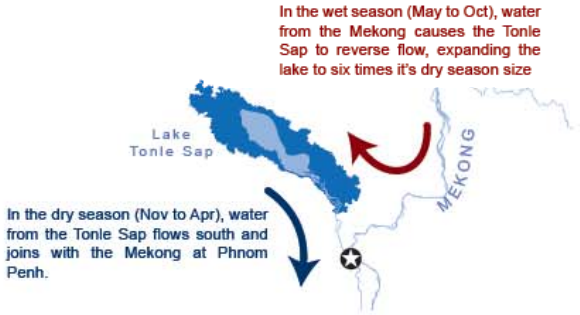


247 killed

1 million affected

46,403 households displaced

Normal pattern of flooding in Cambodia



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Works

Chronology of the emergency

30 July. Tropical Storm Nok Ten crosses Viet Nam and Lao PDR

25 Sep. Mekong reaches flood state at Tan Chau

10 Oct. 3 flood stations are close to record levels reached in 2000

July	Aug	Sept	Oct