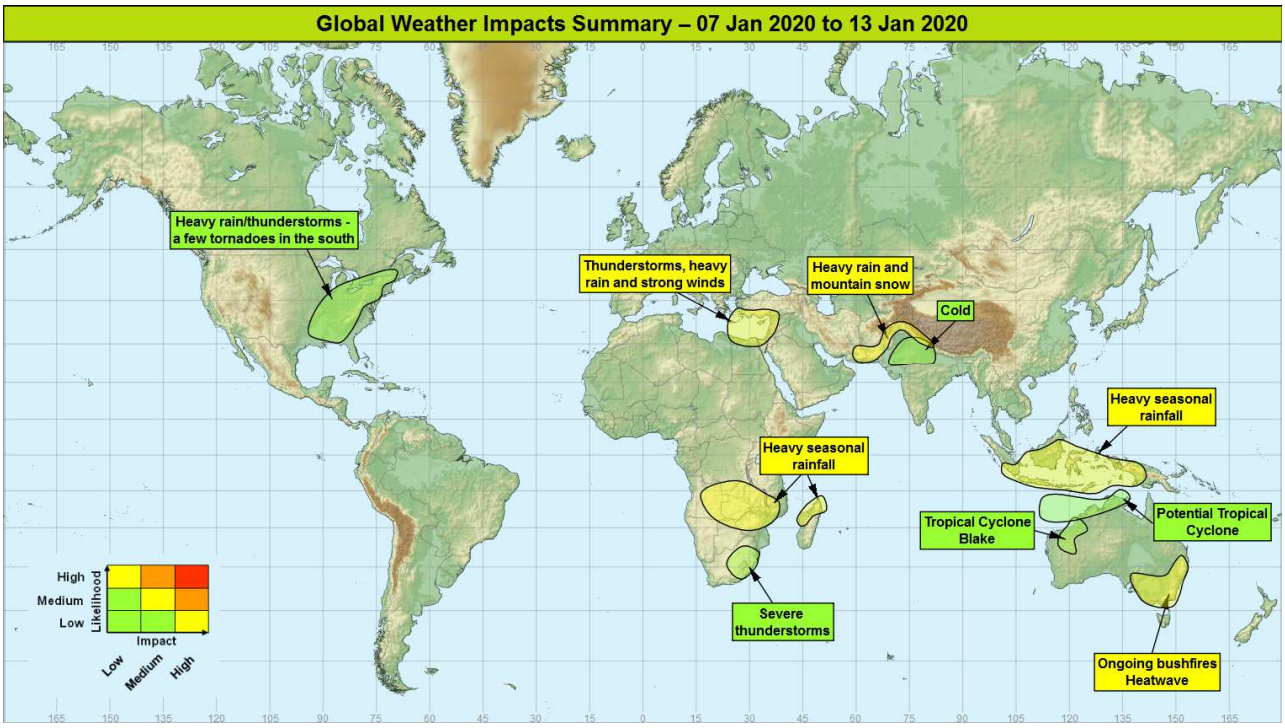
Daily Global Weather Impacts Assessment

Global Weather Impacts – Tuesday 7th January to Monday 13th January 2020

Issued on Tuesday 7th January 2020

HEADLINES

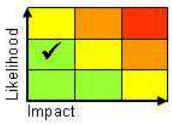
- Heavy rain, thunderstorms and strong winds affecting the east Mediterranean and adjacent coasts.
- Conditions conducive for further wildfire growth and spread across south and south-eastern Australia in the coming week.
- Continued heavy seasonal rainfall in parts of eastern Africa and parts of the Maritime Continent.
- Further heavy rainfall and mountain snowfall across parts of Pakistan and southeast Iran.
- Tropical Cyclone Blake across northwest Australia, with a potential further development across northern/northwestern Australia.



DISCUSSION

Tropical Cyclones

Tropical Cyclone Blake - Northwest Australia



Weather

Tropical Cyclone Blake is continuing to track south-westwards along the coastline of northwest Australia to make landfall on Tuesday morning (UK time) close to Wallal Downs, Northwest Australia. Blake is a category 1 cyclone (with sustained winds of around 45 mph) and will bring heavy rainfall (event totals of up to 400 mm) during the next few days, before tracking inland and decaying.

Discussion

Tropical Cyclone Blake developed on Monday morning from a tropical low within the monsoon trough south of Indonesia. High SSTs (>32°C) and an emerging MJO helped with this cyclogenesis. There is good confidence for the cyclone track and evolution in the next few days. Blake is the first tropical cyclone of the season in this region.

Expected Impacts

This forecast may be amended at any time
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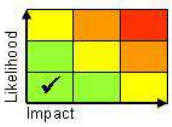
Heavy rainfall may lead to flash flooding, but with little impact with this being a sparsely populated region.

The following area is being monitored for potential development:

Northern Australia



Weather

A tropical depression has developed across the Arafura Sea (just to the north of Australia). There is the potential that this may organise into a tropical storm as it tracks westwards along the coastline of the Northern Territory, northern Australia. Whether a cyclone develops or not heavy rain is expected to affect the areas adjacent to the coastline of the Northern Territory, possibly including Darwin and the Kakadu National Park in the next few days, with up to 200-400 mm of heavy rain possible.

Thereafter there is now a signal for this system to strengthen into a cyclone as it tracks westwards through the Timor Sea later in the weekend.

Discussion

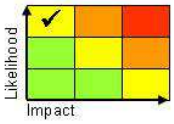
Good model agreement for the westward track of this depression and increasing model agreement for the favourable environment (SSTs of >31°C) and an emerging MJO helping with tropical cyclogenesis by the start of next week.

Expected Impacts

Heavy rainfall may lead to flash flooding. Dangerous marine conditions perhaps developing in the Timor Sea by early next week.

Europe

Greece, Turkey, Cyprus, the Levant and northern Egypt



Weather

Further periods of heavy rain, thunderstorms and some mountain snow are expected across the region in the next few days, before conditions improve later in the week. Precipitation accumulations will be highly variable but some places could receive over 150 mm over the next few days, with the potential for 50 mm or so to fall within a few hours. For context, the average monthly rainfall for January for Adana in south-east Turkey is 100 mm. Strong to gale force winds are expected across the Aegean Sea and towards Crete, leading to rough seas and may also lift further dust plumes over Egypt. Thunderstorms may spawn a few waterspouts/tornadoes in the eastern Mediterranean and some significant snow is expected across the Turkish mountains.

Discussion

An upper vortex and associated vigorous low will affect the eastern Mediterranean in the coming days. This will lead to enhanced shower/thunderstorm activity over the comparatively warm underlying seas, especially in association with various WBPT plumes wrapping around the low. Very strong winds across much of the eastern Mediterranean and southern Aegean in the coming few days leading to rough seas, and lifting dust across northern Egypt. By the end of the week an upper ridge is signalled to build ENE from W'ern Europe, bringing much quieter conditions to the area.

Expected Impacts

Increased likelihood of flash flooding and river flooding as well as landslides in areas where terrain is steep. Localised damage to property and infrastructure is also possible from lightning and waterspouts moving onshore. Dangerous sea conditions are likely at times through the Aegean Sea. Significant mountain snowfall will block mountain passes and perhaps bring an unusually high risk of avalanches.

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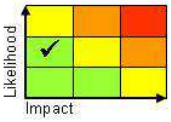
North America

Central and eastern United States along with the far southeast of Canada



Weather

A pulse of heavy rain is expected to push from south-west to north-east across the region on Friday and over the weekend. As well as heavy rainfall, with some 150-200 mm expected for some areas stretching from eastern Texas to New England, plus towards the Great Lakes, severe thunderstorms, with large hail and a few tornadoes are also likely. The northern fringe of this region will see heavy snowfall and threat of disruptive freezing rain.

Discussion

A mid-latitude trough is signalled to push from W-E across the United States later this week, with warm, moist air drawn north from the Gulf of Mexico ahead of this. Phasing between the trough and warm, moist low-level plume will likely lead to heavy rain. There is likely to be sufficient shear as well as available CAPE for severe thunderstorms, with the greatest risk on Friday and Saturday across western Texas, Arkansas and northern Louisiana.

Expected Impacts

Flash flooding likely with damage from large hail, lightning and tornadoes possible. Winter hazards will affect power and transport networks in the far north of this region.

Central America

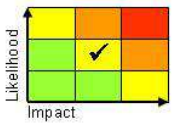
Nil significant

South America

Nil significant

Africa

Much of Angola, northern Botswana, much of Zimbabwe, parts of Mozambique, Malawi, the southern DRC and northern Madagascar



Weather

Widespread thunderstorms are expected to continue across this region, with above average activity expected to persist. Each day 50-75mm could fall in places within a few hours. Through the week 150-250mm may build up in the wettest areas should they see repeated days of thunderstorms (close to the monthly average rainfall for January in places).

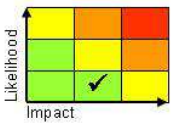
Discussion

An enhanced ITCZ is expected across the region through much of the coming 7 days, with a low likelihood of a weak tropical low forming close to northern Madagascar.

Expected Impacts

There will be an enhanced likelihood of some flash flooding and landslides, with potential for some river flooding. However, southern parts of this region have been in severe drought for some time and this rainfall will be welcome relief here.

Eastern parts of South Africa, along with Lesotho and Eswatini



Weather

Several bouts of heavy showers and thunderstorms are likely across this region over the coming week. These storms have the potential to bring 30-50 mm of rainfall in a few hours, produce strong winds, and large damaging hail.

Discussion

Heat lows forming over the high South African plateau will help draw hot air southwards from the sub-tropics across the east of the country, leading to steep lapse rates in the elevated mixed layer above. Should convection trigger, profiles suggest in the region of 2000-3000 J/kg of CAPE could be released, with wind shear sufficient to allow some organisation and longevity to individual cells.

Expected Impacts

Potential for flash flooding, frequent lightning, large hail and strong wind gusts.

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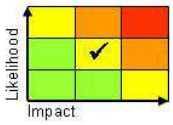
Middle East

Western Syria, Lebanon, Jordan and Israel – See *Europe* section.

Asia

Parts of southeast Iran, parts of Pakistan, northwest India and western Nepal



Weather

Further spells of heavy rainfall (up to 100-150 mm – double the average monthly rainfall in places) is expected in this region at times through the next 7 days, with the precipitation falling as snow on the mountains. Across much of the area a notable cold spell has now become established, leading to some significantly low minimum temperatures for the region with severe frosts.

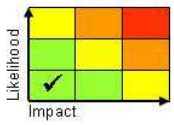
Discussion

The interaction of short-wave upper troughs in the very strong STJ and WBPT plumes will result in areas of heavy precipitation at times across the region.

Expected Impacts

Flash flooding at lower levels and disruptive snowfall at higher elevations look likely. Periods of severe cold weather will likely impact vulnerable and exposed populations.

Northern India, parts of Nepal and eastern Pakistan



Weather

Another cold spell will develop in the next few days across this region, with temperatures falling some 5-10˚C below normal. This follows a recent cold spell in the last week. Although the initial cold will coincide with precipitation, eventually more settled conditions will prevail with the return of dense fog and very poor air quality.

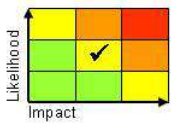
Discussion

A continued succession of western disturbances originating from the Mediterranean and are expected to cross the region over the coming week. With suppressed daytime temperatures due to cloud cover as the disturbances cross, and cold airmasses being drawn south across this region in the wakes of the various disturbances. Colder than average temperatures will contribute to much poorer than average air quality in the region due to the increased demand for heating.

Expected Impacts

Poor visibility has already, and will continue to, affect air, road and rail networks in the region. Below average temperatures are also likely to have a human health impact to vulnerable people exposed to near freezing overnight temperatures.

Much of Indonesia



Weather

Heavy showers and thunderstorms will be more frequent than usual over the next week. Some places are likely to receive up to 100-200 mm per day, although rainfall amounts will be highly variable from location to location. Much of this region has been anomalously dry over recent months, however this rainfall falling over a short duration will still likely lead to some significant impacts similar to those seen across parts of Sumatra and western Java in the last week.

Discussion

Enhance convection is evident on imagery across the region in response to a strengthening MJO and an enhanced ITCZ (combination of a strong cross-equatorial N'ly surge and enhanced S'ly component to the south from Tropical Cyclone Blake) in the region which is likely to lead to continued above average convection across the region.

Expected Impacts

Increased likelihood of flash flooding and landslides.

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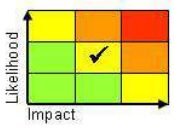
Australasia

Northwest and northern Australia – See Tropical Cyclone Section

Parts of southern and eastern Australia



Weather

Numerous bush fires continue across parts of Victoria, eastern New South Wales, south-eastern Queensland and Australian Capital Territory with mostly dry conditions persisting across much of the region. Following further record breaking heat with maximum temperatures rising above 45°C in some places (15°C above average) temperatures around the major populated areas have now returned to closer normal. However temperatures are rising again, peaking on Friday with a return to potentially record breaking values once again, though should moderate to more values once again by next weekend.

Discussion

High confidence for another spell of above average temperatures to affect this bushfire impacted region through the rest of the week. A cold front will then push north across SE Australia this weekend to bring some rain and much cooler air (temperatures back to average), but with strong winds ahead and behind the front.

Expected Impacts

The sheer size of many ongoing fires will continue to produce large amounts of small particulates that will contribute to hazardous air quality for several weeks to come, affecting heavily populated areas such as Sydney. Since September the bushfires have killed at least 25 people. A state of emergency has been declared in New South Wales.

An enhanced threat of bushfire spread is likely later this week in association with strong winds and the peak heat.

Additional Information

Nil.

Issued at: 070825 UTC **Meteorologists:** Tony Wardle/ Paul Hutcheon **Global Guidance Unit**

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