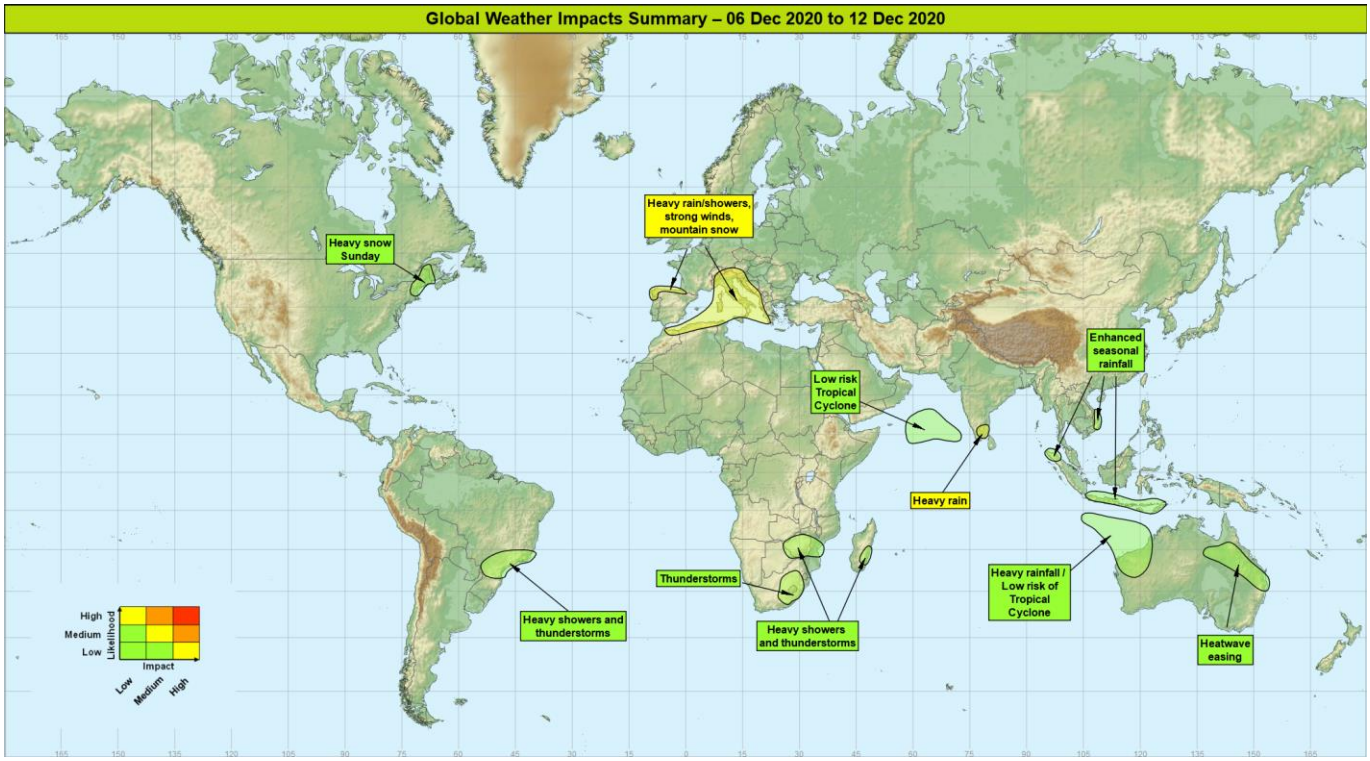
Daily Global Weather Impacts Assessment

Global Weather Impacts – Sunday 6th to Saturday 12th December

Issued on Sunday 6th December 2020

HEADLINES

- Heavy rain associated with ex-Cyclonic Storm Burevi continues across southern India today.
- Remaining very unsettled across parts of southern Europe and the Mediterranean, with heavy rainfall, strong winds, and mountain snow.

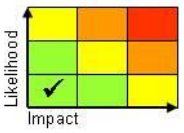


DISCUSSION

Tropical Cyclones

No currently active tropical cyclones. The following areas are being monitored for development that may impact land:

Eastern Indian Ocean and far northwestern Australia



Weather

A broad area of active shower and thunderstorm activity currently lies between Java Island and Australia within which two weak areas of low pressure are expected to form. There a low risk for either of these to develop into a tropical cyclone and be drawn south-eastwards across sparsely populated parts of north-western Australia. Even if tropical cyclones don't form, as tropical moisture is drawn into northwestern Australia some exceptional rainfall is likely across parts of this region.

Discussion

A broad trough extends from northwest Australia to the western end of Java Island, with this feature organising areas of deep convection, with two distinct areas of low pressure expected to form. While environmental conditions look favourable for one or both of these to develop, signals from NWP remain muted and mixed. Into the middle of next week of a mid-latitude trough is signalled to extend just off the western coast of Australia, with the northwesterly flow ahead of this steering the tropical airmass and whatever tropical storms exist within it at this point towards northwestern Australia.

Expected Impacts

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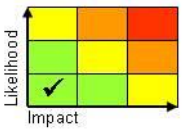
Dangerous sea and beach conditions in the region, with the potential for some flash and riverine flooding across sparsely populated parts of northwestern Australia.

Arabian Sea



Weather

The remnants of Cyclonic Storm Burevi are expected to emerge into the Arabian Sea over the next 24 hours. As they move westwards through the course of next week there is a small chance that they may redevelop into a tropical cyclone. However any system is expected to remain over the Arabian Sea through this period.

Discussion

As the remnants of Burevi move into the Arabian Sea they will encounter high SSTs (26-28C) and relatively weak vertical shear through Sunday and Monday, for a short time, these will be conducive for re-development of a tropical cyclone. However the latest model output suggests that any system will become slow moving over the Arabian Sea through to the end of this period.

Expected Impacts

Further heavy rainfall for southern India over the next 24 to 48 hours. (See *Asia* Section below.)

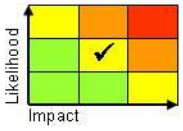
The following area is being monitored for tropical cyclone development that will remain over open water:

Southern Indian Ocean

Perhaps the most likely area to see tropical cyclone development in the coming days is the southern Indian Ocean. However any system that forms will remain well away from land and out over the open ocean before decaying.

Europe

Southern Alps, Italy, Corsica, the Balkans, Greece, Morocco, Algeria and Tunisia



Weather

Spells of heavy rain and thunderstorms are likely to affect this region at times through the coming week, bringing 50 to 100, perhaps locally 150 mm of rainfall each day, although the locations affected are likely to vary from day to day. By the end of the week, 300-500 mm of rain could have built up in a few location. Perhaps parts of NE Italy / S Austria looking most prone to this. Snow is likely across the Dinaric and Italian / Austrian Alps with some large accumulations here. Showers across North Africa may not be as heavy as those farther north, although given typically lower rainfall amounts here flooding impacts may occur, particularly in urban areas. Gales are likely in the Adriatic Sea, although these are not unheard of at this time of year they will likely produce a high surge across the northern Adriatic.

Discussion

The upper pattern will remain blocked as a major trough extension take place across region with a cold air outbreak to the rear of the trough. Areas of deep convection and heavy, orographically modulated rainfall are likely to develop in the high WBPT plumes that are drawn north on the forward side of the extending upper trough, producing some very heavy snowfall across the Italian Alps in particular. A further trough extension takes place during the middle of next week and maintains the very unsettled conditions in the region.

Expected Impacts

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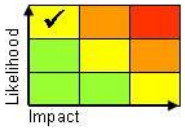
Significant risk of flash flooding, with fluvial impacts increasingly likely. Landslides are possible as well as avalanches, with snow causing disruption to travel on higher routes. Hazardous sea conditions at times. Coastal flooding likely in the northern Adriatic, but the new tidal barrage likely to protect the vulnerable Venetian Lagoon.

Northern and North-Western Iberia



Weather

Frequent, heavy showers along with some longer spells of rain are expected to affect the region for much of this week. Rainfall will vary somewhat, but on the wetter days 50-75 mm could fall and by the end of the week 150-200 mm is possible in places, especially over higher ground. Precipitation will fall as snow above 800 to 1200 metres, with some significant falls likely (50 to 100 cm) over the far west of the Pyrenees. In addition to this, northerly gales or severe gales over the weekend will lead to some very large waves in the Bay of Biscay which will not only cause dangerous sea conditions but has the potential to damage sea defences.

Discussion

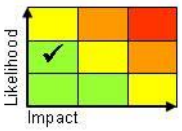
This region lies to the west of the cyclonic block in place across western Europe, with a cold air outbreak overspreading the region and strong northwesterly surface winds. This will lead to a near-continuous feed of heavy showers off the Bay of Biscay. Some longer spells of rain and mountain snow will occur in association with frontal systems swinging southeast cross the region at times.

Expected Impacts

The main impact will be flash flooding with some disruption to travel likely, especially over mountainous regions where heavy snow will be an additional hazard. Hazardous sea conditions at times, with potential for sea defences to be damaged.

North America

Northeastern USA



Weather

The first nor'easter snow event of the winter is likely to bring heavy snow and strong winds to parts of New England through Sunday. A few places may see as much as 30 cm of snow, this falling over a few hours. An additional hazard will be the strong winds with gusts of 40-50 mph able to lift and blow snow resulting in whiteout conditions, extremely low wind chill and some very deep snowdrifts.

Discussion

A deep surface low will continue to track close to the coast of New England through Sunday then on into E Canada. The western edge of the heavy precipitation bands will ride over cold underlying air drawn into the rear of the low and result in an area of very heavy snowfall moving northeast across this zone. As the low clears and winds fall light severe frost is likely across the snowfields.

Expected Impacts

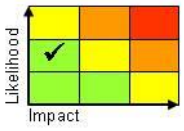
Major short duration disruption to travel across the region, with the potential for some utility outages with the potential for some power line icing in the area of strong winds.

Central America and Caribbean

Nil.

South America

Southeastern Brazil



Weather

Heavy showers and thunderstorms will move northeast across this region through the coming days. These storms will be capable of bringing intense short-duration rainfall with locally (50-100 mm possible in an hour of two.

Discussion

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A combination of a tropical high WBPT and forward of a minor upper trough in the subtropical jet will encourage the destabilisation of the atmosphere and deep convection to form within this zone which will move northeast across this region through the coming days. High CAPE (locally reaching >2000J/kg) and moderate vertical wind will lead to some organisation of convection into MCS features, but effective bulk wind shear is likely too low for supercell formation with the high freezing level limiting hail from reaching the surface away from elevated regions.

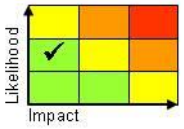
Expected Impacts

Flash flooding likely, with the potential for this to be hazardous if it affects any urban areas. There will also be an enhanced risk of landslides.

Africa

Morocco, Algeria and Tunisia – *see Europe section*

Botswana, Mozambique, Zimbabwe and parts of Madagascar



Weather

Enhanced shower and thunderstorm activity will affect this region over the coming week. Showers will be capable of locally bringing 50-100mm of rainfall in a short duration with some locations see as much as 200-400mm over the course of a week. Despite the region entering its wettest period of the year (December to February) locally these totals above the 200-250mm precipitation that this region experiences in an average December.

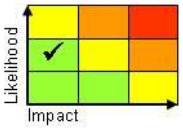
Discussion

A slow moving mid-latitude cold front lies across eastern South Africa to Madagascar. A surface high to the south of this generates a strong southeasterly flow, this meeting the northeasterly Indian Ocean trade winds and generating strong low level wind and moisture convergence. This will lead to the generation of widespread deep and moist convection across the region, with parts of Mozambique signalled for some particularly heavy rainfall.

Expected Impacts

Increased threat of flash flooding and riverine, an enhanced risk of landslides and lightning will be an additional hazard.

Parts of South Africa, Lesotho.



Weather

Enhanced shower and thunderstorm activity is expected across this region for much of the coming week. Showers could produce 50-75 mm in places each day, with hail, frequent lightning and gusty winds additional hazards.

Discussion

A plume of high WBPT air will be the focus for convection over the coming days in response to the diurnal cycle. Forecast profiles support in excess of 2000 j/kg CAPE at times, so some severe and organised convection looks possible. A reduction in activity is signalled later this week as an upper ridge builds into the area.

Expected Impacts

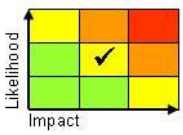
Flash flooding is likely the main impact where these storms impact urban areas. Landslides may affect mountainous areas with some disruption to power supplies possible. Some crop damage may result from hail storms.

Middle East

Nil.

Asia

Southern India



Weather

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The remnants of Cyclonic Storm Burevi will bring further heavy rainfall to this region on Sunday before easing over the coming days. An additional 150-300mm possible in some locations. This is the wettest part of the year for southeast India but falling on top of recent rainfall associated with Burevi will represent accumulations in excess of the December average for this region.

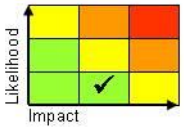
Discussion

Burevi has long since ceased to be a tropical cyclone. However, very heavy and persistent rain will continue to affect Tamil Nadu today as the low-level moisture footprint only slowly moves westward and clears from India into the Arabian Sea on Monday.

Expected Impacts

An enhanced risk of flash and riverine flooding.

Parts of Vietnam, Indonesia and East Timor



Weather

Heavy showers and thunderstorms will be more widespread and intense than usual across some parts of southeast Asia through this week. There will be some drier interludes as well, but when the showers do come along they are likely to be torrential with 50-100mm likely to fall in a short period, and some locations seeing 200-300mm over the week.

Discussion

A combination of factors is leading to enhanced seasonal rains in parts of the region at present. The background La Nina and its impacts on the Walker circulation favour above average rainfall in this region, also the decaying MJO as recently faded across the Maritime Continent but leaving various tropical waves in its wake to locally enhanced convection. Finally a marked cold surge is progressing into the region (this responsible for the precipitation across Vietnam) and will bring marked convergence of surface winds in the vicinity of Java Island this weekend, although the developing Borneo vortex would normally lead to the most frequent severe convection being to the east of Jakarta, this will be complicated by the potential tropical cyclone development to the south of Java during the coming week.

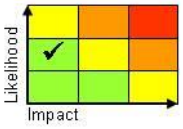
Expected Impacts

Some flash and minor riverine flooding is likely across the region with an enhanced risk of landslides in areas of steep terrain.

Australasia

Northwest Australia– *See Tropical Cyclones section.*

Northeast Australia



Weather

Intense heat has now become confined, mostly, to Queensland. Nevertheless, major cities such as Brisbane are likely to see temperatures into the mid-30s and over 45°C is still expected across the interior, around 5 to 8°C above-average. As a cold front moves slowly northeastwards through the coming days bringing some thunderstorms and a reduction in the heat.

Discussion

Persistent upper level anticyclone will continue to produce large-scale subsidence, maintaining very hot conditions into the first part of the weekend. A cold front approaching from the southwest will then bring an easing and eventual end to the heat wave early next week.

Expected Impacts

Heat health impacts for older and more vulnerable members of the population and animals. An enhanced risk of wildfires.

Additional Information

This forecast may be amended at any time

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Daily Global Weather Impacts Assessment

Northern India, Pakistan, Afghanistan and parts of eastern China: Urban pollution, combined with crop burning, will continue to generate high levels of air pollution in this area over the coming months. Very unhealthy air quality has continued to be reported in cities in the area including Delhi, Lahore and Kabul.

Issued at: 060600 UTC **Meteorologist:** Mark Sidaway **Global Guidance Unit**

This forecast may be amended at any time

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