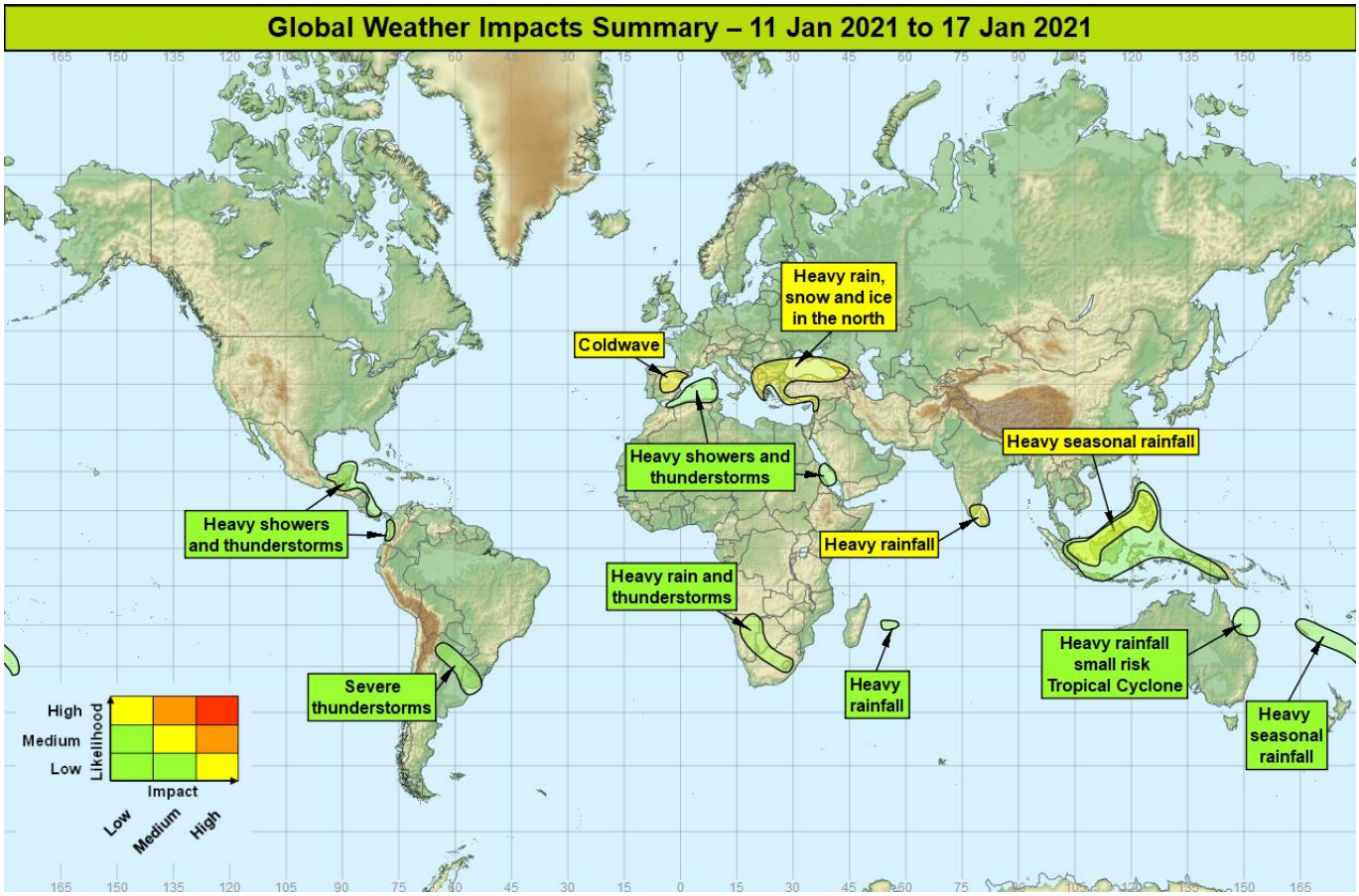
Daily Global Weather Impacts Assessment

Global Weather Impacts – Monday 11th to Sunday 17th January 2021

Issued on Monday 11th January 2021

HEADLINES

- Coldwave affecting parts of Iberia with unsettled conditions transferring east across the Mediterranean.
- Above average rainfall contributing to an enhanced flood risk across parts of southern and southeastern Asia.



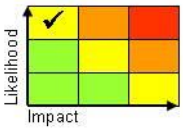
Tropical Cyclones

There are currently no named tropical cyclones, and only one potential area that may develop and impact land during the next 7 days (see the *Australasia* section). There is also the potential for a tropical cyclone to develop in the central southern tropical Indian Ocean, but this feature will remain over open-ocean during the next 7 days.

Europe

Spain

Weather



Significantly below average temperatures will last persist over lying snow cover across central and northeastern parts of the country through until the middle of next week. Minimum temperatures are expected to fall to between -10 °C and -15 °C in places, including Madrid, with temperatures only briefly rising above freezing by day. Through this week, snow will gradually melt with temperatures recovering to nearer normal. However, a continued risk of ice by night (as thawed snow re-freezes).

Discussion

This forecast may be amended at any time
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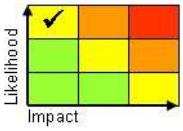
A ridge of high pressure is now building across southwest Europe and this will allow clear skies and light winds to maintain significantly below average temperatures over areas of deep snow cover. Through the middle of the week though, milder air will be drawn into the high and allow a gradual recovery in temperatures.

Expected Impacts

Ongoing disruption to transport will gradually ease over the coming days although ice will remain a hazard as snow melts by day but freezes again at night. Low temperatures will increase the likelihood of human health impacts for exposed and vulnerable people. Disruption to utilities is likely due to freezing and burst pipes.

Southeast Europe



Weather

Unsettled conditions persist across the Balkans over the next couple of days with a mixture of heavy rain, freezing rain and snow expected to affect the region until Tuesday. The heaviest rainfall is expected to affect Albania, northern and western Greece, North Macedonia, Bulgaria and western Turkey where event totals of 75-100 mm of rain are expected widely with 150-200 mm locally possible. North of this region, a wintry mix of freezing rain and snow is expected, particularly across Montenegro, Bosnia and Herzegovina, Serbia, Kosovo and Romania. A short period of frequent showers and thunderstorms will follow through midweek with temperatures widely falling below average thereafter.

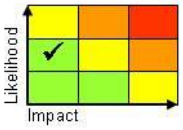
Discussion

The upper trough associated with *Storm Filomena (which brought the significant snowfall to Iberia)* will gradually transfer east across the Mediterranean through the coming days drawing a warm plume dredged north from Africa into southeastern Europe. As the upper trough and warm plume overruns the low-level reservoir of cold air across the interior of southeast Europe, this will lead to a wintry mixture of precipitation types whilst orographic enhancement of rain further south will contribute to large rainfall totals here.

Expected Impacts

Across the north of the region, winter hazards including transport disruption and human health impacts due to exposure to low temperatures are likely. Further south, heavy rainfall is likely to lead to a combination of surface water and riverine flooding.

Balearic Islands, northeastern Morocco, northern Algeria, Tunisia and Sardinia



Weather

Further heavy showers and thunderstorms are expected to affect the western Mediterranean through today before drier conditions become established on Tuesday. The most frequent showers are likely to affect northern Algeria whereas further north, showers will likely be fewer in number but slower-moving. An additional 25-50 mm of rain is possible today, potentially falling in a few hours. Event totals may exceed 100mm in some locations.

Discussion

A partially disrupted upper trough will begin to relax eastward on Monday. As geopotential height rises in its wake, convective depth will decrease. In the meantime, light steering winds near the vortex centre in the north will bring the risk of quasi-stationary thunderstorms whilst further south, showers will tend to be spatially more frequent but faster moving.

Expected Impacts

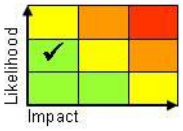
Localised flash flooding, disruption to transport and damage to infrastructure. Some snowfall may disrupt travel over the highest passes in the Tell Atlas Mountains.

North America

Nil.

Central America and Caribbean

Southeast Mexico, Belize, Guatemala, Nicaragua, Costa Rica and Panama



Weather

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Frequent heavy showers and thunderstorms will that have been effecting the northern coasts of Panama, Costa Rica and Nicaragua will expand northwards to reach southeast Mexico, Belize and Guatemala through the coming days. Showers should tend to decrease in number later next week (Thursday and Friday). Although accumulations will vary from location to location, some places are likely to receive 250-350 mm during the next 5 days, equivalent to double the January average for parts of the region.

Discussion

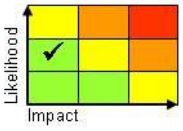
A tropical wave will move slowly northwest through the next week and will be further enhanced as it interacts with a low-latitude frontal system sweeping east across the Gulf of Mexico (generating surface convergence). This will then become the focus for heavy rainfall from frequent showers and thunderstorms before drier air filters into the region later in the week, reducing the area of above average convection.

Expected Impacts

Localised flash flooding from heavy rainfall with an increased risk of landslides in areas of more steeply sided terrain.

South America

Northern Argentina and Uruguay



Weather

Severe thunderstorms and heavy rain are expected to affect parts of northern Argentina and Uruguay through to Wednesday, including Buenos Aires and Montevideo. Some locations are likely to see 100-200 mm falling over a few hours which would exceed typical January monthly rainfall (100-150 mm). In addition to heavy rain, giant hail (exceeding 5 cm diameter), strong winds and frequent lightning are likely.

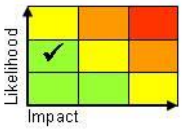
Discussion

Monsoon moisture has been drawn south across Argentina and Uruguay ahead of an upper trough. Forecast profiles highlight an environment characterised by high instability and shear capable of organised, rotating thunderstorms ahead of and along the developing cold front which will move north towards southern Brazil and Paraguay by Monday night. Once the cold front reaches this location on Monday evening it will have run will ahead of the subtropical jet, meaning a reduction in vertical wind shear and storm organisation, with the risk of hazards other than heavy rainfall reducing.

Expected Impacts

Severe thunderstorm impacts are usually fairly localised but are likely to produce a combination of flash flooding, power disruption, damage to crops, property and infrastructure.

Western Colombia



Weather

Frequent heavy showers and thunderstorms are expected to affect the region over the coming week although frequency should gradually decrease with time. The heaviest rainfall is expected to fall over the western foothills of the Andes. 75-150 mm locally 250-350 mm of rain is likely to fall over the next week, exceeding typical average monthly rainfall.

Discussion

Although the typical La Niña response has been observed through the boreal winter, an anomalous onshore flow has developed across Ecuador and in particular western Colombia which is acting to enhance shower and thunderstorm activity against the western Andes.

Expected Impacts

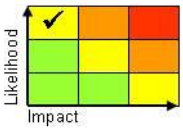
Increased likelihood of surface water and riverine flooding, as well as landslides in areas of more steeply sided terrain.

Africa

Morocco – See *Europe* section.

Northeast Sudan and northern Eritrea – See *Middle East* section.

Southern Africa



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Weather

Heavy showers and thunderstorms will remain more frequent than normal across a large part of central and southern Africa. The biggest departures from normal are expected to be across South Africa, Lesotho, and eastern Namibia where around the average January rainfall is likely to fall over the next 7-10 days. Some thunderstorms are likely to be severe with heavy rain accompanied by large hail, frequent lightning and gusty winds. Across much of this region the enhanced rainfall appears to be a positive.

Discussion

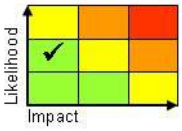
Above average rainfall is a typical La Niña response across this region with significant circulation changes across the region, particularly in the upper troposphere, where upper level divergence is contributing to increased mass ascent. Across the tropics, this is resulting in more frequent heavy shower and thunderstorm activity each day whilst further south, tropical moisture is drawn south ahead of upper troughs within the mid-latitude flow. Whilst instability is not quite as extreme as seen in South America, organised and locally severe thunderstorms are possible across parts of South Africa and Lesotho.

Expected Impacts

Increasing threat of flash and riverine flooding, with the rainfall affecting parts of the region that saw heavy rainfall from Cyclone Chalane at the end of December.

Middle East

Southwest Saudi Arabia, northeast Sudan, northern Eritrea



Weather

This region (including the cities of Mecca and Jeddah) will likely see heavy showers and thunderstorms continue through today, before easing into Tuesday. These storms could produce 50 mm in a few hours along with hail, frequent lightning and strong winds. The average January rainfall in this region is no more than 10-15 mm.

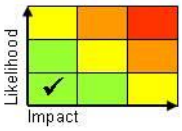
Discussion

A marked southward extension of the sub-tropical jet will result in upper forcing engaging a warm plume over the Red Sea providing conditions conducive for deep convection, with large wind shear that could result in long-lived organised thunderstorms. The trough axis moves to the east of this region on Tuesday, with a marked reduction in shower activity thereafter.

Expected Impacts

Flash flooding, hail and wind damage and potential power disruption from frequent lightning.

Rodrigues, La Reunion and Mauritius (Ex-Danilo)



Weather

Tropical Depression Danilo degenerated into a remnant low on Saturday afternoon between Rodrigues and Mauritius. The remnant system is still expected to bring scattered heavy showers and thunderstorms to the Mascarene Islands over the next day or so with 50-100 mm possible across Mauritius.

Discussion

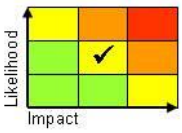
Dry air, marginal SSTs and poor upper level environment have inhibited the development of Danilo and is unlikely to undergo any meaningful strengthening as it passes over the Mascarene Islands over the next couple of days as nothing more than a disorganised area of shower and thunderstorm activity.

Expected Impacts

Localised flash flooding.

Asia

Philippines, Malaysia, Indonesia, Singapore, Brunei and Papua New Guinea



Weather

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Heavy showers and thunderstorms are expected to be more frequent than normal across much of the Maritime Continent through the next week with the most anomalous rainfall expected to occur over central and southern Philippines, northern Borneo, Singapore and eastern Sumatra. Much of this region is likely to receive 200-300 mm of rain over the next week, equivalent to the average monthly rainfall for January.

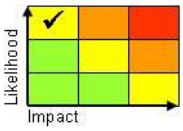
Discussion

A combination of a La Niña background state, active phase of the MJO moving east towards the Maritime Continent and strong cold surge increasing convergence through the South China Sea all contribute to a continuation of the above average rainfall seen over recent weeks.

Expected Impacts

Flooding impacts are expected to continue through the next several days with further disruption to transport whilst an increased risk of landslides and rock falls pose a risk to property and life.

Southern India and Sri Lanka



Weather

Frequent heavy showers and thunderstorms are expected to continue across the region through the next few days before activity should return to nearer normal for the time of year. Eastern Sri Lanka and southern Tamil Nadu appear most likely to receive the heaviest rainfall during this time with 200-300 mm likely. Some parts of the region have already seen similar amounts through the first week of January (262 mm in Batticaloa, Sri Lanka) which already exceeds the typical monthly rainfall (~200 mm).

Discussion

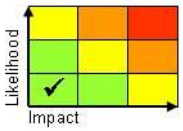
An equatorial Rossby wave will transfer slowly west across the southern tip of India and Sri Lanka over the next 3 days before moving out over the open water of the Arabian Sea.

Expected Impacts

Flooding impacts are expected to continue through the next several days with further disruption to transport whilst an increased risk of landslides and rock falls pose a risk to property and life.

Australasia

Eastern Queensland, Australia



Weather

Enhanced shower and thunderstorm activity will effect this region through the coming few days, during this time up to 150-300mm of rainfall could fall in a few spots. Mackay which sits within this region typically sees between 250-300mm throughout the whole of January, although this will likely come in an episodic nature too. There is a small chance that activity could become organised enough to develop a tropical cyclone in the Coral Sea later in the week.

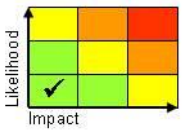
Discussion

Through the next few days a strong anticyclone in the Tazman Sea will lead to stronger than average southeasterly winds entering this region, and meeting the northeasterly flow associated with the monsoon plume. The convergence will lead to well above average convective activity, with a small chance that this could organise into a tropical cyclone in the Coral Sea (within a fairly favourable environment) later in the week.

Expected Impacts

Small risk of flash flooding impacts a significant settlement along this sparsely populated section of Queensland.

Southwest Pacific Islands, mainly New Caledonia and Vanuatu



Weather

Shower and thunderstorm activity will be more organised than average across this region; which is mostly open ocean through the coming week. However a few significant land masses sit in this region, including New Caledonia and parts of Vanuatu. During the coming week 150-250mm of rain could fall, this represent around a months' worth of rainfall for this region.

Discussion

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As the MJO progresses into the Maritime Continent activity along the South Pacific Convergence Zone (SPCZ) generally increases, with this looking to be the case over the coming week. In addition the southern part of the convergence zone will be engaged by a shortwave trough in the subtropical jet, developing a subtropical like cyclone (with a shallow asymmetric warm-core over open ocean.

Expected Impacts

Increased risk flash flooding and landslides across the large and more mountainous islands within the zone.

Additional information

Through the coming few days an extreme (with reference to climate) heatwave will continue across parts of south, southeast Europe and will progress into the Levant. Some locations have far exceeded all time January maximum temperatures, for example Malta reached 25.9°C on Saturday, with the previous January maximum being 22.8°C. Further such records could be beating across this region in the coming few days.

A marked coldwave is also underway across much of southeast Asia, including southern China, Laos, northern Vietnam and Thailand. Maximum and minimum temperatures in the region are depressed by as much as 5-10°C, meaning uncomfortably cold nights for those without heating and adequate shelter and clothing.

Issued at: 110730UTC **Meteorologist:** Nick Silkstone / Tony Wardle **Global Guidance Unit**

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