

## Severe Weather Report: 01 June – 04 June 2015

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## i. Document Control

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- Version and Amendment Schedule

Version	Version Date	Author (s)	Description of Amendments
1	01/06/2015	M Makgabutlane/A Morrison/T Ntleko	Document Created

## Current conditions and expected developments

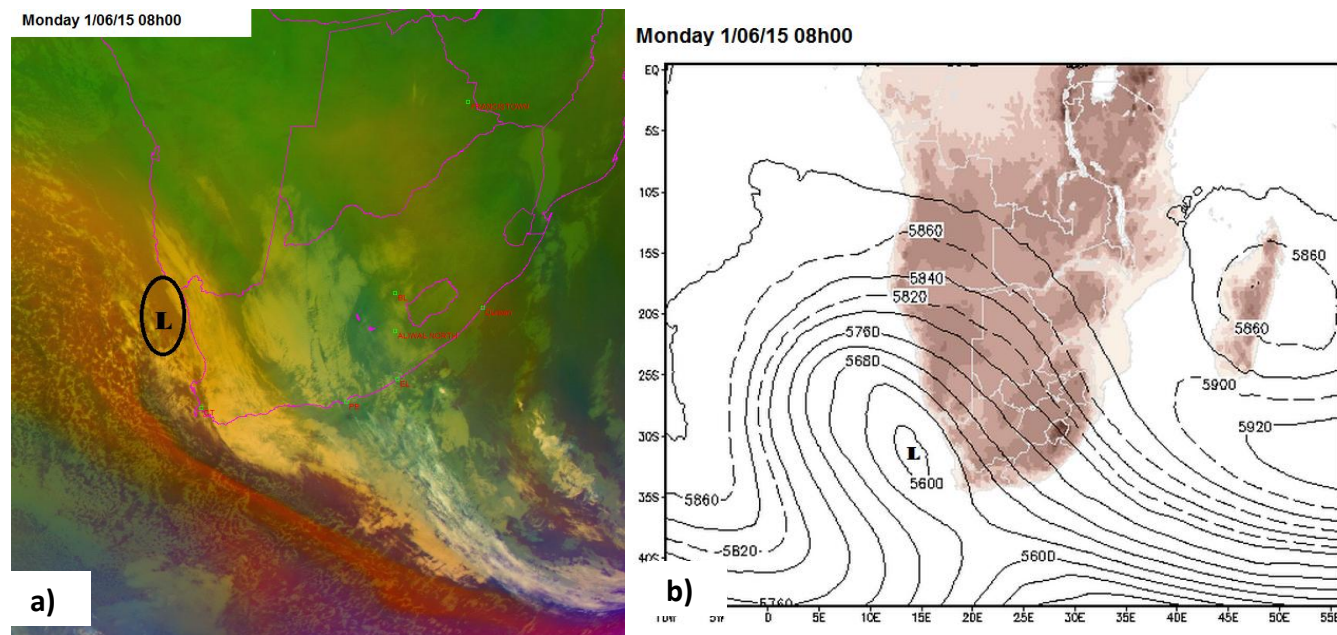


Figure 1: a) Satellite (real time) image of cut-off low position on Monday 1 June 2015 at 08h00 Standard South African Time (SAST); b) Model position of cut-off low position on Monday 1 June 2015 at 08h00 SAST

During the early hours of Monday morning, a cut-off low system started developing just west of South Africa. The position of the system is shown in Fig.1a and Fig.1b. This cut-off low system will result in showers and possible thunder showers stretching from the western and interior parts of the Northern Cape down to the entire Western Cape. This continuous rain will likely bring heavy falls and possible flooding of rivers and low-lying areas for the Overberg and Eden districts, including southern areas in the Cape Winelands and the Central Karoo.

Some of the areas in the Eden District already received heavy falls of rain from a cold frontal system that passed in the days leading up to this current system (29 May to 31 May 2015), therefore this current cut-off low system will amplify the risk of heavy falls. Gale force winds are expected along the south-western coast on Monday. The cut-off low will maintain its westward position all through Monday, propagating northwards overnight, after which it will make landfall and move over the western parts of the Northern Cape during the course of Tuesday. Rain and showers with possible heavy falls and flooding will persist all through Tuesday and Wednesday as the cut-off low starts propagating to the southern parts of the country.

Wednesday will see the south-western and southern coastline experience gale force winds with possible storm surge conditions. The cut-off low system moves to the Eastern Cape on Thursday and conditions over the western parts of the Western Cape are expected to clear from the west, spreading to the entire province by Friday morning.

## Severe weather alerts issued

<b>Warning:</b>
<ol style="list-style-type: none"> <li>1. Heavy rain leading to localized flash flooding is expected in the Overberg and Eden District today (Monday) including the Cape Winelands and Central Karoo tomorrow (Tuesday) persisting into Wednesday.</li> <li>2. Gale force south-easterly winds (65-75km/h) is expected in places between Table Bay and Cape Agulhas this afternoon (Monday) into tomorrow morning (Tuesday).</li> </ol>
<b>Watch:</b>
<ol style="list-style-type: none"> <li>1. Heavy rain leading to localised flash flooding is expected over the Cape Metropole and West Coast District during Wednesday.</li> <li>2. High seas with wave height in excess of 6m is expected between Cape Point and Cape Agulhas during Wednesday spreading to Plettenberg Bay on Thursday which may affect exposed coastal areas.</li> </ol>
<b>Special Weather Advisory:</b>
<p>An intense cut-off low is expected to affect the Western and Northern Cape from today (Monday) persisting through to Thursday. The public and small stock farmers are advised that heavy rain, flash flooding, gale force coastal winds and very rough seas can be expected.</p>

### a) Heavy falls of rain

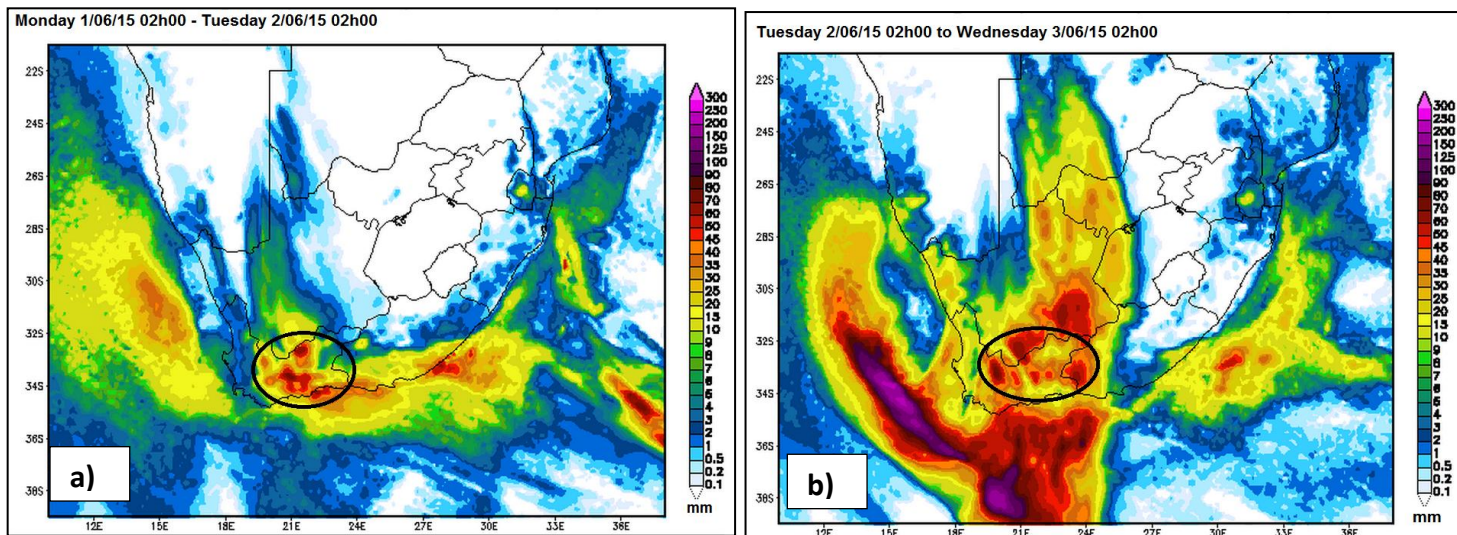


Figure 2: Daily accumulated rainfall over South Africa a) Monday 1 June 2015 at 02h00 SAST and Tuesday 2 June 2015 at 02h00 SAST; b) Tuesday 2 June 2015 at 02h00 SAST and Wednesday 3 June 2015 at 02h00 SAST

The images Fig.2a and Fig.2b show the expected accumulated rainfall from Monday through to Tuesday. The daily frames depict two images both showing a 24 hour accumulation for each day. Heavy falls of rain are expected to occur from Monday through to Tuesday, with a possibility of extending into Wednesday. With the continuous rain, flooding may be likely for low lying areas and rivers. The most likely areas to be affected are the Central Karoo, Eden District, Overberg and the southern parts of the Winelands district, where 50mm or more of rain will fall in any 24 hour period, particularly near areas where there are windward mountain slopes.

## b) Gale force winds and marine conditions

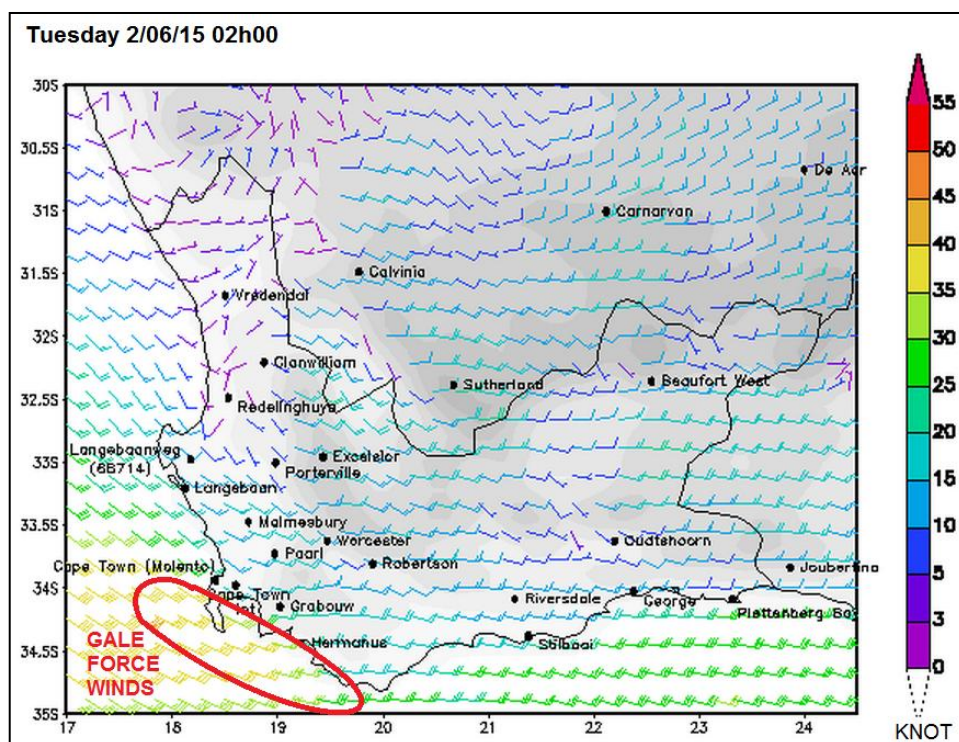


Figure 3: Surface winds over the Western Cape on Tuesday 2 June 2015 at 02h00 SAST.

Gale force south-easterly winds due to a strong surface ridge are expected between Table Bay and Cape Agulhas on Monday into Tuesday morning, as indicated in red in Fig. 3. These gale force winds will affect both marine and public weather. On Wednesday the cut-off low system, which is an upper air system, is expected to penetrate to the surface. The strong upper air winds associated with this system are also expected to reach the surface low, with surface wind speeds of 40-50kt (75-90km/h) expected in the region of Cape Point and eastwards, as shown in Fig.4 below.

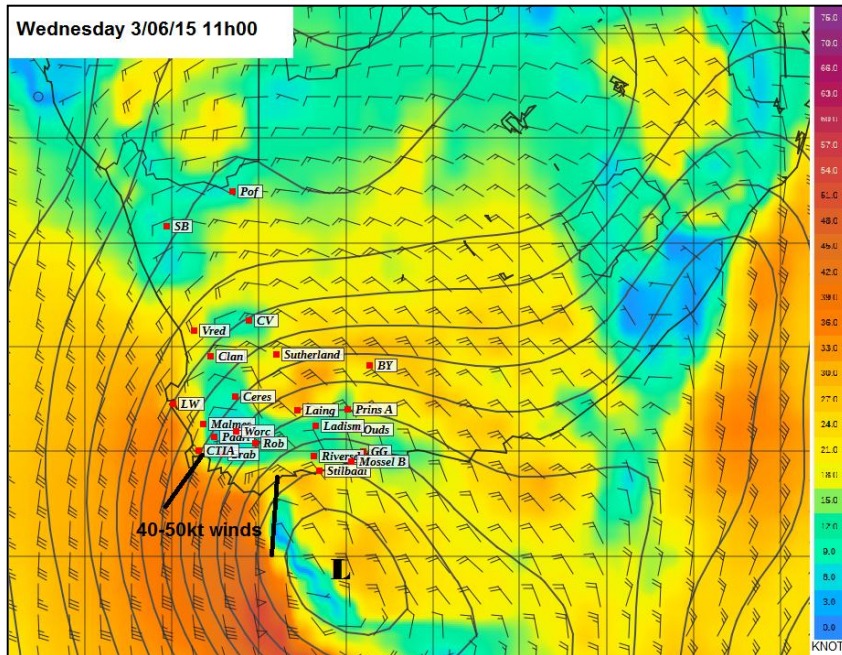


Figure 4: Surface winds expected on Wednesday 3 June 2015 at 11h00 SAST

Due to the penetration of strong winds from the upper air to the surface, storm surges are possible along the southern coastline on Wednesday, spreading to East London by Thursday (***please refer to the attached Storm Surge report***). The entire coastline will experience very rough sea conditions, with wave heights of between 4.0m and 6.0m. The wave heights are also expected to exceed 6.0m south of Cape Columbine on Wednesday, leading to high sea conditions.

Due to the continuous ridging of the surface high pressure system, a strong south-easterly wind sourcing very cold air from the near polar region can also be expected, leading to bitterly cold conditions over the entire Western Cape and Northern Cape interior Monday morning, abating from Tuesday.