South African Weather Service

ISO 9001 Certified Organisation

Storm Surge Report: 03 - 04 June 2015

Document Reference	ops-fcast-CT-083
Document Type:	Report
Version:	1

South African Weather Service
ISO 9001 Certified Organisation

Table of Contents

i. Document Control

- Version and Amendment Schedule

Version	Version Date	Author (s)	Description of Amendments
1	01/06/2015	Stella Nake/Thapi Makgabutlane	Document Created

1. Expected developments

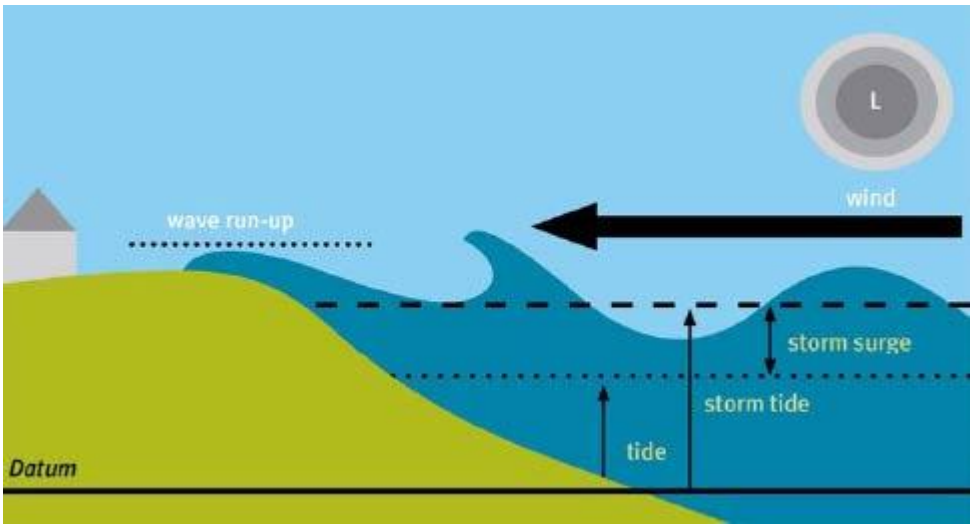

Figure 1 Storm Surge Run up Courtesy http://www.mfe.govt.nz/node/18466

A storm surge (Fig 1) is a rise above the normal water level along a shore resulting from a push of water by strong relatively uni-directional surface winds through an unhindered path of open sea into a coastline. In other words it is the increase of regional ocean level (excluding the effects of waves) due to low barometric pressure and winds blowing either onshore or alongshore over the ocean. Storm surges outside of the tropical regions are formed by intense low-pressure systems approaching or moving over the coastline.

There are inherent difficulty in estimating the exact rise in sea-level resulting from the storm surge and therefore the specific impact it will have at specific point locations along the coastline may vary. Possible effects could include **knocking over coastal structures**, **roads being flooded**, **boats may be pushed aground et cetera.** The combined effects of Astronomical spring high tide, High seas (waves 6-9m) and very strong onshore winds may intensify the impact of the storm surge. When this happens, the rise of the water level above the high tide can reach areas that might otherwise have been safe.

The major contributor to the storm surge is the 6 to 9m waves accompanying it. Increases in the mean sea level height are expected early Wednesday morning when waves build south of the country. Strong westerly to south-westerly winds are expected south of Cape Columbine into Cape Agulhas on Wednesday when wave height could exceed 6m offshore. The wind will become strong to gale force south-easterly between Cape Point and Cape Agulhas Wednesday afternoon spreading to Plettenberg Bay towards Wednesday evening where wave heights could exceed 8m.

Strong to gale force southerly to south westerly winds will persist on Thursday between Plettenberg Bay and East London also associated with wave heights in excess of 6m and possibly reaching 8m.

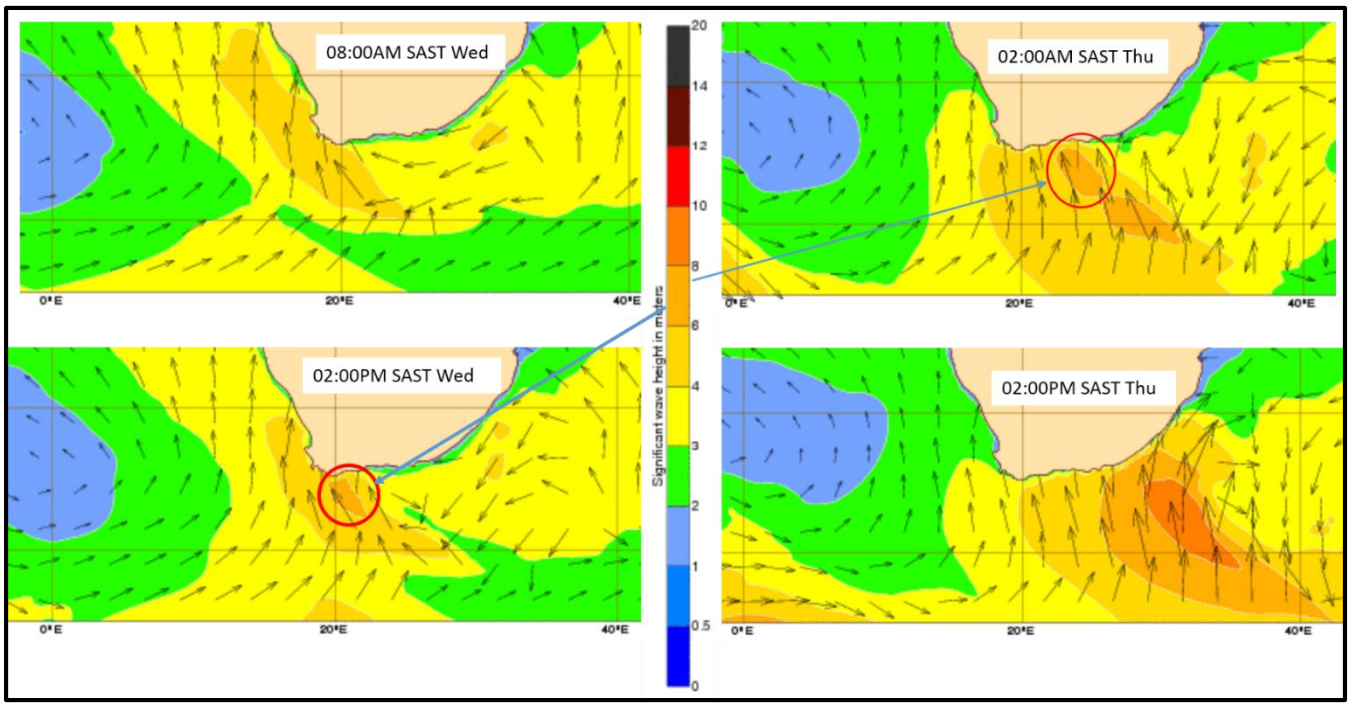

Figure 2 Significant wave height and mean wave direction from ECMWF

2. Weather Alerts Issued

Watch:

Storm surge is expected from Wednesday morning between Cape Columbine to Cape Agulhas spreading to Plettenberg Bay overnight and reaching East London Thursday afternoon. While risk will remain high during this period, the most hazardous period will be during the Spring High tides, namely:
Wed 03 June 2015 04H13 and 16h41 (Knysna)
Thu 04 June 2015 04h27 and 16h56 (Port Elizabeth)

3. Contact information

The South African Weather Service will continue monitoring the effects of the current weather system and will post updates as the need arises. For further information or clarification you may contact us on:

Duty Forecaster (Cape Town Regional Office) (04h00 – 20h30)	021 934 0749
Duty Forecaster (National Forecasting Centre) (20h30 – 04h00)	021 367 6000
Duty Forecaster (Disaster management line) (06h00 – 15h00)	084 279 1166

End of document