

Global Wind Hazard Final Run

TAOS[™] Real Time Operations System
Kinetic Analysis Corporation
Enki Research Computing Facility, Savannah, Georgia, USA

September 18, 2023

Abstract

TAOStm WX Global Analysis of wind hazards and economic impact estimates based the 20230917000000 GFS short term integrations, and is the recommended simulation for settlement purposes for impacts for this date. This analysis was run using proc:gfs TAOS Version 24.1:ROCKY9:GCC11:2023:249:1027, and includes wind hazards from tropical cyclones, winter storms, mid latitude cyclones, and other synoptic scale weather systems.

Report generated Mon Sep 18 08:53:05 AM UTC 2023 on cortex2 using GFS data downloaded on Sun Sep 17 09:34:34 PM UTC 2023.

Contents

1	Impact Summary for 2023-09-17	4
2	New Zealand impact summary for 2023-09-17	6
3	Russia impact summary for 2023-09-17	8
4	Comparison of Forecast vs Hindcast Run	9
5	Technical Notes	10

List of Tables

1.1	Global Economic Impacts for 2023-09-17	4
1.2	Countries with over 100 thousand USD in impacts	4
2.1	Overall summary for New Zealand	6
2.2	Summary by Level 1 Admin Area with loss over 1000 USD . .	7
3.1	Overall summary for Russia	8
3.2	Summary by Level 1 Admin Area with loss over 1000 USD . .	8
4.1	Forecast Comparison with Hindcast Run	9

List of Figures

1.1	GFS Wind Hindcast	5
-----	-----------------------------	---

Chapter 1

Impact Summary for 2023-09-17

Table 1.1: Global Economic Impacts for 2023-09-17

<i>scenario</i>	<i>exposures</i>	<i>economic_impact</i>
hindcast_20230917	90722	3.69 Million USD

Table 1.2: Countries with over 100 thousand USD in impacts

<i>name</i>	<i>num_exposures</i>	<i>economic_impact</i>
New Zealand	26376	3.33 Million USD
Russia	32714	.15 Million USD

GFS Surface Winds for 2023-09-17 00:00.

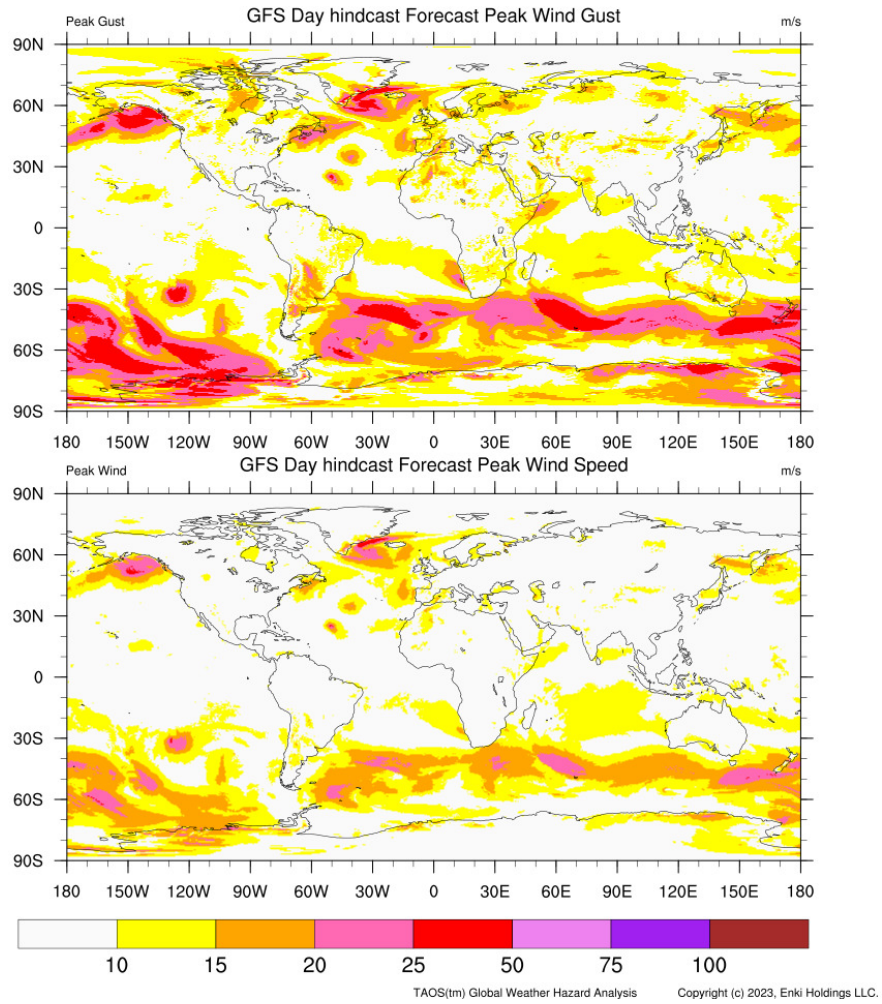


Figure 1.1: GFS Wind Hindcast

Chapter 2

New Zealand impact summary for 2023-09-17

Table 2.1: Overall summary for New Zealand

<i>name</i>	<i>num_exposures</i>	<i>economic_impact</i>
New Zealand	26376	3.33 Million USD

Table 2.2: Summary by Level 1 Admin Area with loss over 1000 USD

<i>name</i>	<i>num_exposures</i>	<i>economic_impact</i>
Canterbury	11560	105,253.84 USD
Chatham Islands	1602	21,408.85 USD
Hawke's Bay	571	2,996.82 USD
Manawatu-Wanganui	1313	16,034.93 USD
Marlborough	3368	175,985.85 USD
Otago	376	6,634.27 USD
Southland	858	39,741.95 USD
Taranaki	203	6,740.05 USD
Tasman	267	5,191.03 USD
Wellington	2994	2,883,352.03 USD
West Coast	3239	69,268.96 USD

Chapter 3

Russia impact summary for 2023-09-17

Table 3.1: Overall summary for Russia

<i>name</i>	<i>num_exposures</i>	<i>economic_impact</i>
Russia	32714	.15 Million USD

Table 3.2: Summary by Level 1 Admin Area with loss over 1000 USD

<i>name</i>	<i>num_exposures</i>	<i>economic_impact</i>
Kamchatka	3129	37,085.42 USD
Khabarovsk	29585	110,477.26 USD

Chapter 4

Comparison of Forecast vs Hindcast Run

This tables shows what the forecast for 2023-09-17 was for the same day (00z forecast for the rest of the day) as well as the forecast from the simulation in each of the previous four days.

Table 4.1: Forecast Comparison with Hindcast Run

<i>scenario</i>	<i>economic_impact</i>
hindcast_20230917	3.69 Million USD
f001_20230917	4.64 Million USD
f002_20230916	9.22 Million USD
f003_20230915	12.82 Million USD
f004_20230914	13.92 Million USD
f005_20230913	22.41 Million USD

Chapter 5

Technical Notes

The TAOStm WX Global Analysis (TAOS/WX) is part of the TAOStm storm hazard modeling system. TAOS/WX ingests global or regional weather models and, using the same graphical processing systems, statistical methodologies, exposure, and damage models as the tropical cyclone (TAOS/TC) and earthquake (TAOS/EQ) packages, generates estimates of weather hazards and the economic impact of weather hazards on those exposures.