

Global Wind Hazard Final Run

TAOStm Real Time Operations System

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Abstract

TAOStm WX Global Analysis of wind hazards and economic impact estimates based the 20240430000000 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 25.01:ROCKY9:GCC11:2024:106:1435, and includes wind hazards from tropical cyclones, winter storms, mid latitude cyclones, and other synoptic scale weather systems.

Report generated Wed May 1 05:48:44 AM UTC 2024 on cortex2 using GFS data downloaded on Tue Apr 30 09:34:31 PM UTC 2024.

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Chapter 1

Impact Summary for 2024-04-30

Table 1.1: Global Economic Impacts for 2024-04-30

| <i>scenario</i> | <i>exposures</i> | <i>economic_impact</i> |
|-------------------|------------------|------------------------|
| hindcast_20240430 | 372246 | 4.48 Million USD |

Table 1.2: Countries with over 100 thousand USD in impacts

| <i>name</i> | <i>num_exposures</i> | <i>economic_impact</i> |
|--------------|----------------------|------------------------|
| Argentina | 253767 | 1.27 Million USD |
| Iraq | 28422 | .95 Million USD |
| Pakistan | 18652 | 1.40 Million USD |
| Saudi Arabia | 27642 | .67 Million USD |

GFS Surface Winds for 2024-04-30 00:00.

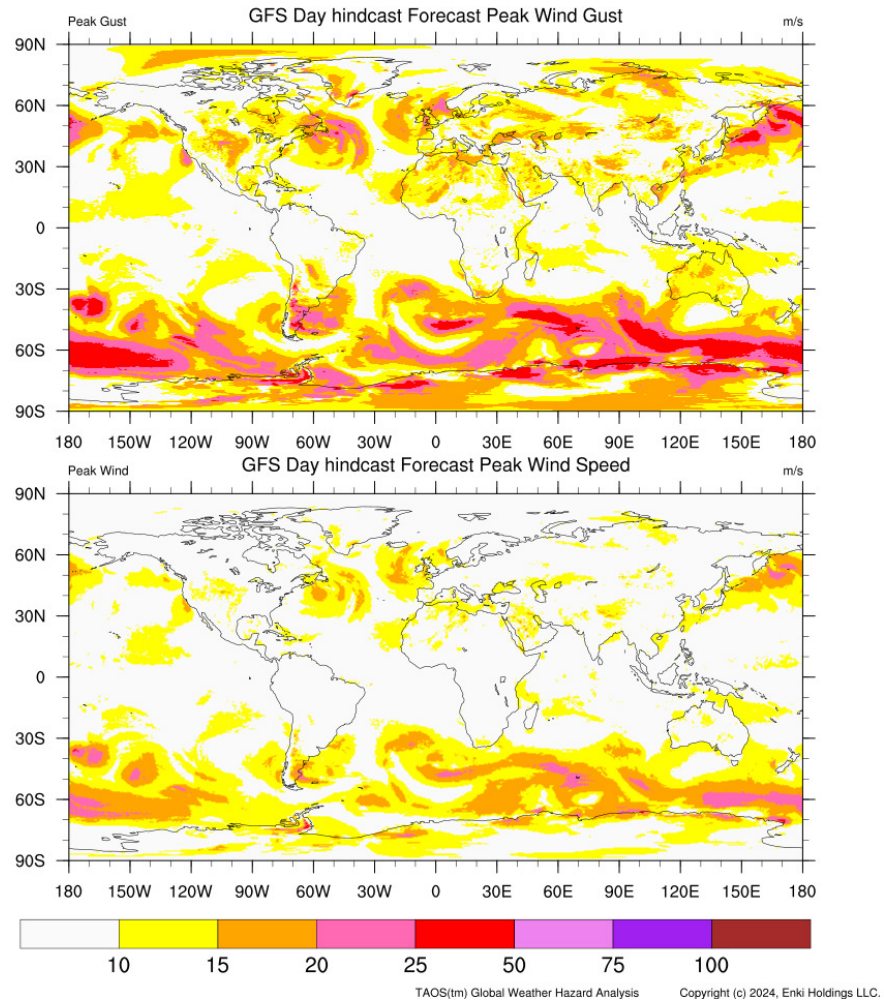


Figure 1.1: GFS Wind Hindcast

Chapter 2

Argentina impact summary for 2024-04-30

Table 2.1: Overall summary for Argentina

| <i>name</i> | <i>num_exposures</i> | <i>economic_impact</i> |
|-------------|----------------------|------------------------|
| Argentina | 253767 | 1.27 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> |
|-------------|----------------------|------------------------|
| Catamarca | 2586 | 15,903.73 USD |
| Chubut | 117504 | 605,525.95 USD |
| La Rioja | 7647 | 80,324.09 USD |
| Mendoza | 12497 | 145,829.25 USD |
| Neuquén | 12916 | 49,355.28 USD |
| Río Negro | 6340 | 13,528.31 USD |
| San Juan | 1434 | 4,200.50 USD |
| Santa Cruz | 92843 | 357,184.18 USD |

Chapter 3

Iraq impact summary for 2024-04-30

Table 3.1: Overall summary for Iraq

| <i>name</i> | <i>num_exposures</i> | <i>economic_impact</i> |
|-------------|----------------------|------------------------|
| Iraq | 28422 | .95 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> |
|--------------|----------------------|------------------------|
| Al-Basrah | 3631 | 73,707.26 USD |
| Al-Muthannia | 6192 | 441,241.51 USD |
| Al-Qadisiyah | 4695 | 242,293.50 USD |
| Dhi-Qar | 9807 | 114,960.42 USD |
| Maysan | 907 | 3,954.05 USD |
| Wasit | 3151 | 75,690.76 USD |

Chapter 4

Pakistan impact summary for 2024-04-30

Table 4.1: Overall summary for Pakistan

| <i>name</i> | <i>num_exposures</i> | <i>economic_impact</i> |
|-------------|----------------------|------------------------|
| Pakistan | 18652 | 1.40 Million USD |

Table 4.2: Summary by Level 1 Admin Area with loss over 1000 USD

| <i>name</i> | <i>num_exposures</i> | <i>economic_impact</i> |
|-------------|----------------------|------------------------|
| Baluchistan | 8551 | 19,256.56 USD |
| Punjab | 10085 | 1,385,540.41 USD |

Chapter 5

Saudi Arabia impact summary for 2024-04-30

Table 5.1: Overall summary for Saudi Arabia

| <i>name</i> | <i>num_exposures</i> | <i>economic_impact</i> |
|--------------|----------------------|------------------------|
| Saudi Arabia | 27642 | .67 Million USD |

Table 5.2: Summary by Level 1 Admin Area with loss over 1000 USD

| <i>name</i> | <i>num_exposures</i> | <i>economic_impact</i> |
|---------------|----------------------|------------------------|
| Al Jawf | 1614 | 10,045.71 USD |
| Al Madinah | 326 | 2,297.18 USD |
| Al Quassim | 1397 | 40,485.77 USD |
| Ar Riyad | 11753 | 468,519.36 USD |
| Ash Sharqiyah | 870 | 4,095.08 USD |
| Ha'il | 10718 | 117,462.81 USD |
| Makkah | 964 | 29,208.62 USD |

Chapter 6

Comparison of Forecast vs Hindcast Run

This tables shows what the forecast for 2024-04-30 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 6.1: Forecast Comparison with Hindcast Run

| <i>scenario</i> | <i>economic_impact</i> |
|-------------------|------------------------|
| hindcast_20240430 | 4.48 Million USD |
| f001_20240430 | 7.20 Million USD |
| f002_20240429 | 8.68 Million USD |
| f003_20240428 | 2.65 Million USD |
| f004_20240427 | 6.37 Million USD |
| f005_20240426 | 9.50 Million USD |

Chapter 7

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.