

IMF | PORTWATCH

A PARTNERSHIP WITH
OXFORD UNIVERSITY

**Monitoring Trade
Disruptions from Space**

portwatch.imf.org



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Special Thanks

We are grateful for the support received from these institutions:



**State Secretariat for
Economic Affairs**



Esri



UN Global Platform



World Bank



**World Trade
Organization**



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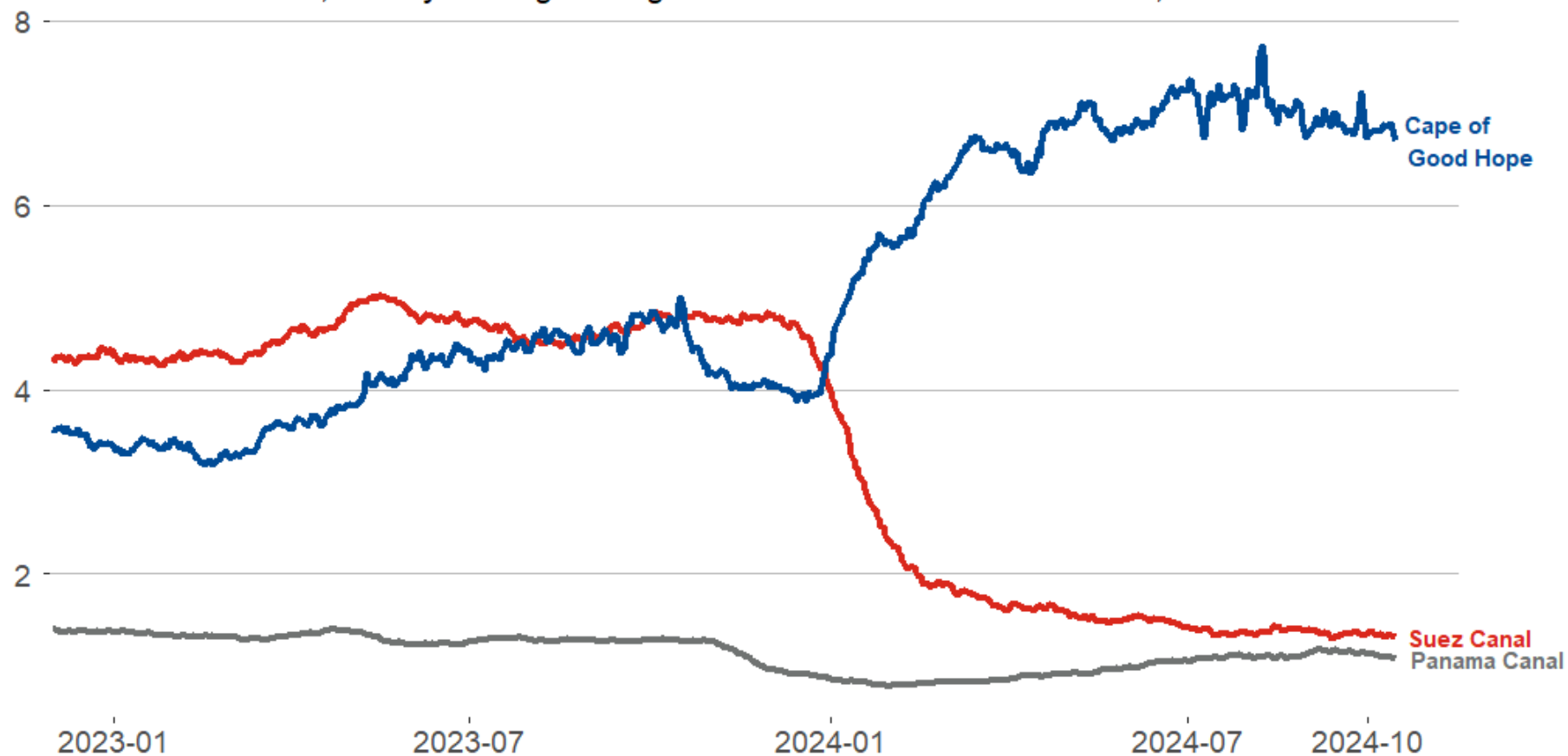
Port Disruptions (2021 - 2024)

Many ports were disrupted in every region.



Port Disruptions: Daily Transit Trade Volume

Million Metric Tons, 30-day Moving Average. Latest observation: October 15, 2024



Source: UN Global Platform; IMF PortWatch.

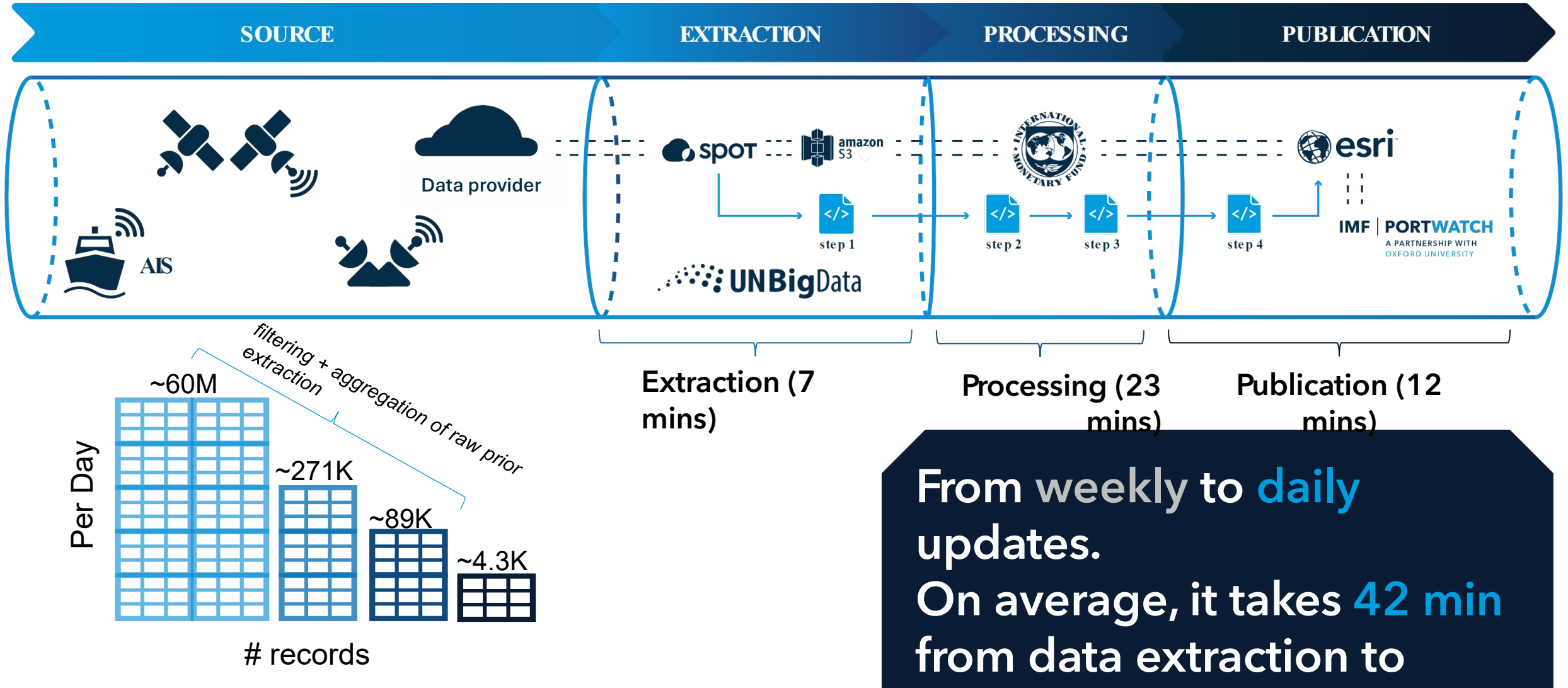
PortWatch: Monitoring Trade through Big Data

The platform covers 99% of maritime trade, roughly \$14 trillion dollars in trade value.



How does it work?

The PortWatch Reproducible Analytical Pipeline (RAP)



How does it work?

RAP allows the research to be reproducible, automated while maintaining a quality control of the data (inputs and outputs).





**GitHub library**

**functions**



-  trade-task-team-phase-1/ais
-  trade-task-team-phase-1/spot_connect
-  ocean-spark-connect

**The scripts (steps) run on a schedule.**

**Pw logs for each step**

RAP allows PortWatch to be:

- **Efficient**
- **Scalable**
- **Reproducible**
- **Automated**



Peppermint Mocha

\$6.95

What a **Mocha** has
to do with
Monitoring Trade
from Space?



Peppermint Mocha

\$6.95

It is the same cost*
to run **PortWatch**
per month.

For questions, comments, or
if you use PortWatch please let us know at:

IMF-PortWatch@IMF.ORG

THANK YOU !

PortWatch.imf.org

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ANNEXES

Context:

- **Mandate:** Since the beginning, one of the International Monetary Fund (IMF) purpose is to *“facilitate the expansion and balanced growth of international trade...”*
- **Operationalization:** In practice, this is carried out through analysis and policy advice to IMF member countries. This work is complemented by research, lending and capacity development on trade related issues.

Search for one of the 1,378 ports and 13 chokepoints we are tracking globally

● Ports ● Chokepoints — Shipping Lanes

Monitoring Trade Disruptions from Space

PortWatch is an open platform designed to monitor and simulate disruptions to maritime trade flows. The platform helps policymakers and the public assess the impact of realized and future trade shocks, such as natural disasters, based on real-time data sourced from the [UNGP](#).

Access Data: Access all data that power the PortWatch platform [here](#).

RECENT DISRUPTIONS

Trade Disruptions in the Red Sea →



Suez Canal
Notable
chokepoint
[Explore](#)



11% of Global Maritime Trade
Trade volume through affected
chokepoint(s)



Petroleum, Chemical and Non-Metallic Mineral Products
Sector most impacted



Ports & Chokepoints

1475



of Ships Tracked

120K



Daily Trade Data Since

2019



Maritime Trade Covered

99%



Annual Maritime Trade Value

\$14T

Trade Disruptions in the Red Sea ➔



Suez Canal
Notable chokepoint
[Explore](#)

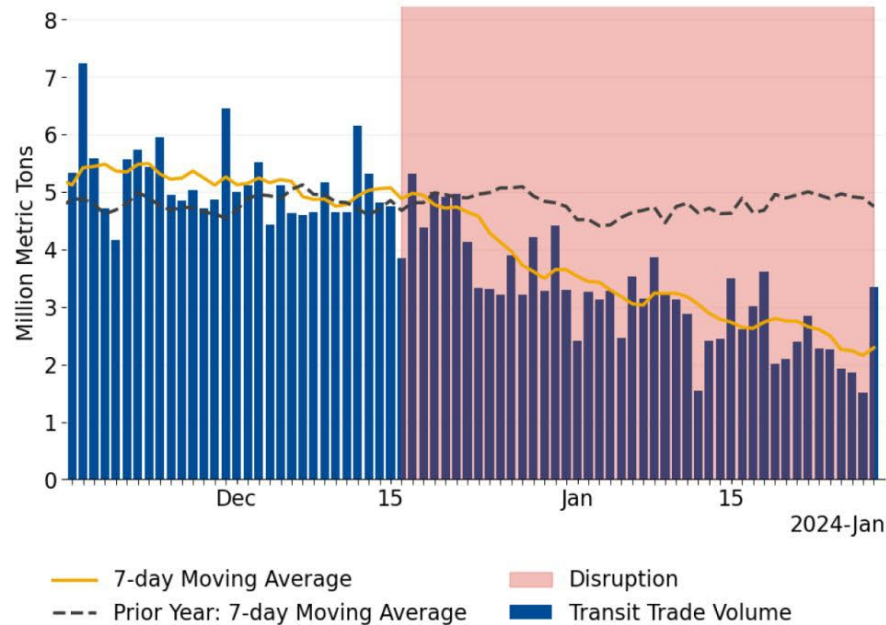


11% of Global Maritime Trade
Trade volume through affected chokepoint(s)



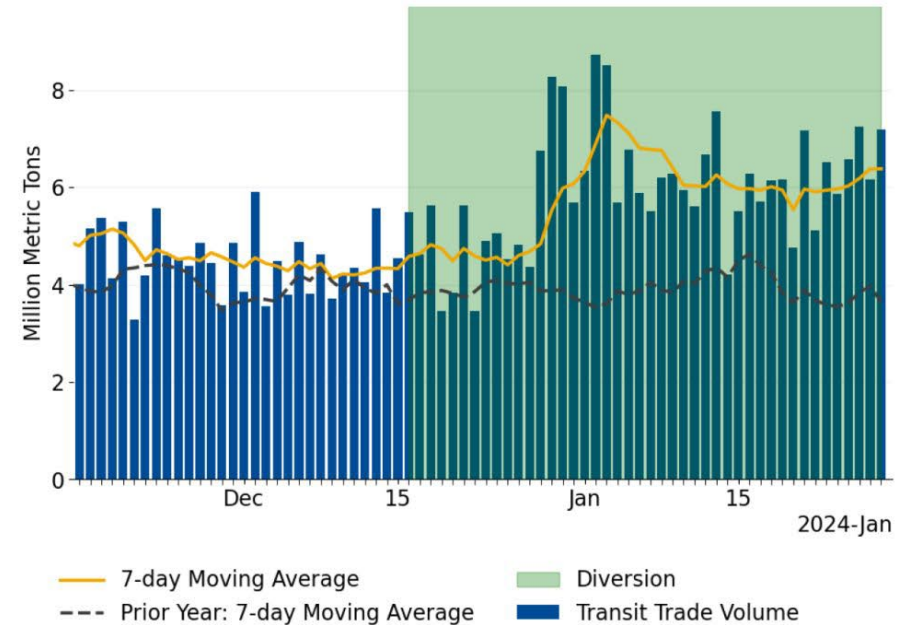
Petroleum, Chemical and Non-Metallic Mineral Products
Sector most impacted

Suez Canal: Daily Transit Trade Volume



Source: UN Global Platform; IMF PortWatch.

Cape of Good Hope: Daily Transit Trade Volume



Source: UN Global Platform; IMF PortWatch.

Shipping Restrictions to Panama Canal →



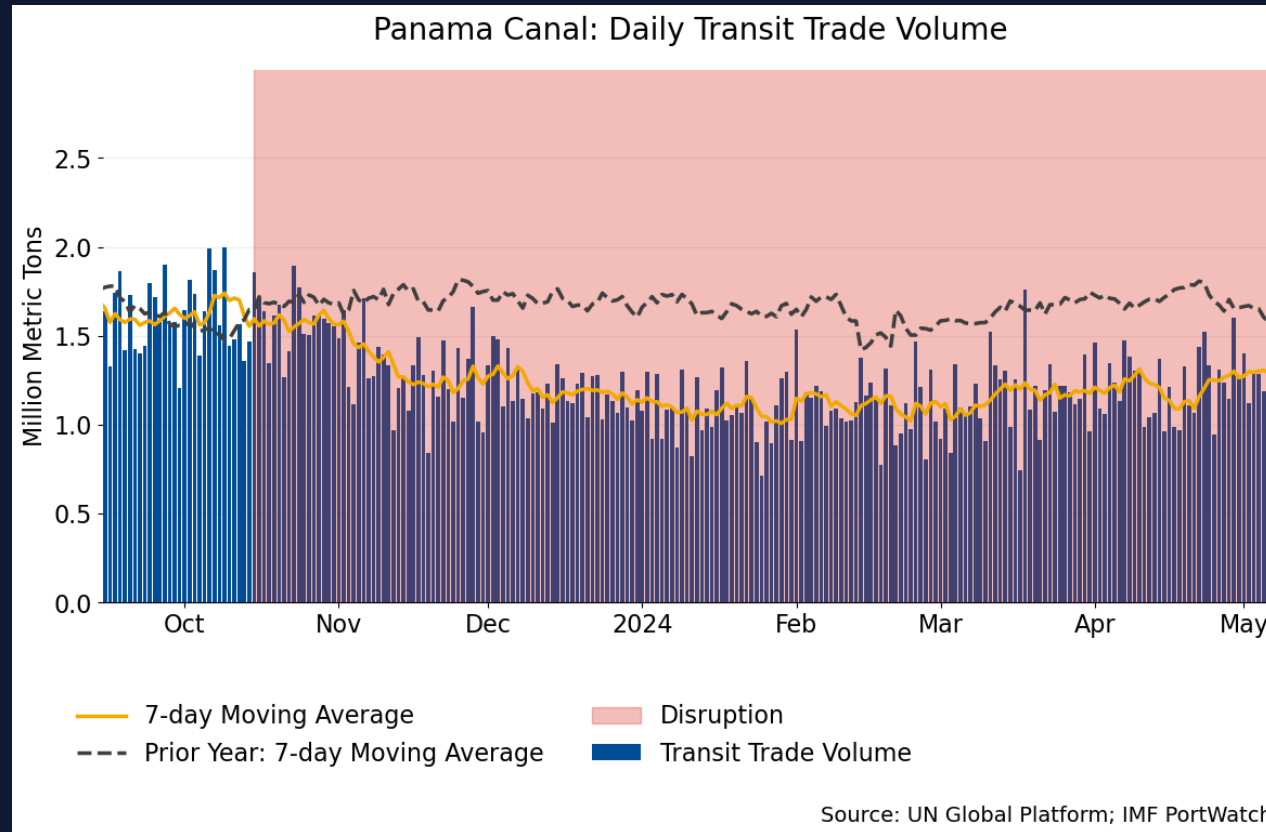
Panama Canal
Notable chokepoint
[Explore](#)



5% of Global Maritime Trade
Trade volume through affected chokepoint(s)



Petroleum, Chemical and Non-Metallic Mineral Products
Sector most impacted



SPILLOVER SIMULATOR

BACK

PORT-LEVEL IMPACT

COUNTRY-LEVEL IMPACT

SUPPLY CHAIN IMPACT

7 days

14 days

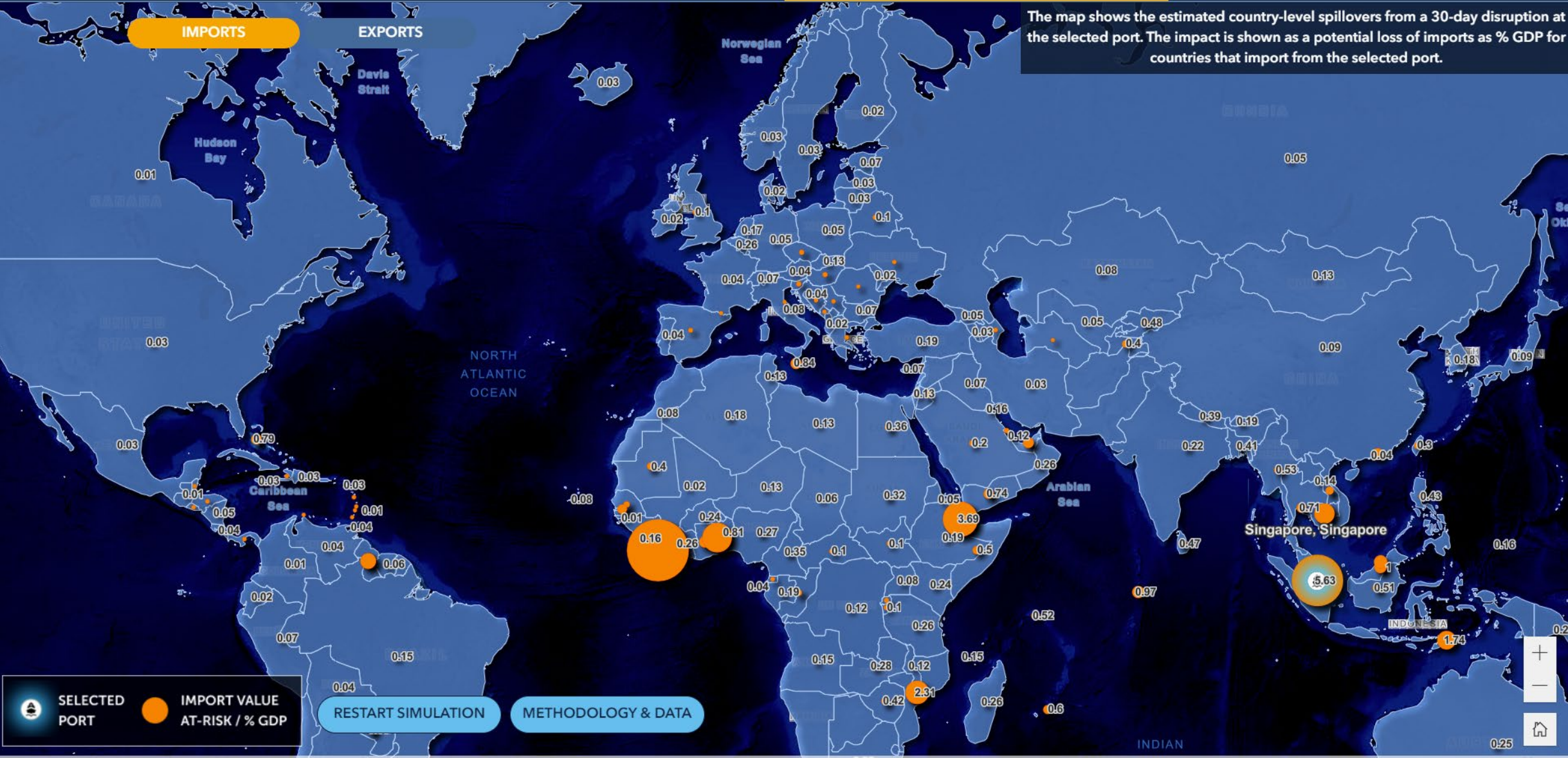
30 days

90 days

IMPORTS

EXPORTS

The map shows the estimated country-level spillovers from a 30-day disruption at the selected port. The impact is shown as a potential loss of imports as % GDP for countries that import from the selected port.



SELECTED PORT



IMPORT VALUE AT-RISK / % GDP

RESTART SIMULATION

METHODOLOGY & DATA

CLIMATE SCENARIOS

BACK

CLIMATE RISK

COUNTRY TRADE RISK

PRESENT

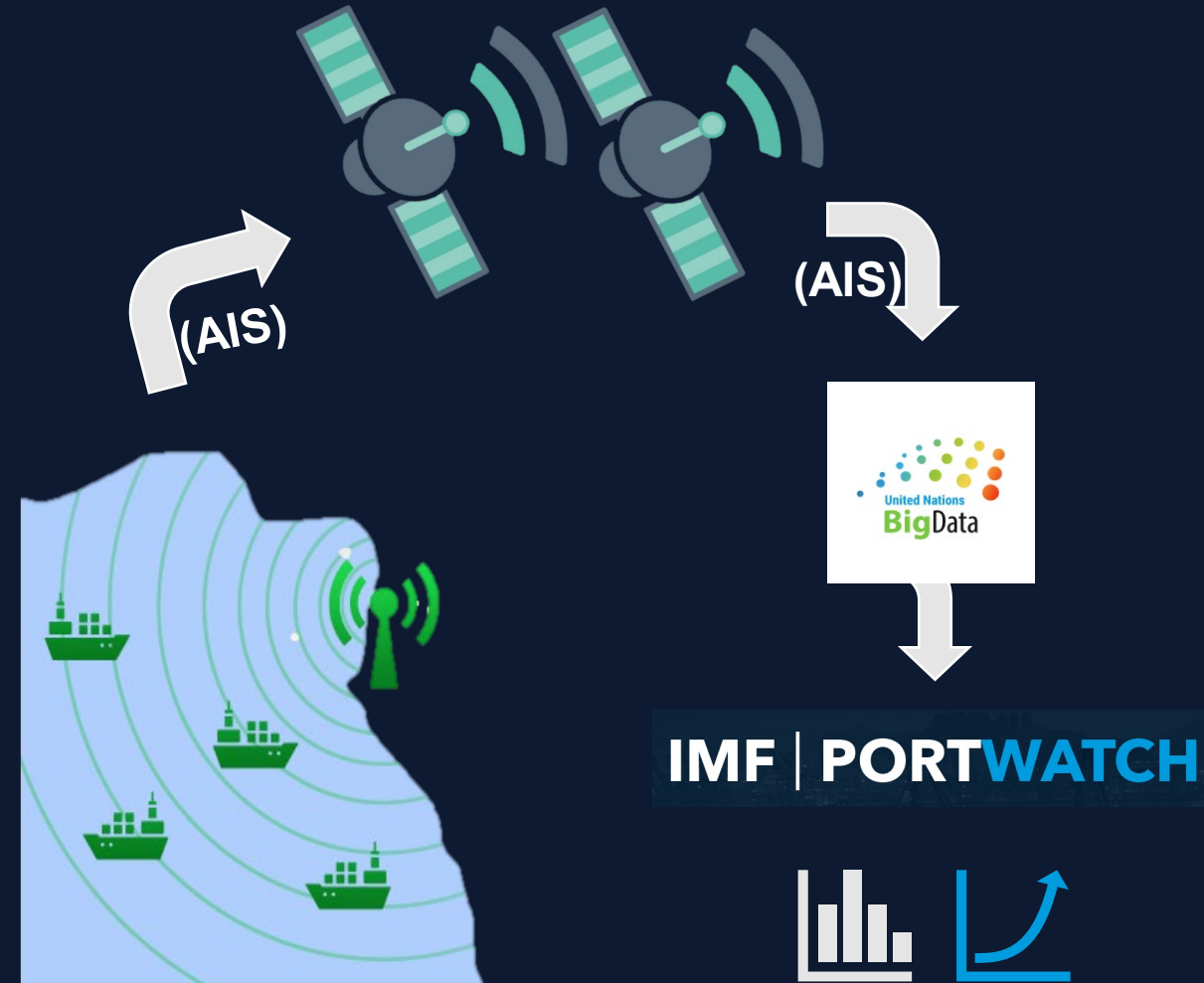
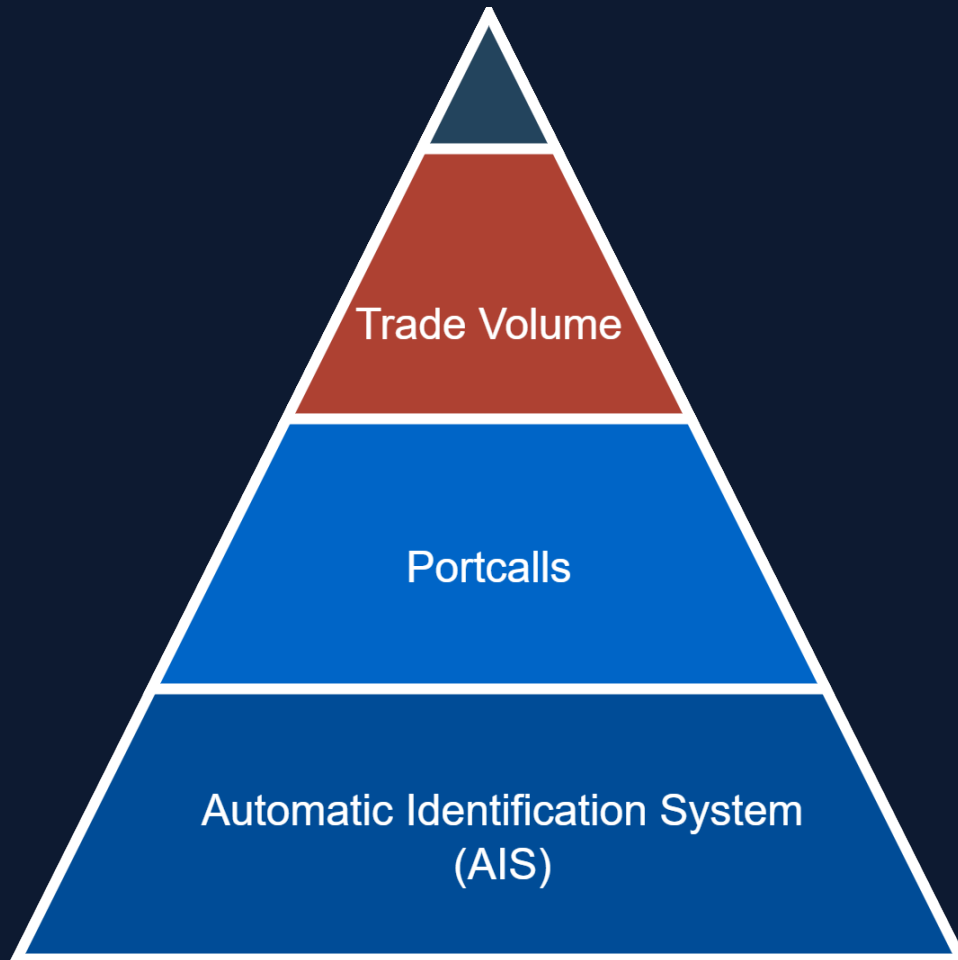
Stringent decarbonization
2050 - RCP2.6

Middle of the road
2050 - RCP4.5

Fossil fuel-based development
2050 - RCP8.5



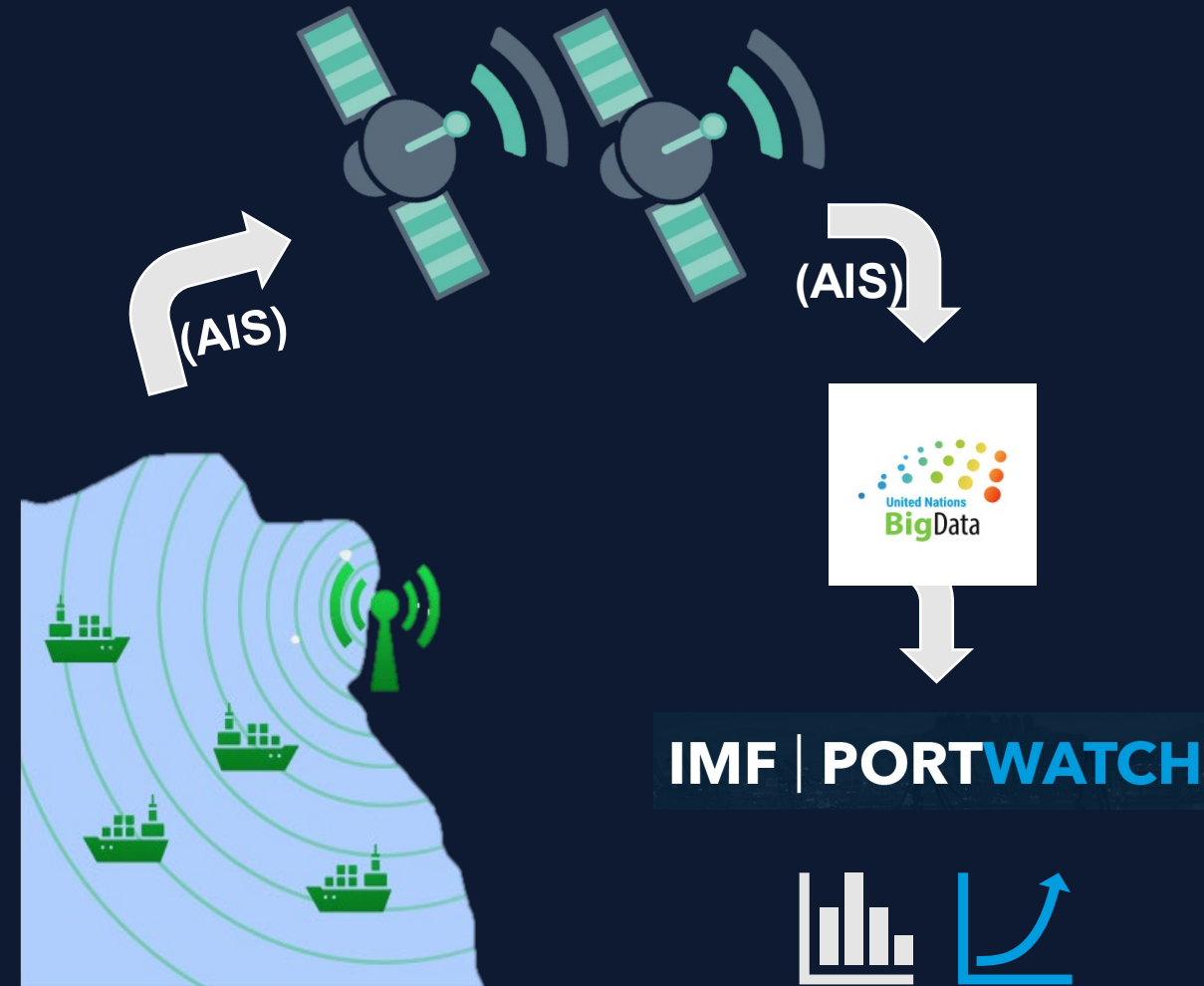
PortWatch Data



PortWatch Data

Key products:

1. Port monitor
2. Spillover Analysis
3. Climate Scenarios



Monitoring Trade Disruptions from Space

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CURRENT & RECENT DISRUPTIONS

Tropical Cyclone MILTON-24 ➔

Mexico, United States: October 5, 2024 - Present



Progreso Yucatan, Mexico
Notable Port
[Explore](#)



5% of Mexico Maritime Trade
Trade through Affected Port



Mineral Products
Sector most impacted



5.5M
Exposed Population

US Ports Strike ➔



Houston, United States
Notable Port
[Explore](#)



25% of US Maritime Trade
Trade through Affected Port



Mineral Products
Sector most impacted

Trade Disruptions in the Red Sea ➔



Suez Canal
Notable chokepoint
[Explore](#)



15% of Global Maritime Trade
Trade volume through affected chokepoint(s)



Mineral Products
Sector most impacted

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Pause



Enable map scroll