How Resilient is the Maritime Nation? Assessing Ports and Ports Cities Vulnerability in Indonesia. A Preliminary Analysis

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Abstract:

President Jokowi envisions the nation to be a "Global Maritime Nexus". As a result, the president has recently significantly increased investment in sea transports and seaports in Indonesia. While critics have been largely focused on the efficiency (the return of such investments) and the effectiveness, little do we know about how resilient these investments are? Ports cities often face disruptions and delays of supplies due to the occurrences of climatological and hydrological hazards. In Indonesia, disruptions often occurs at both airports and seaports where such places are often closed down due to flood, storm as well as other natural hazard incidences. The metropolitan cities such as Jakarta often face similar disruptions. While smaller ports and smaller port cities have been more vulnerable to such shocks. Unfortunately, there is lack of systematic studies on opportunity and financial loss from these events. This paper asks how ports and port cities in Indonesia adapt to climate change and disaster risks? This paper provides brief preliminary findings on both policy and practices and the reform that is needed.


Dave Andrews
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What a mess Shipping containers all over the place at the PoB after yesterday's storm
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COMMENTARY

Adelle Neary

Jokowi Spells Out Vision for Indonesia's "Global Maritime Nexus"

November 26, 2014

MEDIA QUERIES
Contact H. Andrew Schwartz
Chief Communications Officer

PEMBANGUNAN TOL LAUT: MEMANDANG LAUT SEBAGAI PENGHUBUNG, BUKAN PEMISAH PULAU

Dipublikasikan pada 14/05/2015 | 23:59 WIB

INDONESIA SEBAGAI POROS MARITIM DUNIA

Indonesia's response to the shifts of world geopolitics' centre of gravity

Dipublikasikan pada 13/11/2015 | 12:54 WIB

Pusat gravitasi geo-ekonomi dan geo-politik dunia sedang bergeser dari Barat ke Asia Timur, negara-negara Asia sedang bangkit. Momentum ini menunjang cita-cita Indonesia sebagai poros maritim dunia

Sebagai negara kepulauan terbesar di dunia, Indonesia memiliki potensi besar menjadi poros maritim dunia. Poros maritim merupakan sebuah gagasan strategis yang diwujudkan untuk menjamin konektifitas antar pulau, pengembangan industri perkapalan dan perikanan, perbaikan transportasi laut serta fokus pada keamanan maritim.

Penegakkan kedaulatan wilayah laut NKRI, revitalisasi sektor-sektor ekonomi kelautan, penguatan dan pengembangan konektivitas maritim, rehabilitasi kerusakan lingkungan dan konservasi biodiversity, serta peningkatan kualitas dan kuantitas SDM kelautan, merupakan program-program utama dalam pemerintahan Presiden Jokowi guna mewujudkan Indonesia sebagai proros maritim dunia.

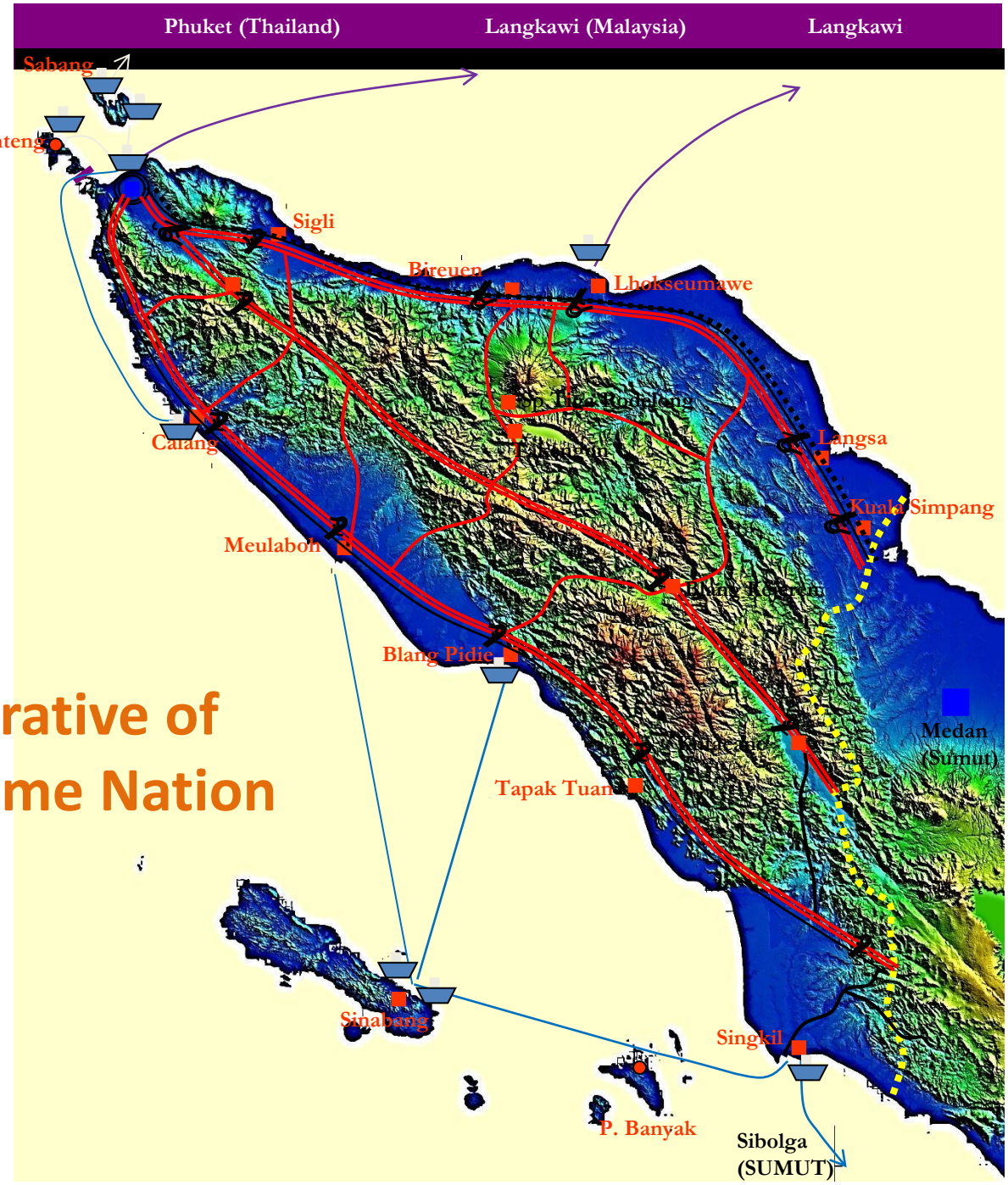
Dalam sambutannya di Konferensi Tingkat Tinggi (KTT) Asia Timur, Presiden Jokowi menegaskan bahwa ia bertekad menjadikan Indonesia sebagai poros maritim dunia. "Saya memilih forum ini untuk menyampaikan gagasan saya tentang Indonesia sebagai poros maritim dunia, dan harapan saya tentang peran KTT Asia Timur kedepan," kata Presiden Jokowi dalam pidatonya di KTT Asia Timur, di Nay Pyi Taw, Myanmar, Kamis (13/11/2015)

Development Plan

Road Transportation NAD

(Year 2007 s/d 2027)

Deeply rooted narrative of Victory of a Maritime Nation



Development Plan

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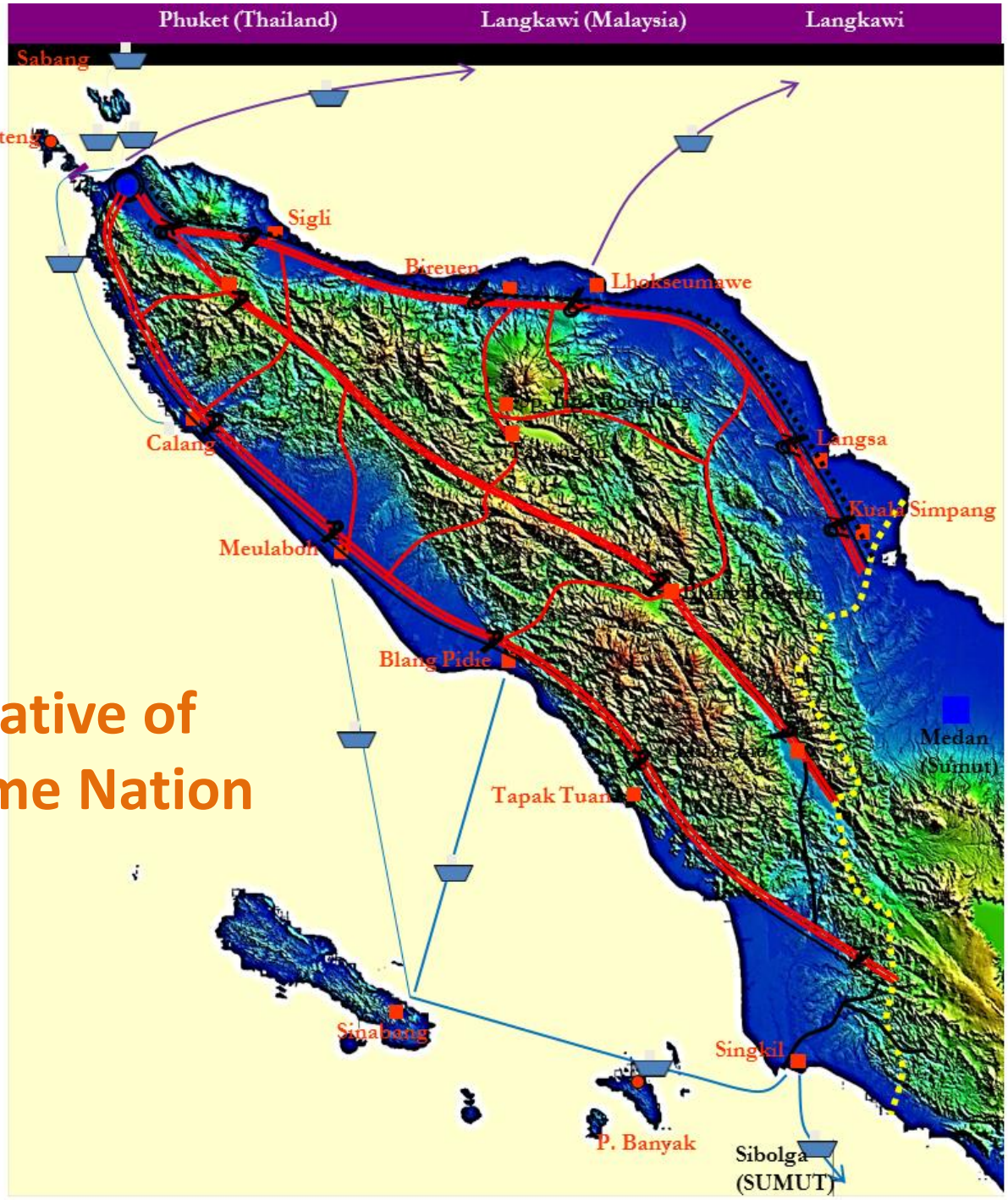
(Year 2007 s/d 2027)

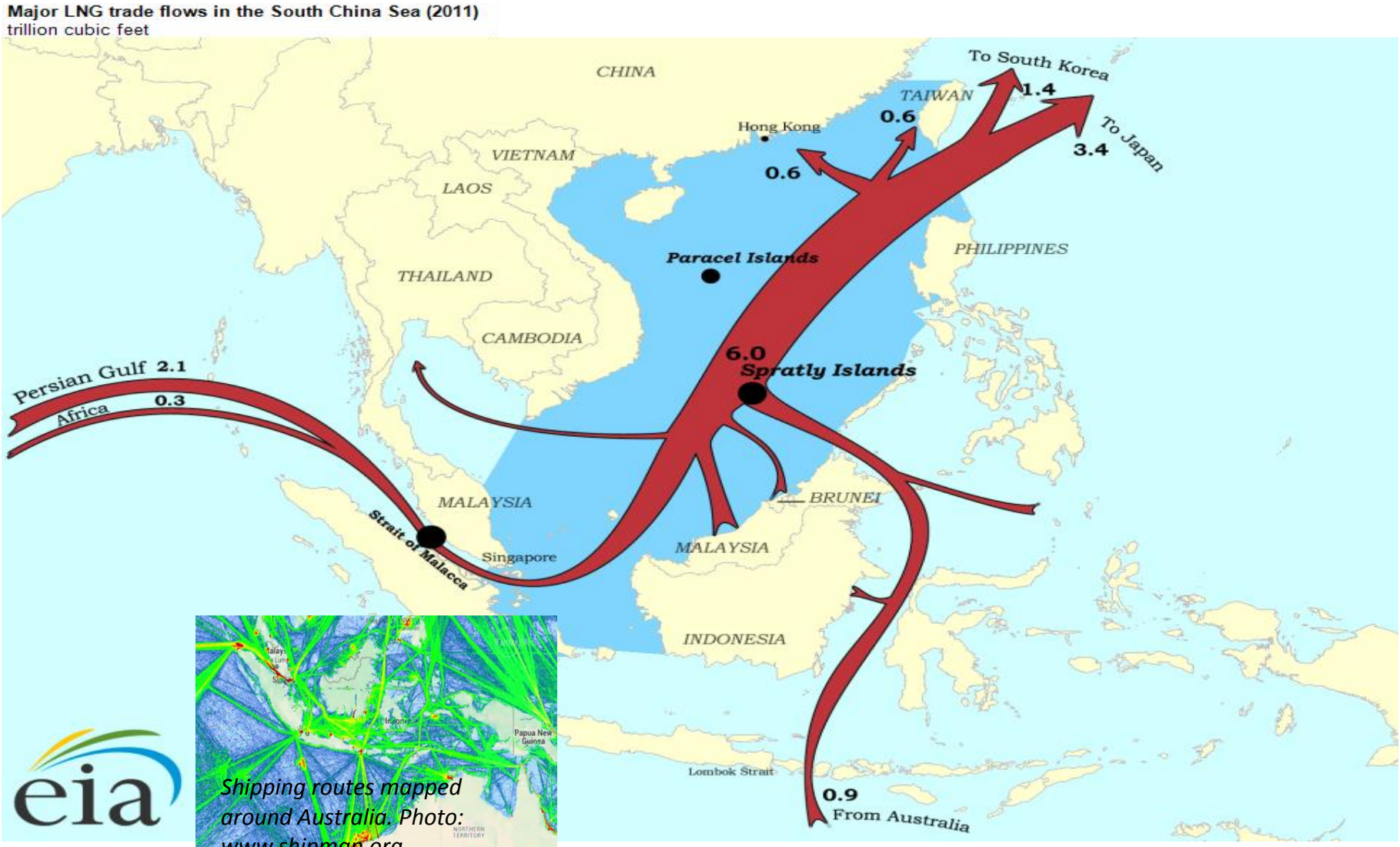


Deeply rooted narrative of Victory of a Maritime Nation

Keterangan :

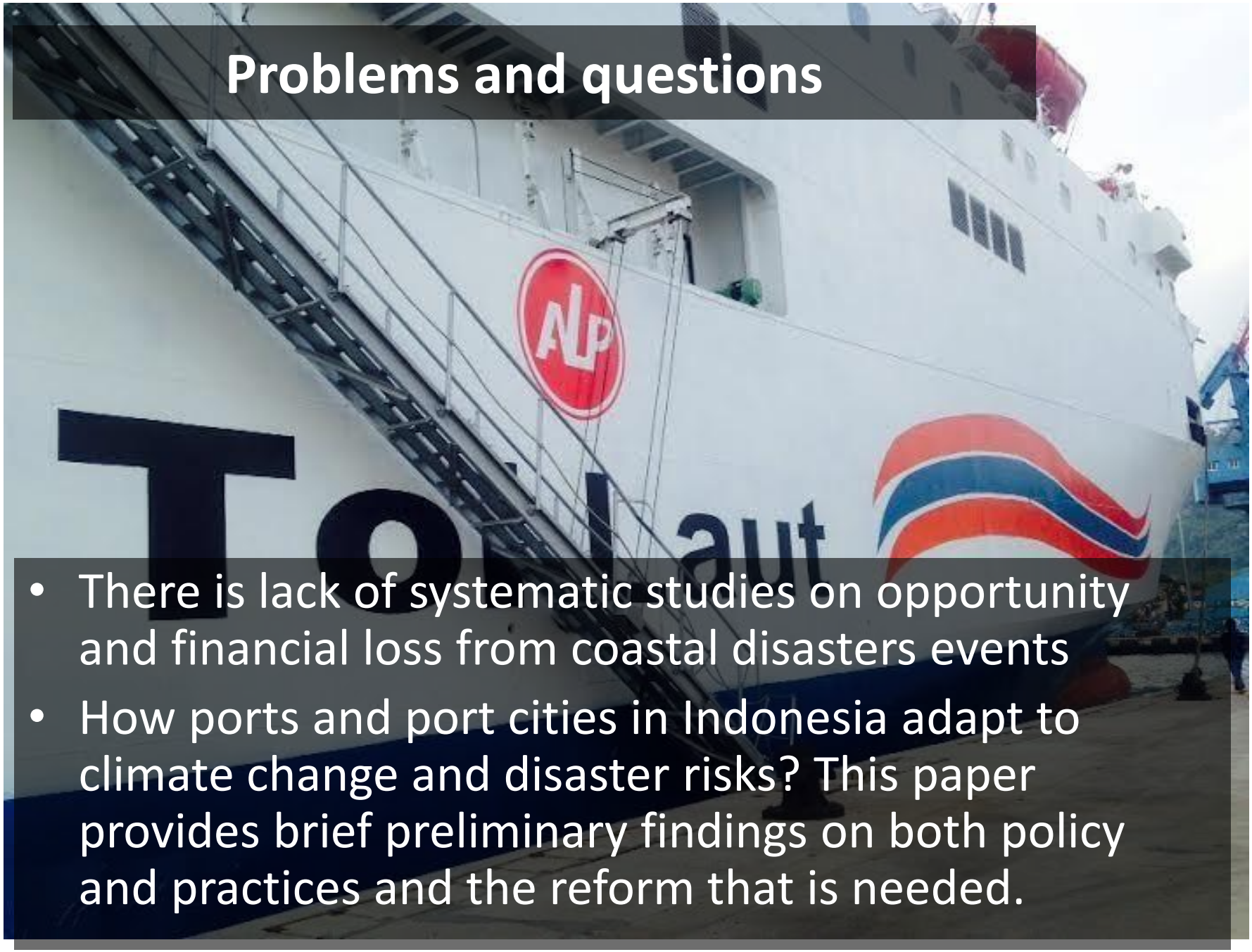
- = Jalan Nasional & Jalan Provinsi
- = Highway
- = Jalan Rel
- = Lintas Penyeberangan
- = Ibukota Provinsi
- = Ibukota Kabupaten
- = Daerah Terpencil

Sleeping narrative gets awake?

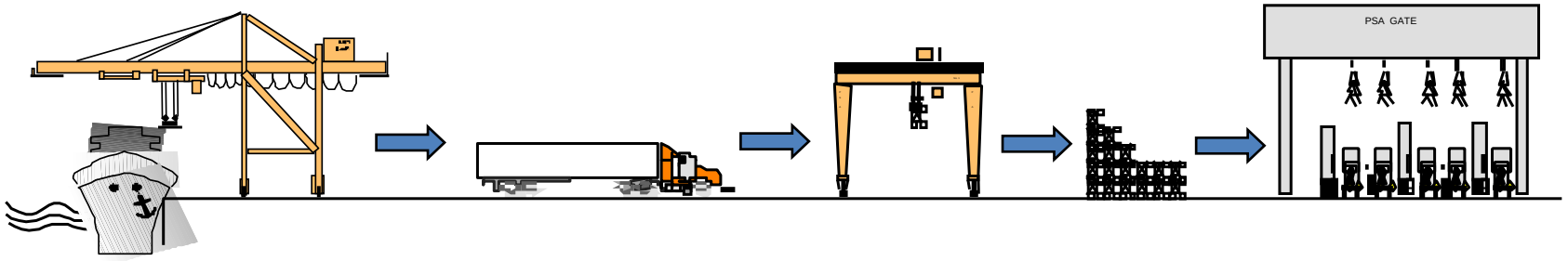


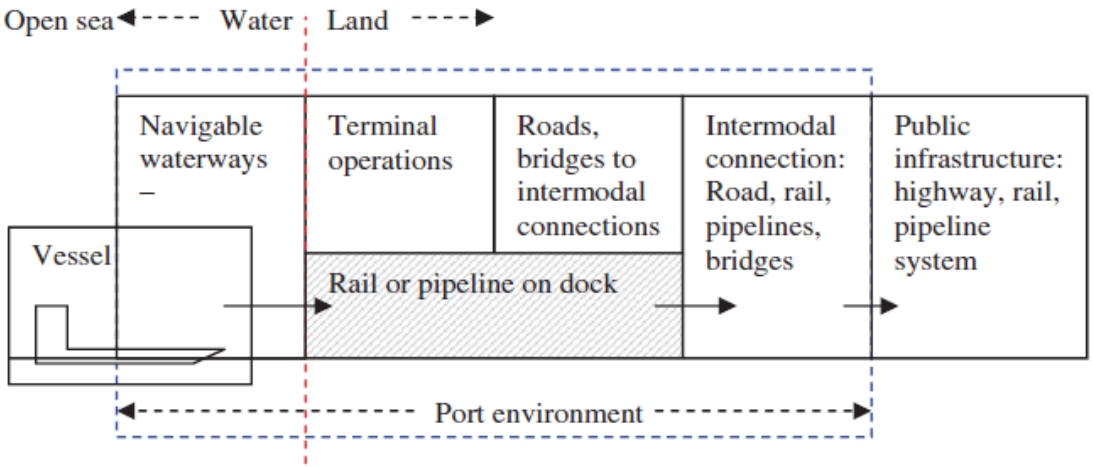
Shipping routes mapped around Australia. Photo: www.shipmap.org

Problems and questions

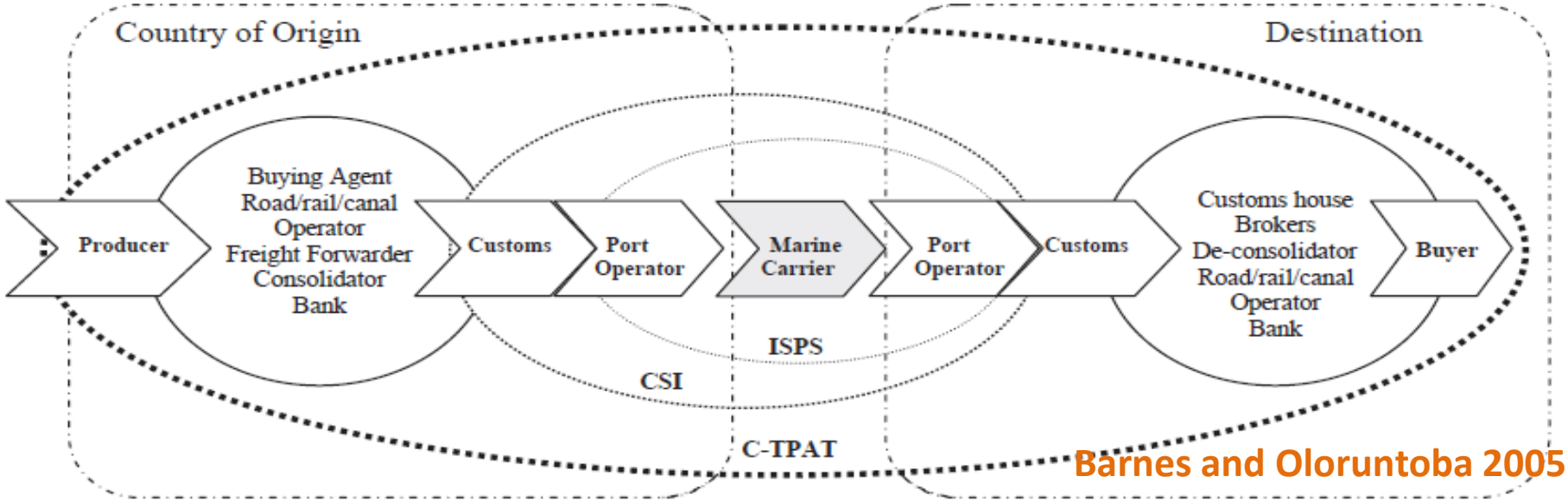


- There is lack of systematic studies on opportunity and financial loss from coastal disasters events
- How ports and port cities in Indonesia adapt to climate change and disaster risks? This paper provides brief preliminary findings on both policy and practices and the reform that is needed.





Risk distribution beyond intermodal transport system



Barnes and Oloruntoba 2005

Risk patterns at local seaports in Indonesia

https://au.pinterest.com/pin/644578383883846 23/

- Extensive mechanical and electrical failures during "flood seasons"
- US$ 2million losses per day – Floods in 2007; 2013; 2014; 2015
- Massive traffic jams

Jalan S Parman, Jakarta Barat sempat ditutup aparat Polres Jakarta Barat. Hal ini dilakukan karena ketinggian air mencapai 1 meter lebih. Namun, jelang sore, ketinggian air sudah surut mencapai 30 centimeter.

Akses menuju Grogol dan Pluit sejak pukul 04.00 WIB ditutup. Hal ini karena banyaknya mobil besar yang mati mendadak dan berpotensi mengganggu arus lalu lintas.

Kanit Turjawali Lantas Jakbar AKP Hari Admoko mengatakan sejak tadi pagi hingga pukul 14.55 WIB tercatat ada 5 mobil besar yang mogok. Mobil mogok itu karena memaksakan menembus banjir.

"Ya biasa, nekat nembus banjir. Ada 5 yang mogok. 2 Truk molen, 1 kontainer cargo, 1 truk semen, dan 1 mobil air mineral," ujar Hari di lokasi, Jakarta, Rabu (29/1/2014).

Namun, dari ke-5 mobil besar yang mogok itu, masih ada 1 mobil yang masih mangkrak di Jalan S Parman, tepat di tengah jalan.

Heri mengatakan, mobil ini sudah sempat akan diderek dengan berkoordinasi dengan Suku Dinas Perhubungan Jakarta Barat. Namun hasilnya, tidak bisa diderek karena mobil tersebut mempunyai transmisi *automatic* sehingga gagal membuat mobil bergerak.

"Ini mobil mabok di jalan. Mabok banjir. Ini kontainer cargo mogok dari pukul 04.00 WIB. Kita sudah kerjasama sama Sudinhub Barat, untuk diderek pakai mobil derek yang besar tapi tidak bisa. Karena kontainer ini pakai yang *automatic* sehingga tidak ada angin dan nggak bisa jalan," kata dia sambil tertawa.

Pantauan **Liputan6.com** mulai dari Ukrida hingga Mal Citra Land, air masih menggenangi Jalan S Parman. Hal ini membuat penumpukan kendaraan yang tidak berani untuk melintas. (Ali/Yus)

Floods disrupts cargo inspection!

SUARA CARGO

Berita Seputar Cargo, Logistik dan Transportasi

Banjir Hambat Inspeksi Peti Kemas di Pelabuhan Tanjung Priok

By suaracargo -
Feb 11, 2015

- Delays in physical inspection
- Disruptions of flow of receiving and delivery
- Cost
- Additional cost of energy and labor

Port Tanjung Emas Semarang

Ini Detik-detik Banjir Bandang di Pelabuhan Ratu, Terjang Dermaga dan Jebol Tanggul

Minggu, 15 Januari 2017 18:19 WIB

Disruption of local production – reduced supply of raw material for industry inputs [US$ 2million per day in Jan 2014 – KADIN/Bulog estimate]

detiknews

EXCLUSIVE
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The Pallas–SCBD, 7-

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Sabtu 30 Jan 2010, 11:58 WIB

Terminal Peti Kemas Gede Bage Jadi Kolam Renang Dadakan

- detikNews

0 komentar

Bandung - Hujan yang mengguyur Bandung semalam

Ratusan Peti Kemas Terendam Banjir, Kerugian Ratusan Miliar Rupiah

Rabu, 11 Februari 2015 — 20:47 WIB

Peti kemas yang terendam banjir di Pelabuhan Priok

JAKARTA (Pos Kota) – Ratusan kontener atau petikemas tergenang banjir selama tig

- Staff and workers could not reach ports and industries

JAKARTA, 3/1 - BANJIR DI IBUKOTA. Foto suasana deretan peti kemas di Kawasan Berikat Nusantara Jakarta Utara yang tergenang banjir difoto dari udara

- No adequate protection against flash floods
- Communities' business and assets direct loss
- Disruptions of flow of receiving and delivery of people and goods
- No insured losses

Media Reports

Mainstream media framing lacks details and attention to the real problems.

Alternative media's [e.g. Raja kirim] framing:

- Stakeholders: Logistic business complaines; Ketua Umum Asosiasi Logistik Indonesia
- Inundation blocked deliveries
- Inundation hotspots
- Big trucks might survive – but traffic jams; workers do not have means to reach office
- Damaged roads slow down delivery
- Modest flood could increase cost by 5 per cent
- Delays
- Traffic jam

RAJA KIRIM

http://rajakirim.co.id

Cuaca Ekstrem, Kendaraan Antre di Pelabuhan Sape

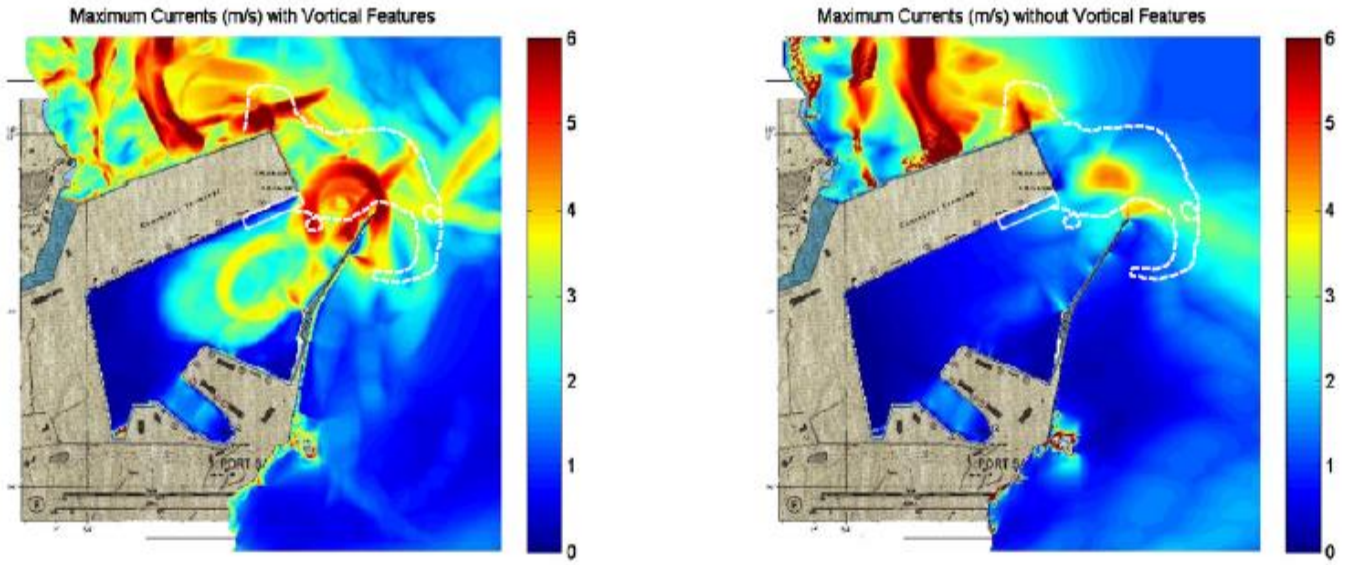
Blog Post

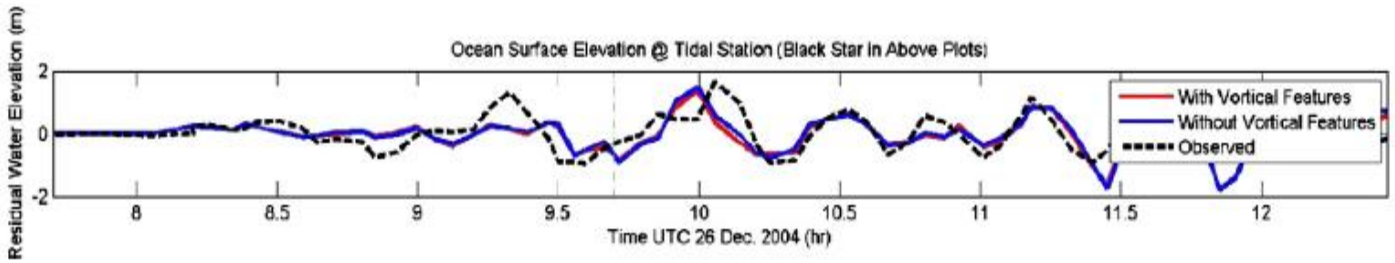
Pelabuhan Penyeberangan Ketapang – Gilimanuk Sempat Ditutup Akibat Cuaca Buruk

Timbulkan Kemacetan, Banjir Berdampak Pada Ongkos Logistik

Banjir Sempat Hambat Aktivitas Logistik di Pelabuhan Tanjung Priok

Long distance tsunami currents and basin resonance phenomenon at selected ports





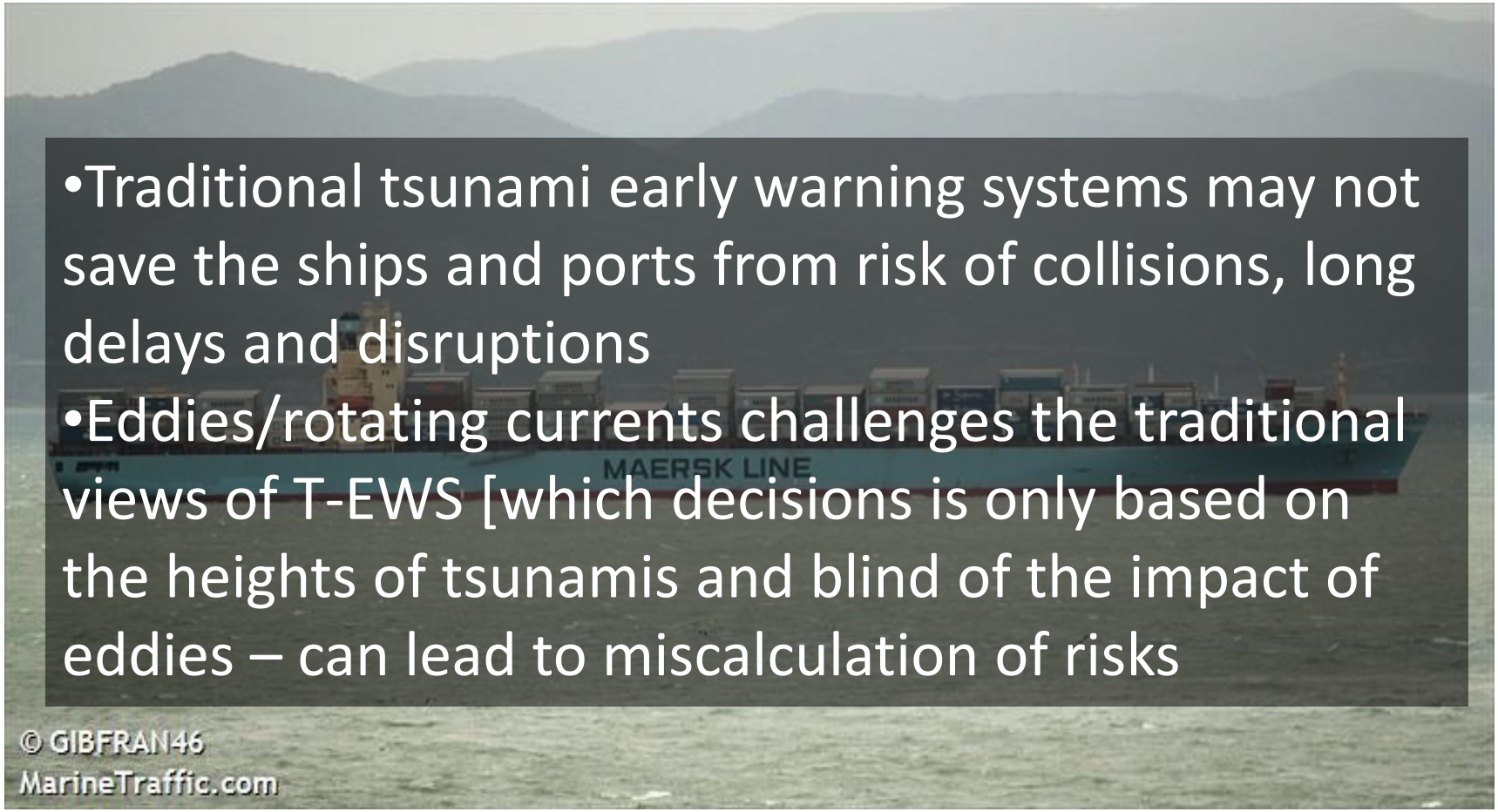
Delays or disruptions
Port disruption, Reconstruction began in 2008.
Delayed 7 hours outside harbors (Okal et. al. 2006)
Lynett 2012
Lynett 2012
Lynett 2012
Lynett 2012

Fig. 6. Numerical model results of the 2004 Indian Ocean tsunami in Salalah, Oman. (top left) Maximum current speed using the higher-order eddy resolving model and (top right) a model that damps out the eddies. (bottom) Modeled water surface elevation time histories inside the Port; green vertical line indicates the time that the vessel broke its mooring lines. The initial location of the vessel is shown by the white rectangle, and the path of the ship after detachment is given by the dashed white line. Path is approximate and digitized from un-scaled hand drawings presented in Okal et al. (2006b).

Comprehensive scenarios

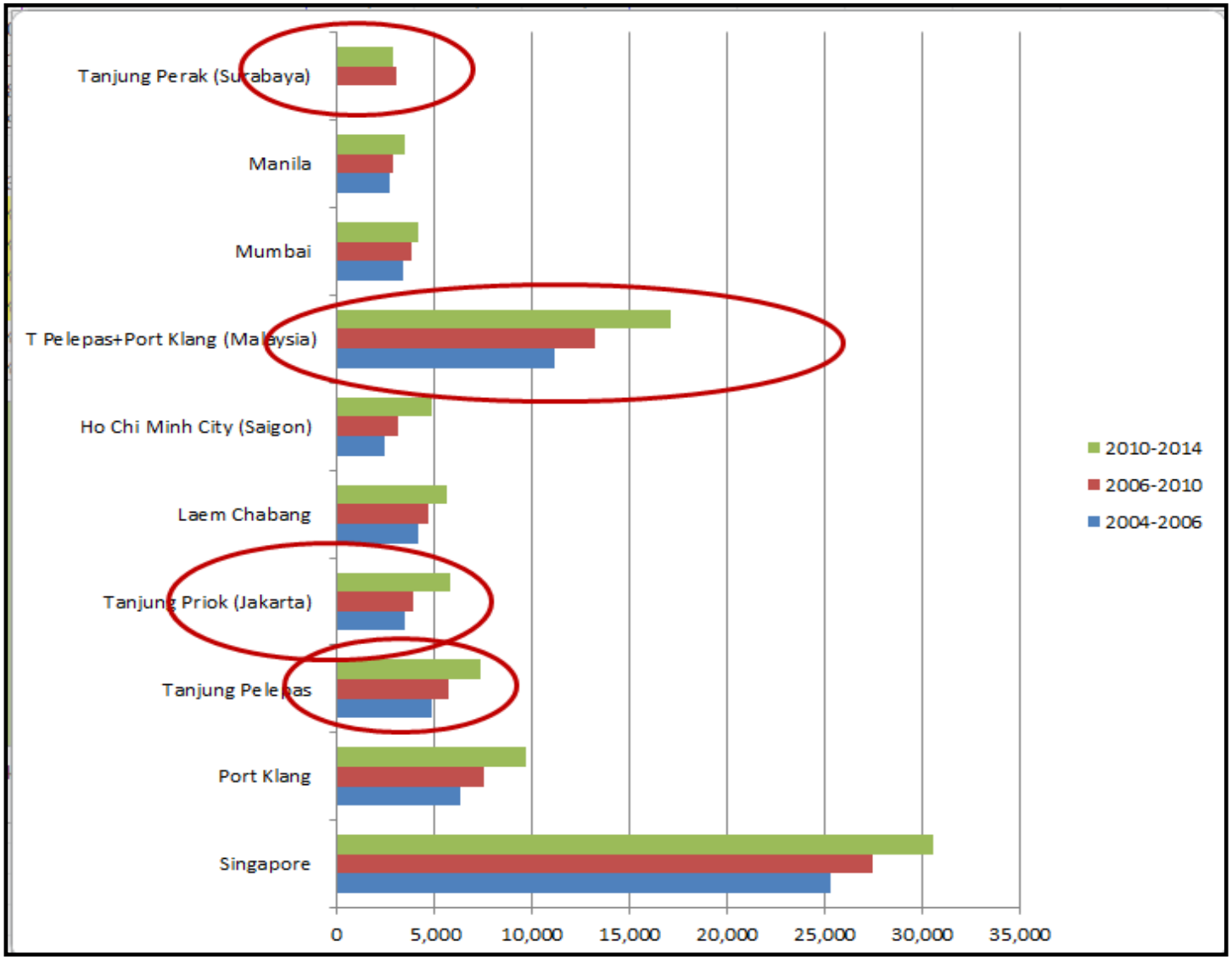
- Scenarios of natural hazards
- Tsunami inundation scenarios for ports and port cities
- Run-up scenarios
- Flood inundation scenarios
- Current velocity scenario
- Rotational current velocity scenarios
- Earthquakes scenarios
- Container platforms vulnerability testing
- Cyclone landfall scenarios at ports
- Sea level rise – cost of investment – elevating the platforms etc.

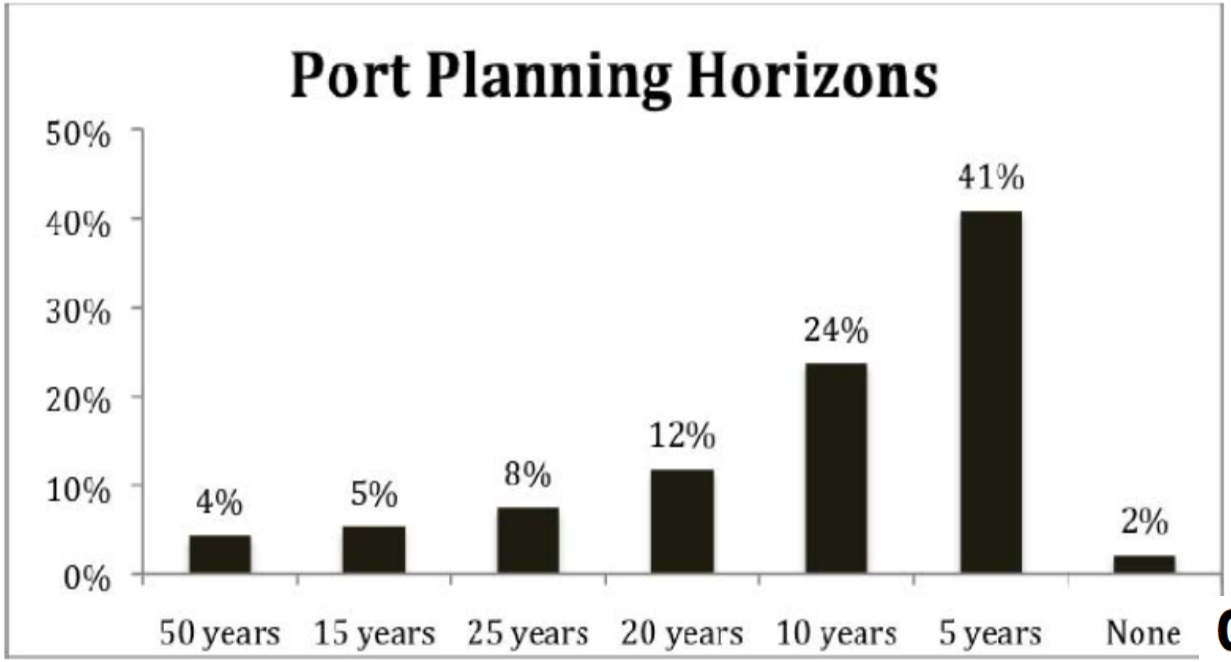
Maersk Virginia – Observation from Oman



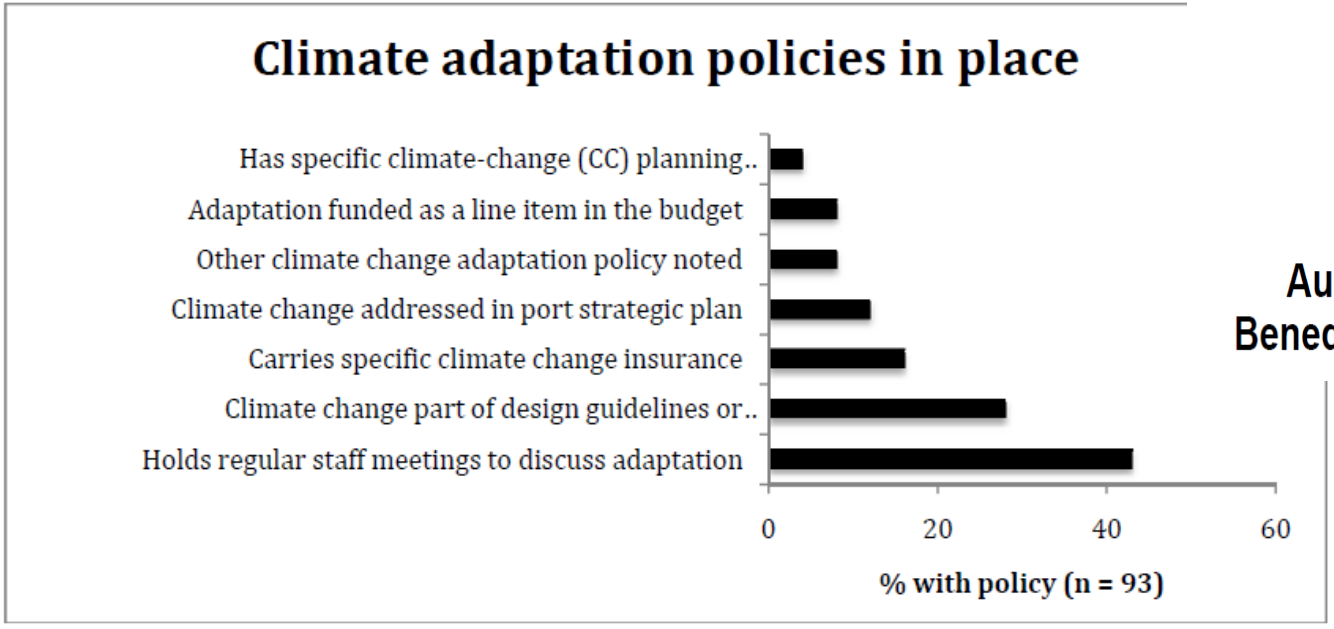
- Traditional tsunami early warning systems may not save the ships and ports from risk of collisions, long delays and disruptions
- Eddies/rotating currents challenges the traditional views of T-EWS [which decisions is only based on the heights of tsunamis and blind of the impact of eddies – can lead to miscalculation of risks

Seaports in Southeast Asia





Considering Climate Change: A Survey of Global Seaport Administrators



By

Austin Becker, Martin Fischer, Benedict Schwegler & Satoshi Inoue

Routledge
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Maritime Policy & Management

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Risk assessment framework for exposure of cargo and ports to natural hazards and climate extremes

Jasmine Siu Lee Lam & Jonatan A. Lassa

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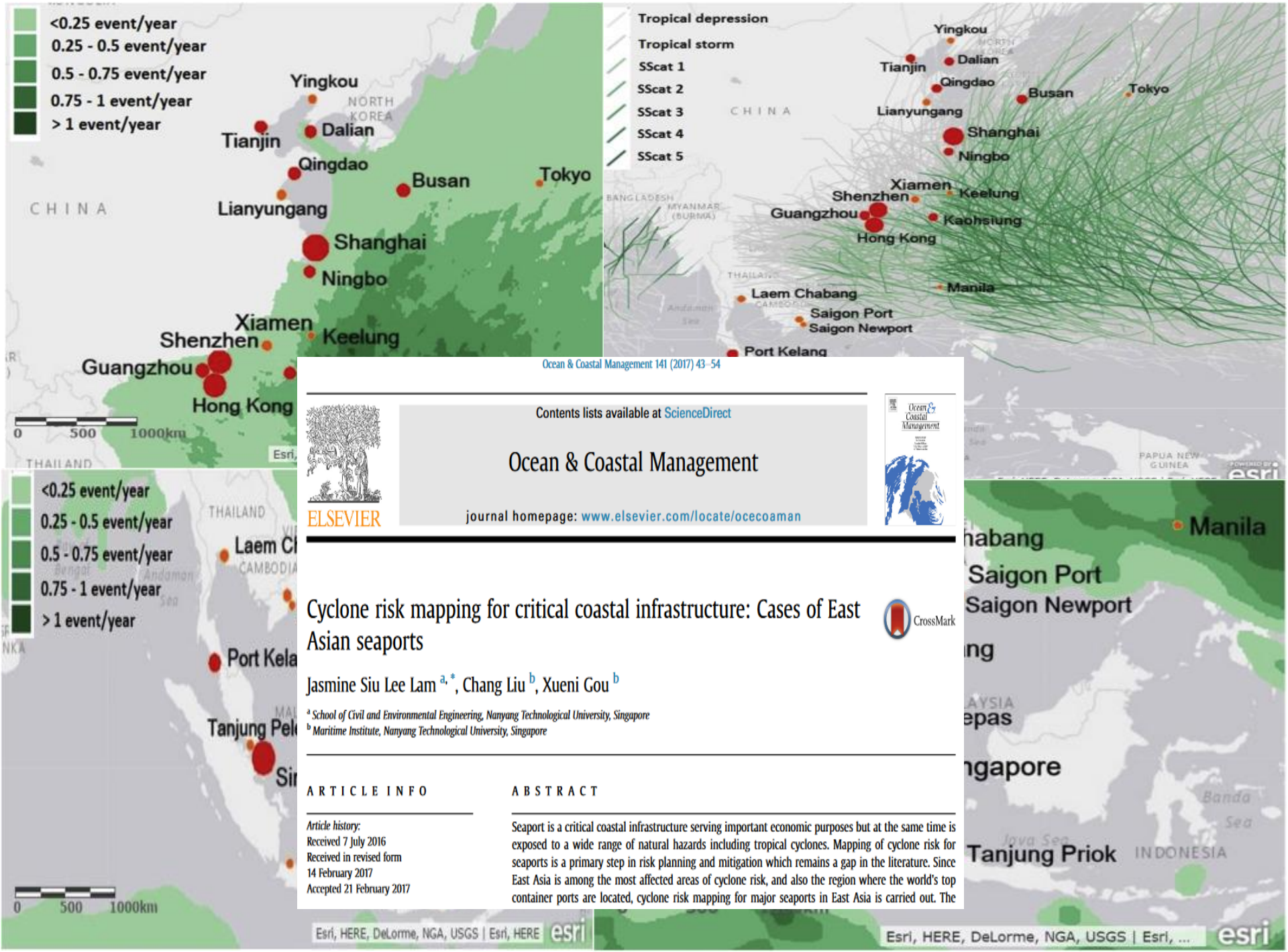

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ELSEVIER

Cyclone risk mapping for critical coastal infrastructure: Cases of East Asian seaports

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ABSTRACT

Seaport is a critical coastal infrastructure serving important economic purposes but at the same time is exposed to a wide range of natural hazards including tropical cyclones. Mapping of cyclone risk for seaports is a primary step in risk planning and mitigation which remains a gap in the literature. Since East Asia is among the most affected areas of cyclone risk, and also the region where the world's top container ports are located, cyclone risk mapping for major seaports in East Asia is carried out. The

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Thank you
Trims