

Surf Tourism & Resource Sustainability

Phuket, Thailand

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*Kirra Hill Community and Cultural Centre
Gold Coast, Queensland, Australia
Wednesday, 27 February - Friday, 1 March, 2013*



Global Surf Cities Conference 2013

DESTINATION

INNOVATION

COLLABORATION



Business **GOLD COAST**

A Gold Coast City Council Initiative

Surf Tourism and Resource Sustainability in Thailand

First... A few pictures

PART I – INTRO & HISTORY

PART II – GEOGRAPHY & METEOROLOGY

PART III – SURF CITY CULTURE

PART III – ISSUES IN SUSTAINABILITY

Kalim Reef

Amazing
Thailand



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Thailand



Surfing In Phuket



Kalim Reef



Phuket

Chalong Tanus



The First Thai Surf Champion 1999



PART I

INTRODUCTION & HISTORY

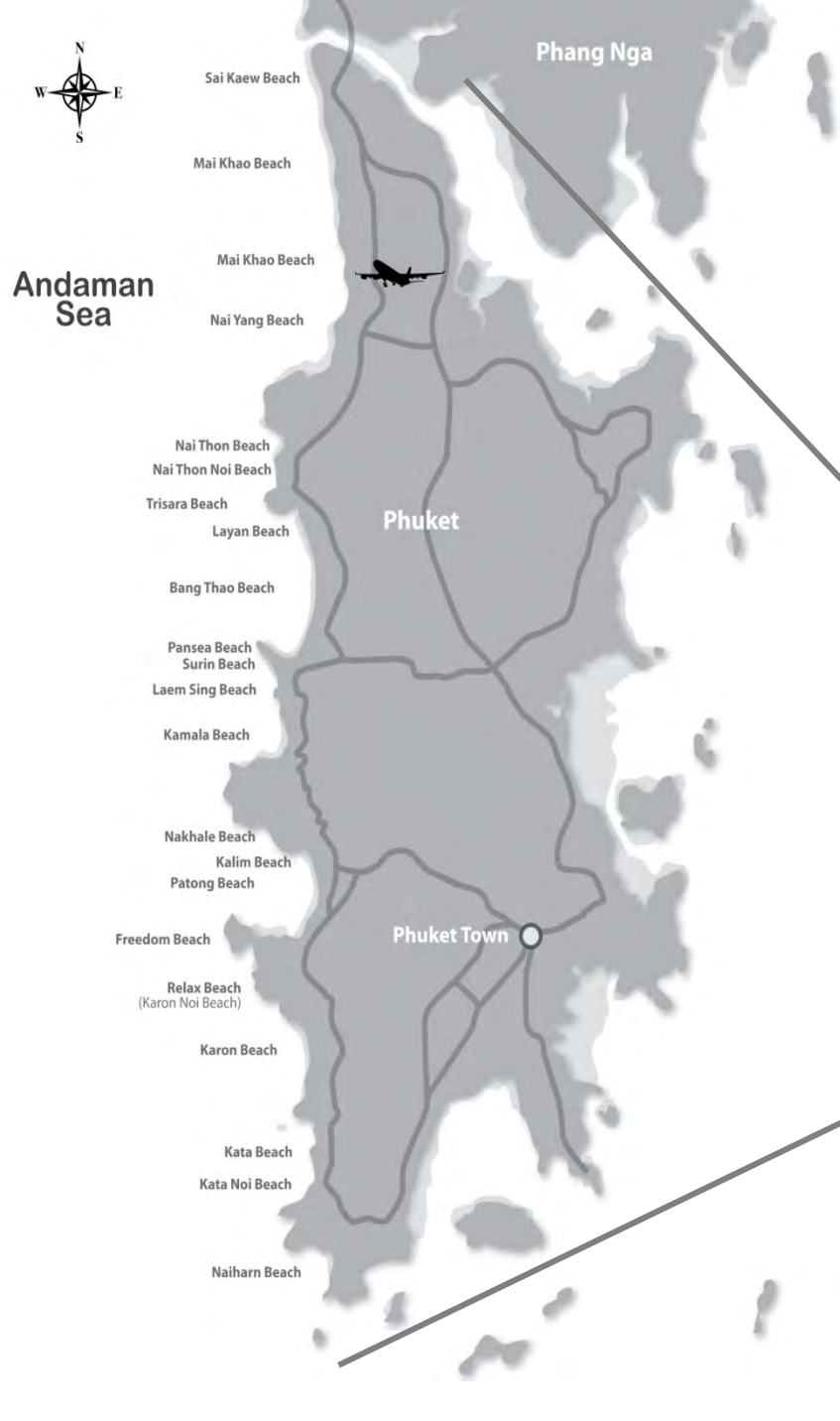


amazing THAILAND

Amazing Value

**“Instant Surf
Tourism”**
Just add waves!





Surfing History...

Kalim Reef c.1977



The first 'Surf Bar' at Patong Beach c. 1980



Photo: Paul King



Nai Harn Beach, Phuket c.1977

Photo: Nicky Martin

Relax Beach, Phuket c.1987



Photo: Nicky Martin

The wave was permanently changed when *Le Meridien Hotel* relocated the mouth of the local stream

Chin was the “First-ever Thai surfer who truly embraced the heart and soul of surf culture in Phuket. He lived on the beach, surfed everyday, and shaped his own boards.”

Paul King

**Kata Noi
Beach, c.1996**



Photos: Paul King

Thailand's first backyard shaper

Thailand's First Surfer Girl

"Everyone that knew her was touched by **Gae's zest for life, the surf, and love of everyone**. Wish I could be more like her... Take each day and enjoy life."

Gae
1972 – 1997

Kata Noi Beach, 1996



Photo: Paul King

PART II

COASTAL GEOGRAPHY & METEOROLOGY of the ANDAMAN Coast, Thailand



ANDAMAN
COAST

60+ Areas
currently
documented

60+ Sites

739+ km and
over 50 islands
(6 provinces)



GULF
COAST

30+ Areas
documented
through
exploratory
research

70+ Sites

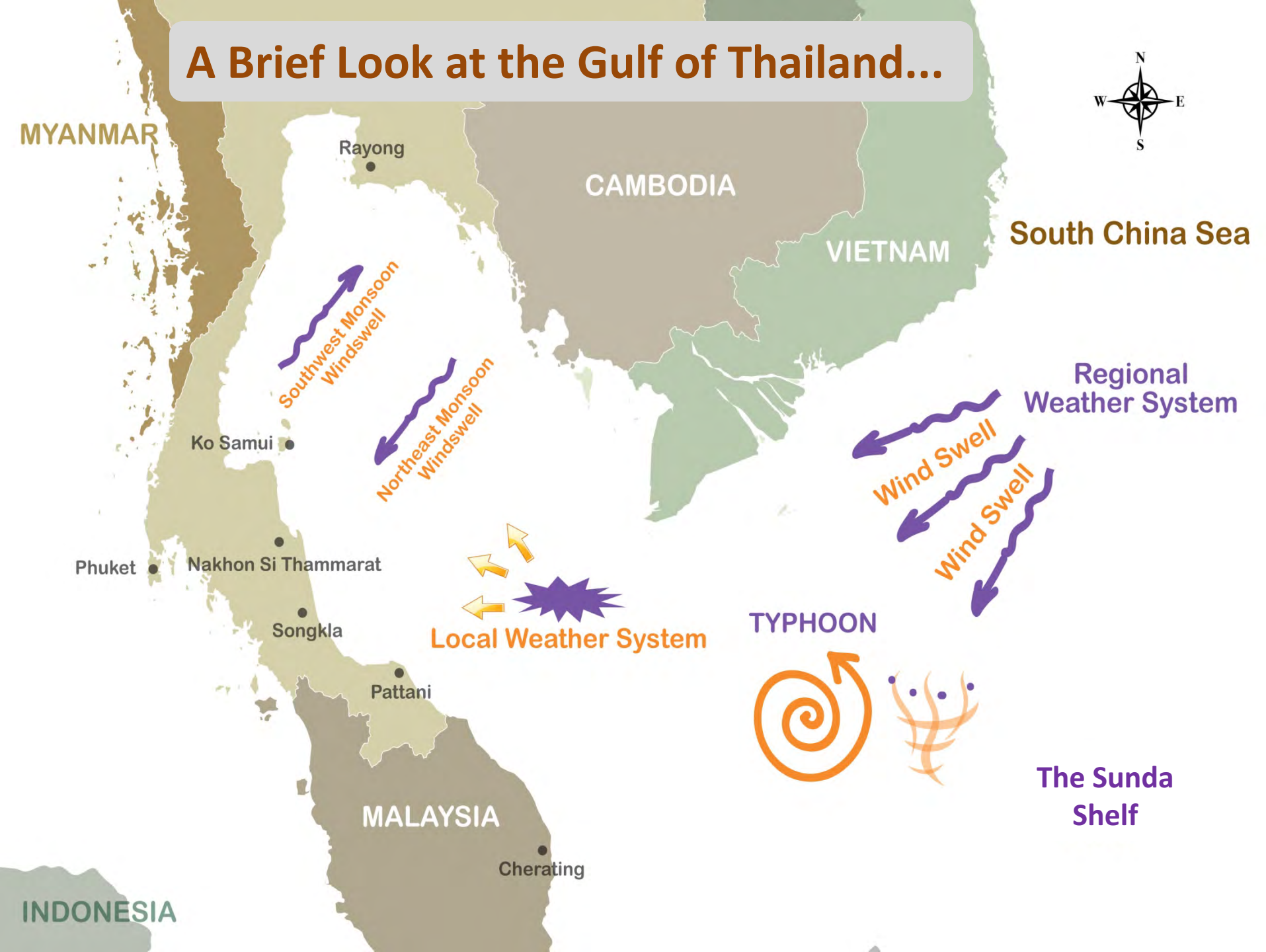
1874+ km and
over 50 islands
(17 provinces)

Key areas to
include:
Ko Samui/Ko
Phangan & Ko
Chang/Ko Kut

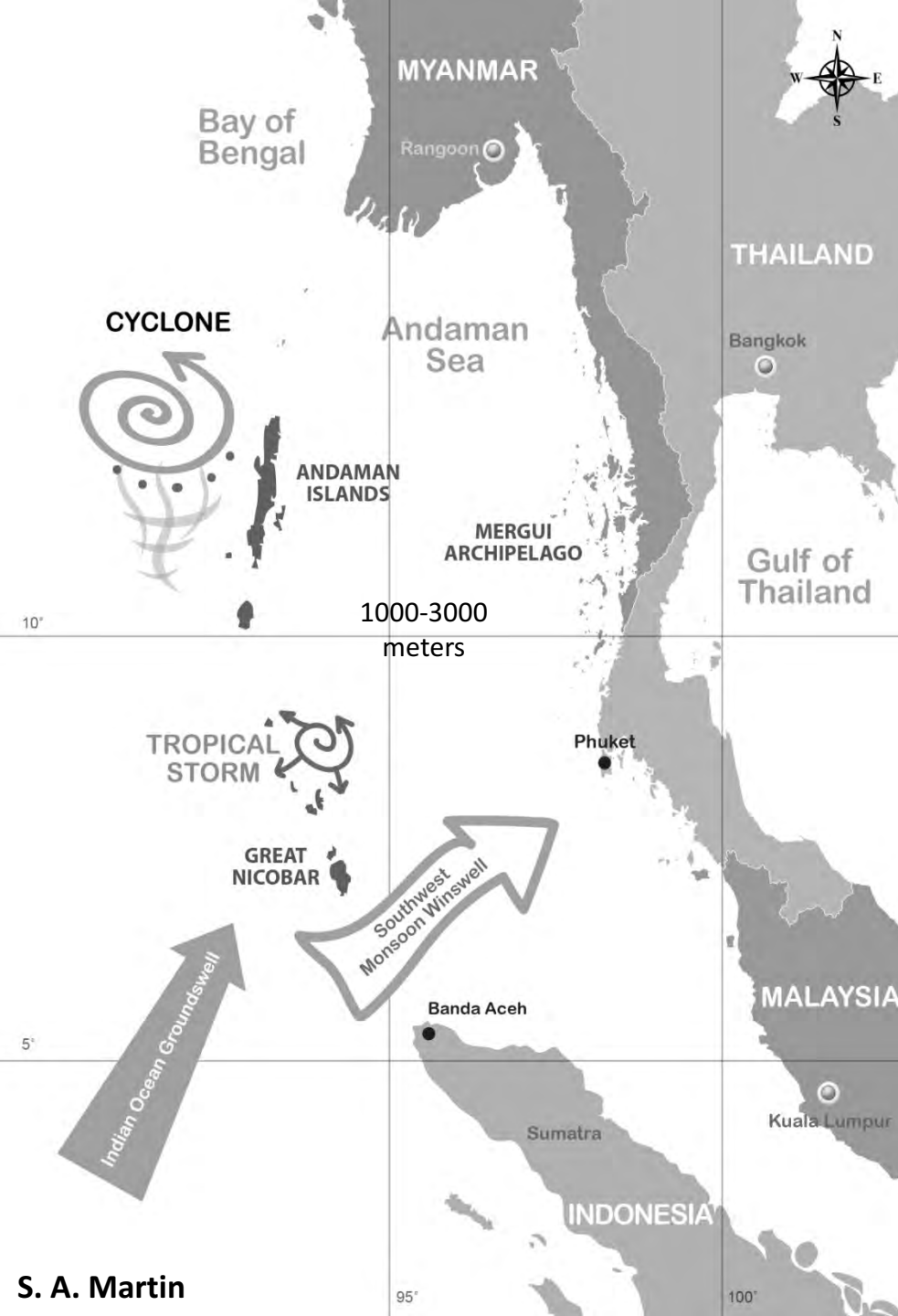
**SURF SITES
OF THAILAND**

S. A. Martin (as of July, 2010)

A Brief Look at the Gulf of Thailand...



Meteorology & Wave Types of the Andaman Sea



The Southwesterly Monsoon

May through October

Southwest – West Windswell

Indian Ocean Groundswell

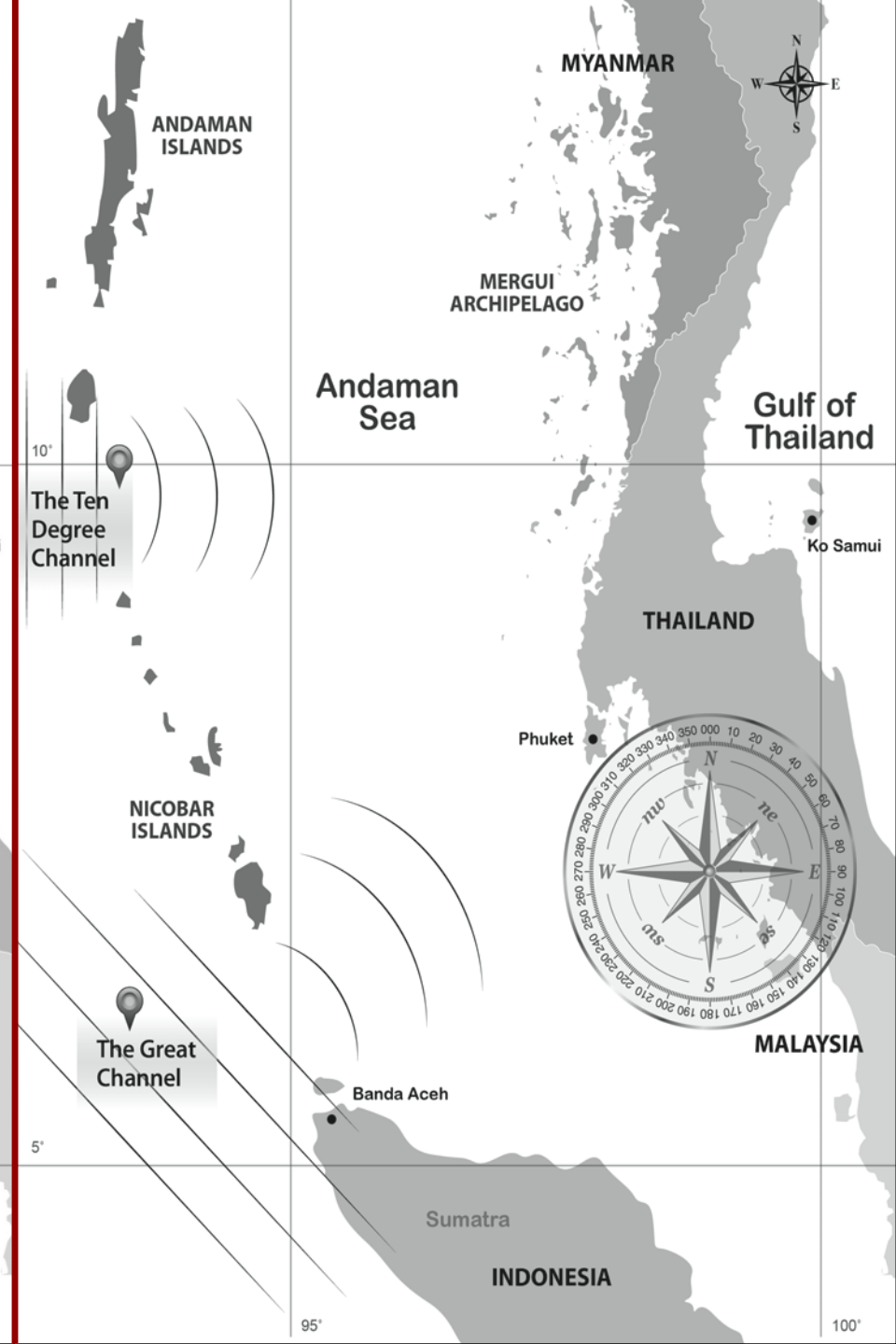
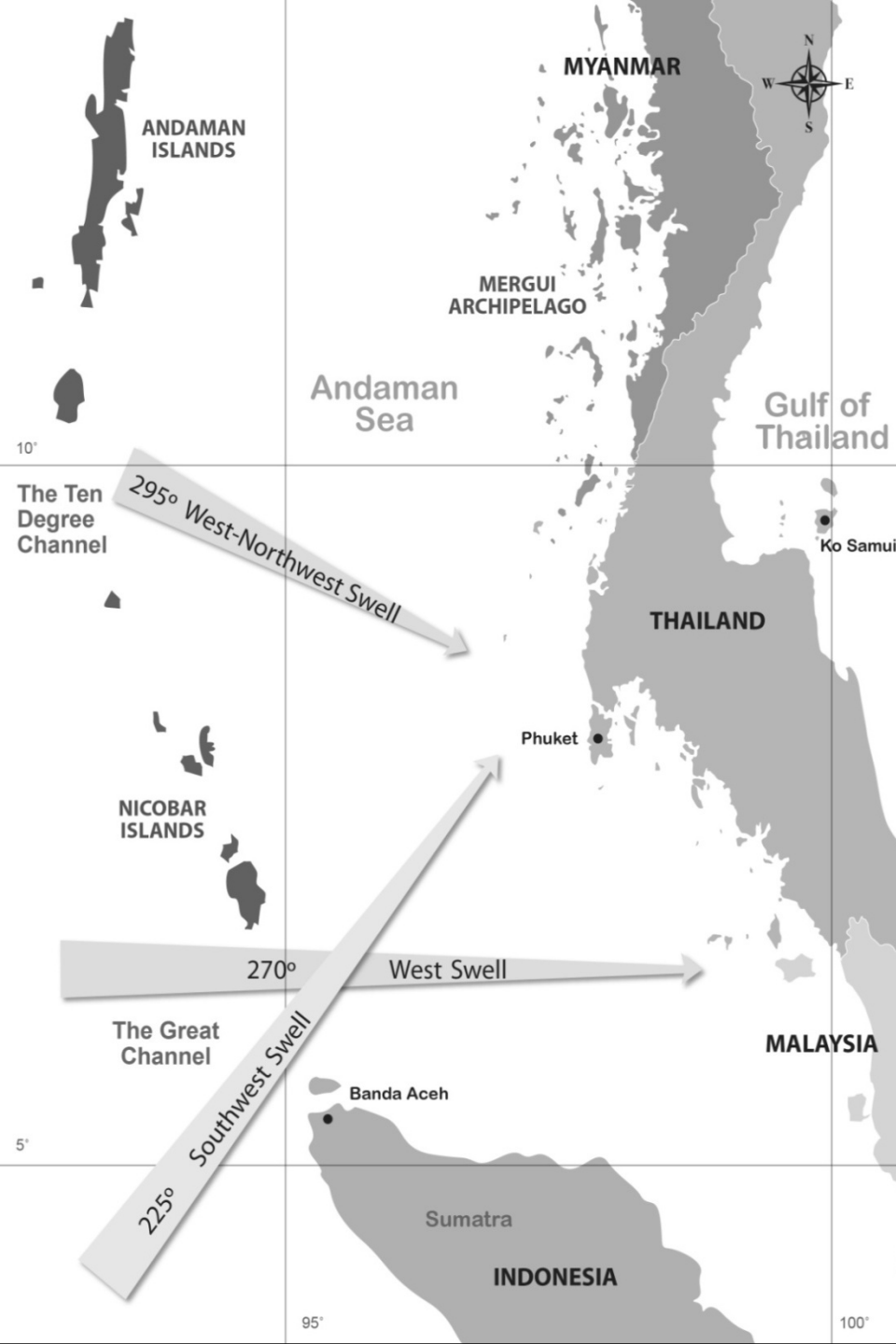
Quality Waves

Potential To Arrive Year-round

Cyclonic activity

Depressions, Tropical Storms &
Cyclones

Potential for BIG





BANGLADESH

CHINA

INDIA

MYANMAR

LAOS

THAILAND

VIETNAM

CAMBODIA

Andaman Sea

Gulf of Thailand

South China Sea

The Ten Degree Channel

The Great Channel

Andaman Coast Swell Window

North Indian Ocean

MALAYSIA

INDONESIA

SINGAPORE

Sweet 235 !

235° West - Southwest



Bathymetry of the Andaman Coast

Bathymetry varies at different latitudes along Thailand's Andaman Coast, affecting wave speeds and heights

The Coastal Shelf

110 km wide in the north
Ranong and Phang Nga

25 km near Phuket
The deepest water on Thailand's Andaman Coast

130 km in the south
Krabi, Trang & Satun



20-40

Andaman
Sea

Phang Nga

Sai Kaew Beach
Sirinat
National Park
Mai Khao Beach

Mai Khao Beach

Nai Yang Beach

0-20

Nai Thon Beach
Nai Thon Noi Beach

Trisara Beach
Layan Beach

Bang Thao Beach

Pansea Beach
Surin Beach
Laem Sing Beach

Kamala Beach

Nakhale Beach
Kalim Beach
Patong Beach

Freedom Beach

Relax Beach
(Karon Noi Beach)

Karon Beach

Kata Beach
Kata Noi Beach

Naiharn Beach

Phuket

Phuket Town

0-20

National Park area

BATHYMETRY IN METERS

40-60	20-40	0-20
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Key Surf Beaches of Phuket

(approximately 30 sites)

☛ **Nai Yang Beaches & Reefs**

☛ **Surin Beach**

☛ **Bang Tao Beach**

☛ **Kamala Beach**

☛ **Kalim Reef**

☛ **Kata Yai Beach**

☛ **Kata Noi Beach**

☛ **Nai Harn Beach**



PART III

PHUKET & THE GLOBAL SURF CITY CULTURE

KARON BEACH

PHUKET IS THAILAND'S
GLOBAL SURF CITY

20 Surf Shops

15 Surf Lesson Businesses

25 Surfboard Rental Concessions



300 Thai Surfers
250 Expat Surfers

Surf Tourists
Australian
Japanese
USA & UK
'Incidental' Tourists

CCBRA


„17(51\$7,21\$/&2/7'

NSP


Phuket International Airport

ควิกซีลเวอร์

KELLY



KELLY SLATER 11X ASP WORLD SURFING CHAMPION



AVAILABLE @
PHUKET JUNGCEYLON
CENTRAL PHUKET FESTIVAL
CENTRAL WORLD
SAMUI AIRPORT
TERMINAL 21

JUNGCEYLON

The International Shopping and Leisure Destination in Patong, Phuket

5th ANNIVERSARY



Amusea World!

30 March — 8 April 2012

Beyond the Beach

Welcome to a Paradise of Fashion, Food, and Fun!

The big names are all here: Armani A/X, ck, Calvin Klein Jeans, DKNY, Nautica, Lacoste, Nike, and after you've found your favourite outfit, enjoy some of the best foods the island has to offer, all found at Central Festival Phuket.

With more than 250 shops offering an irresistible selection of international and local brands, you'll be spoilt for choice!

Do not miss Central Department Store, the best shopping destination in Phuket that offers 5% tourist discount as well as 7% VAT refund on top of a host of attractive promotional prices.

Sports enthusiasts will love the range of goods at Super Sports, the biggest store of its kind in Phuket.

Savour the tastiest foods the island has to offer when you dine at any of 30 restaurants in the complex. Simply delicious!



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Tel. : (076) 291 111
www.centralfestivalphuket.com



Enjoy Your Lifestyle
in Phuket



5 - 70% Discount PLUS
7% Tax Refund and other privileges
See more terms and conditions at Tourist Information Counter

the irresistible
shopping destination

Central
Festival
Phuket

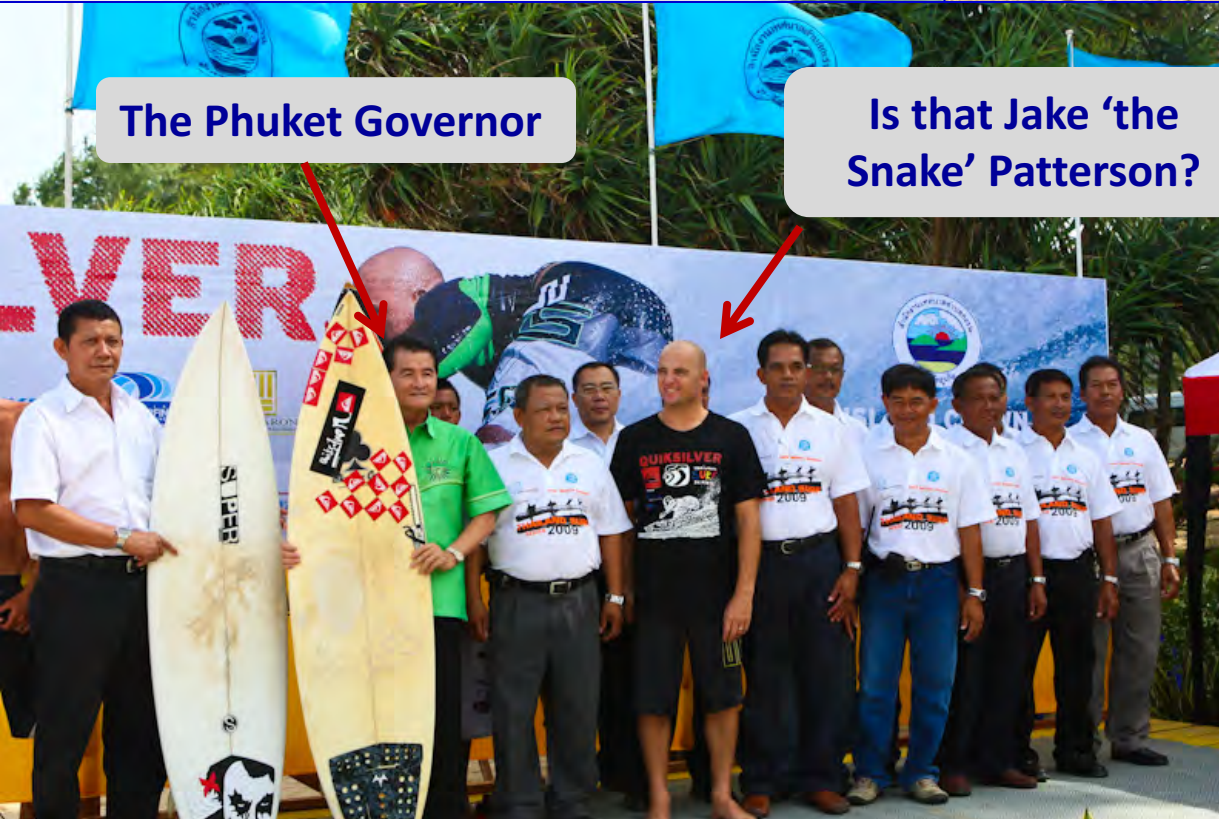


Phuket's Best International Lifestyle and Shopping Destination, only 1km from Downtown
Лучший торгово-развлекательный центр на острове, всего в 3 км. от Пхукет тауна
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BANGKOK HOSPITAL
ภูเก็ต - PHUKET
www.phukethospital.com

International Surfing Competitions



The Phuket Governor

Is that Jake 'the Snake' Patterson?



The **2011** Phuket International Surfing Contest, Patong Beach



The First Phuket Surfing Contest was in **1999** at Kata Beach

Domestic Surf Tourism

Thai Movie Stars
from Bangkok Try
Surfing for the
First Time



Surf's up, drownings down

Phuket water safety expert uncovers the island's unsung lifesaving heroes.

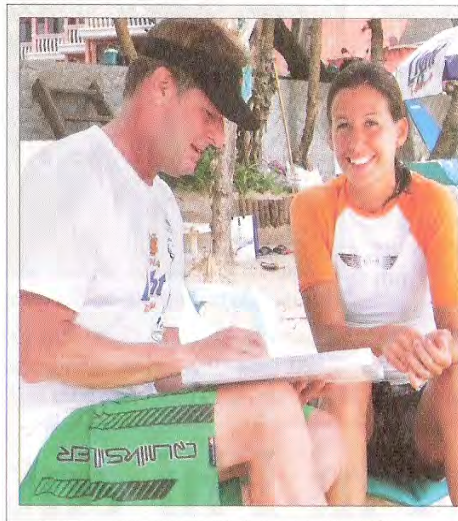
IN RECENT years Phuket beaches have been plagued by drownings, which remain a leading cause of death among tourists, especially those from abroad.

Lifeguard services have been precarious in recent years. Simply put, sometimes there are lifeguards, sometimes not. Throughout the current high season which began last November and which is now drawing to a close, there have been no lifeguards on the island's beaches, although the Phuket Provincial Administration Organization is expected to announce a new service provider by the time this issue is published.

But even with new lifeguards patrolling beaches, it seems inevitable that the death toll will continue to rise until something is done to address the dangerous combination of factors that lead so many foreign tourists into treacherous surf with fatal results.

One man's study

In a recent study conducted by Phuket resident Steven Martin, he



Man on a mission

STEVEN Martin has 30 years of water safety experience, including five years service as County Water Safety Officer in his native Hawaii and 10 years volunteer service with the American Red Cross. Currently in his third year as an instructor at Prince of Songkla University's Phuket campus, the 50-year-old is an avid surfer.

cites unfamiliarity with local beaches, poor swimming skills, language barriers and the disorientation of being in a foreign environment as part of the deadly equation – one made even worse when tourists enter the surf after consuming alcohol.

Several physical factors make Phuket's west coast beaches more dangerous than they may appear to the layman during the monsoon season that runs from May to October, said Mr Martin.

Monsoon season surf in Phuket is characterized by a wave phenomenon known as "short-period swell", which means that waves arrive relatively close together and propagate proportionately strong currents – including rip tides – even if the waves themselves don't appear particularly large or dangerous.

Short-period swells allow swimmers and surfers very little time to recover between waves. For example, a swell period of six



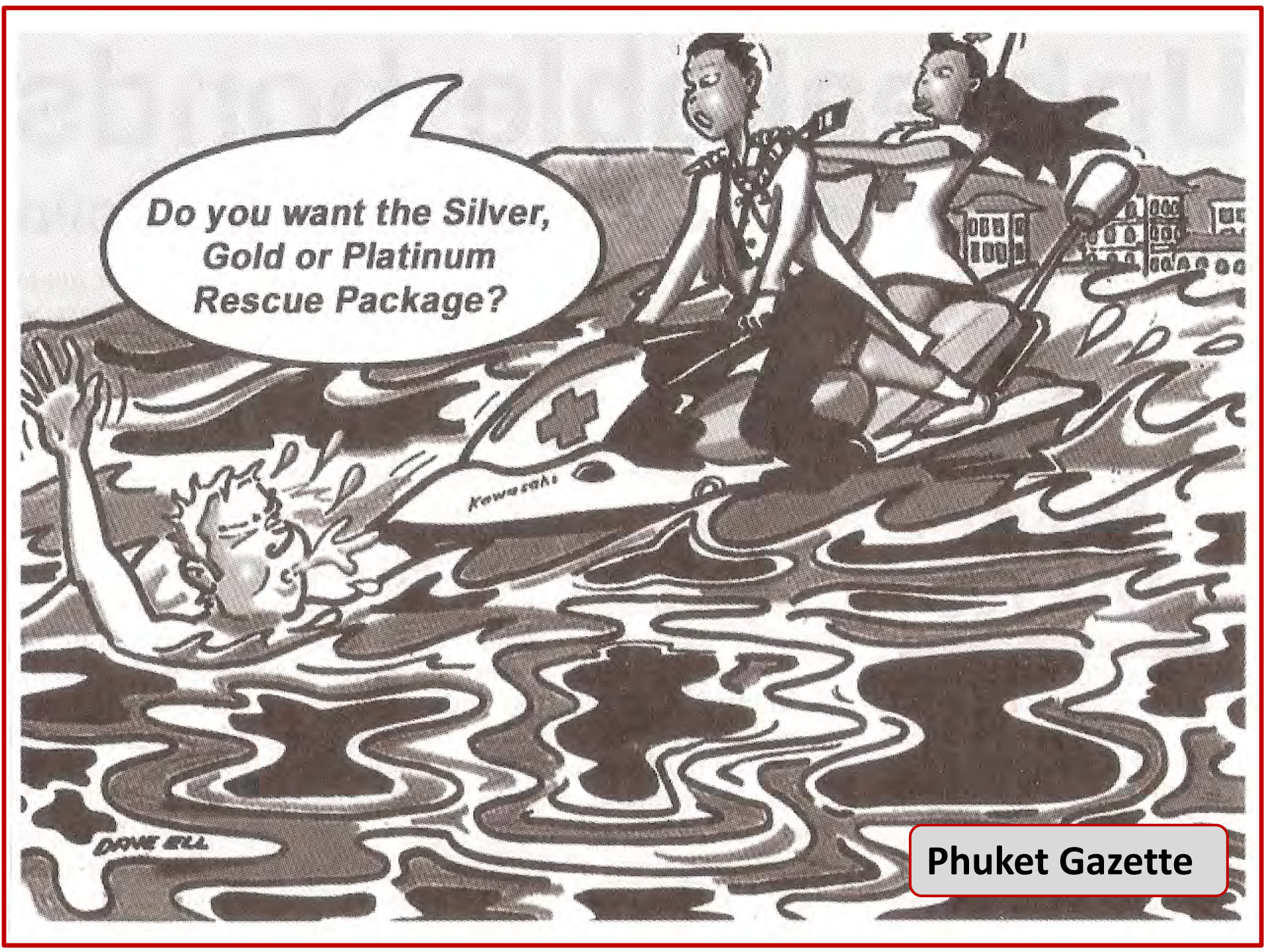
There are NO LIFESAVING CLUBS

SURFERS regularly make RESCUES

More people drown in Phuket during the monsoon season than in the entire state of Hawaii in a year!

BEACH & OCEAN SAFETY are NOT to *SURF CITY* standards





Do you want the Silver,
Gold or Platinum
Rescue Package?

DAVE ILL

Phuket Gazette

A map of Southeast Asia is shown in the background. The map includes labels for countries like Myanmar, Thailand, Laos, Vietnam, Cambodia, Malaysia, Indonesia, and Singapore. It also shows major cities like Rangoon, Chiang Mai, Vientiane, Bangkok, Hanoi, Phnom Penh, Ho Chi Minh, and Kuala Lumpur. The Andaman Sea is labeled to the west of the Malay Peninsula. A compass rose is in the top left corner. A large, semi-transparent grey box with a red border is centered over the map, containing the text 'PART IV' and 'KEY ISSUES IN SURF RESOURCE SUSTAINABILITY'.

PART IV

KEY ISSUES IN SURF RESOURCE SUSTAINABILITY

The **5 T_s** of SURF SITE DEGRADATION in PHUKET

TIN MINING

- Reef destruction and mine tailings

TRASH

- Beach litter & Marine debris

TOURISM

- Tourist impacts, construction, pollution

TEMPERATURE

- Coral Bleaching

TSUNAMI

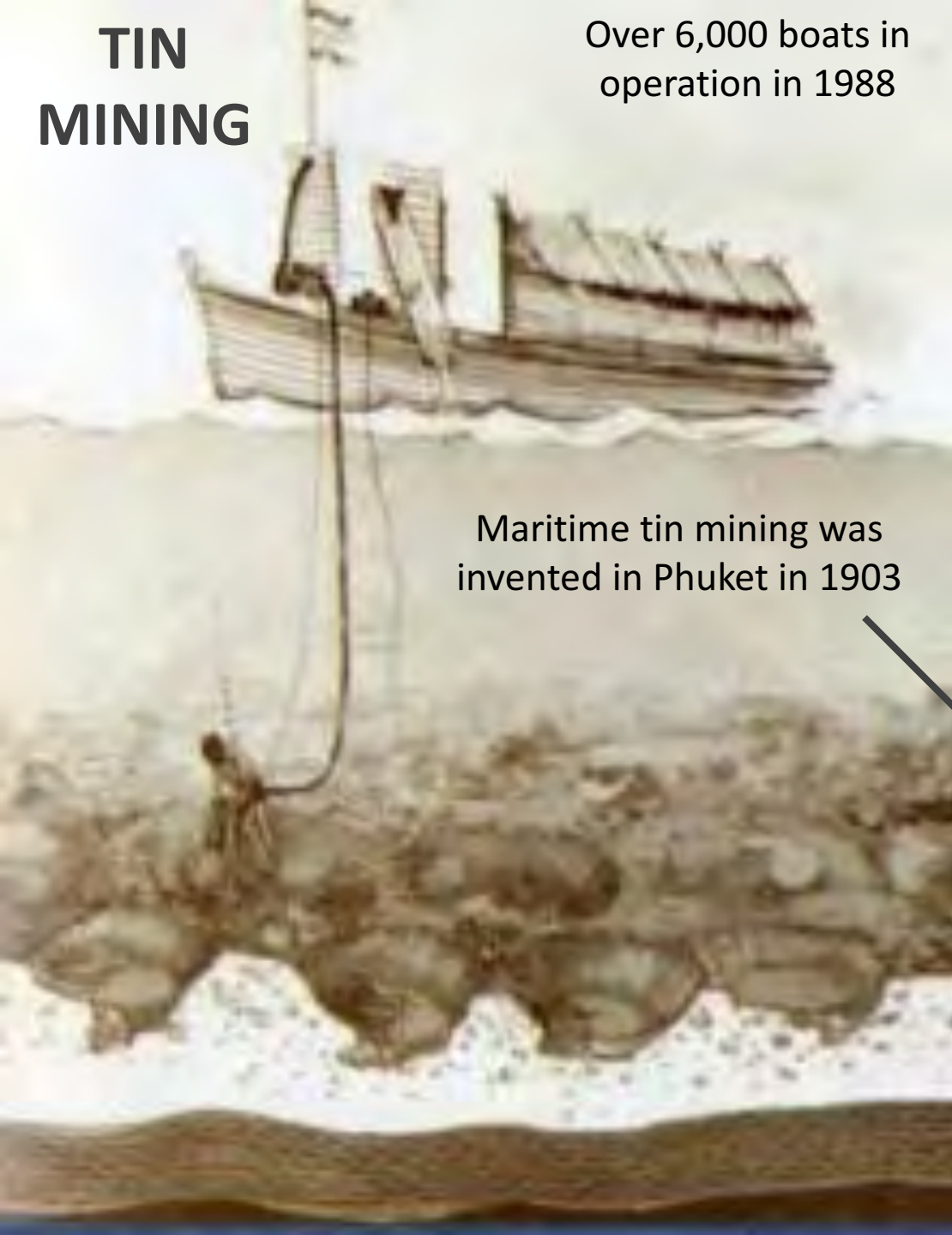
- Coral destruction and salt invasion



TIN MINING

Over 6,000 boats in
operation in 1988

Maritime tin mining was
invented in Phuket in 1903



Suction Boat



Bucket Dredge



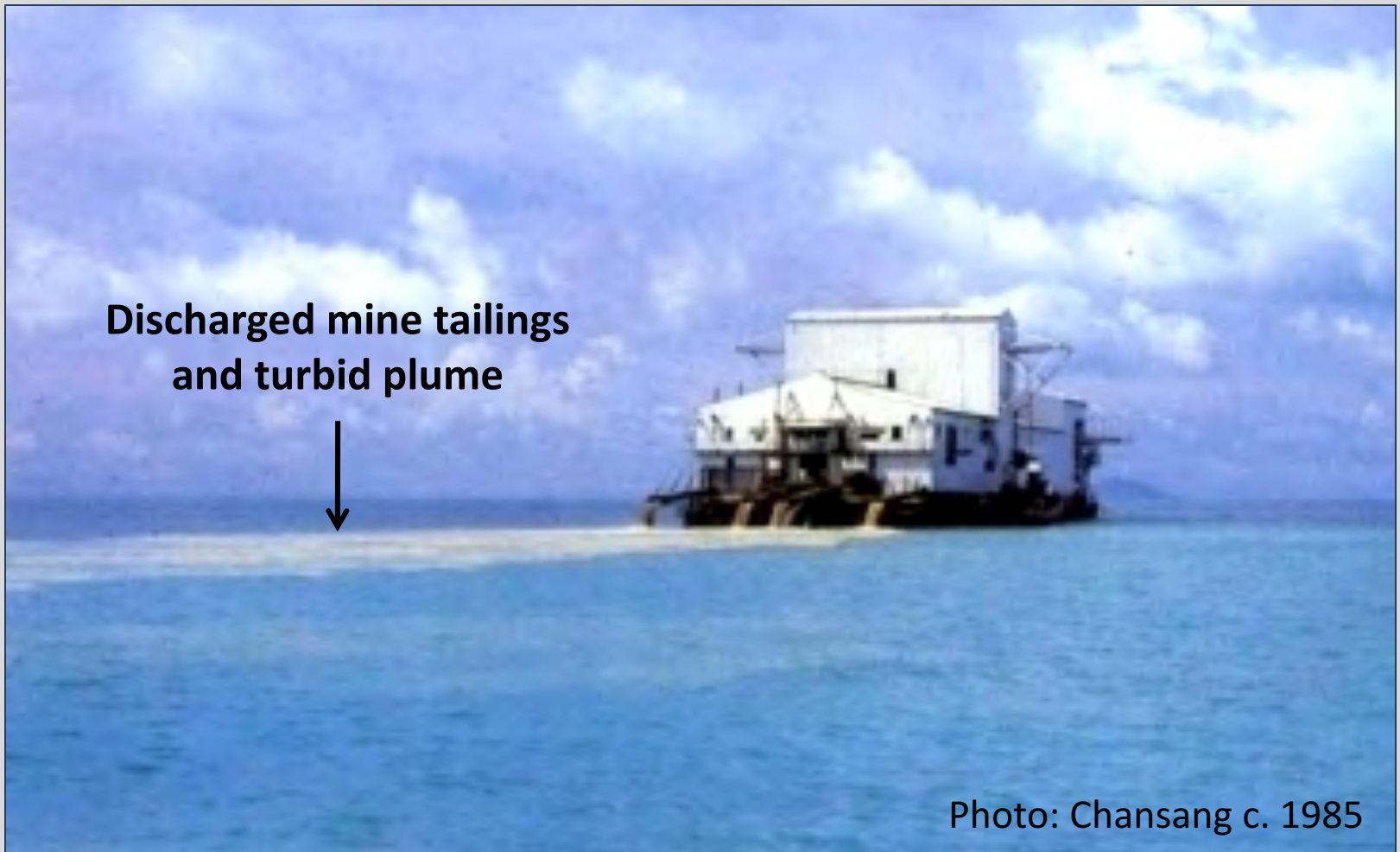


Photo: Chansang c. 1985

1960s Bucket dredge operating at 22-meters depth in Phuket

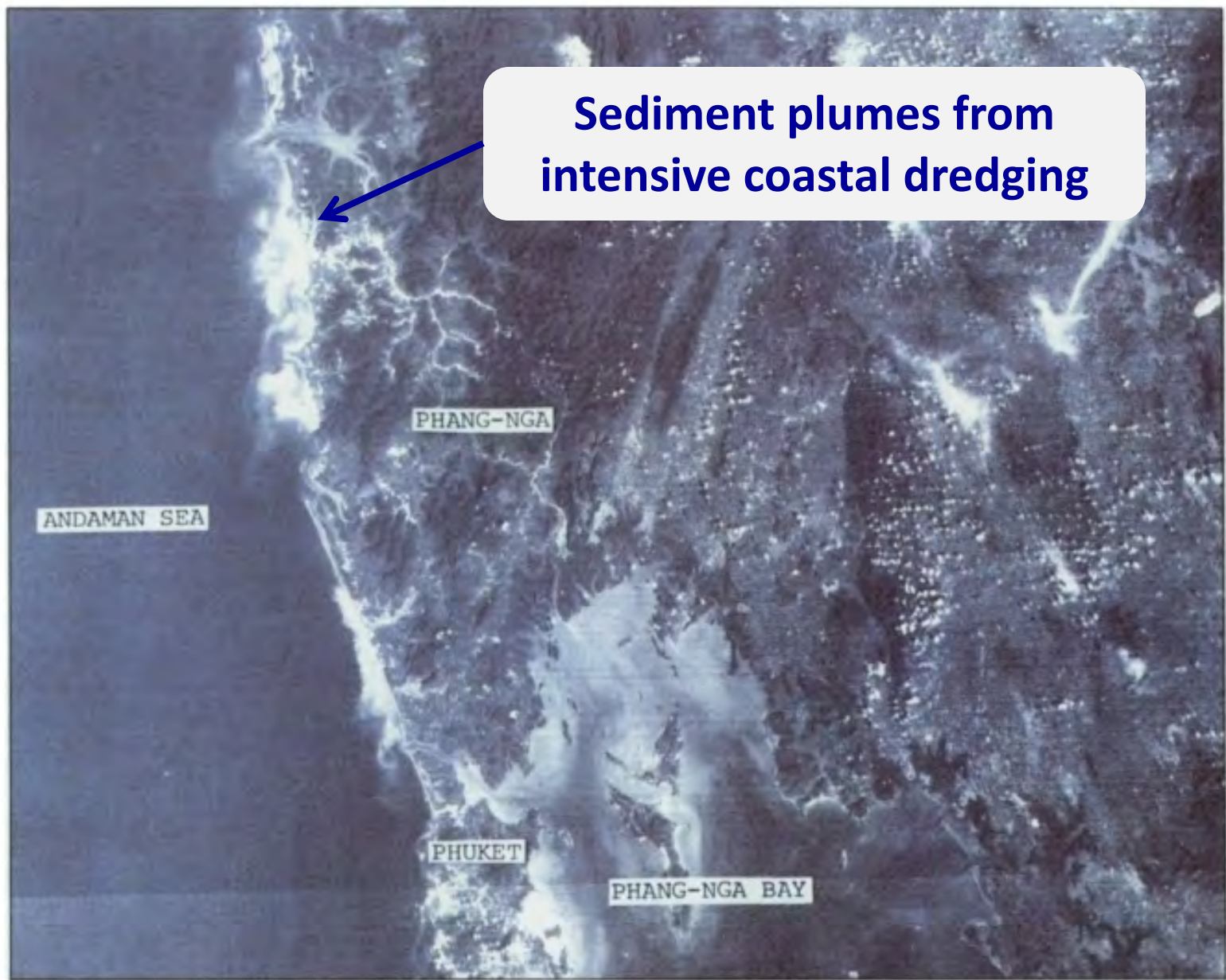


Figure 2. Landsat photo taken January 1979 showing Andaman Sea coast of Thailand. The sediment plumes were generated by intensive dredging activities within a depth of 20 meters along the Phang-nga coast. More limited plume distribution on northern parts of the west coast of Phuket Island was also detected. Suspended loads from land-based mines are visible as turbid streams (white lines on land) discharging into the coastal waters. Photo: NASA.

SURIN BEACH, PHUKET

Global Surf City
Standards?



Analysis of 1,127 Plastic Food Rappers

Percentage	Language	Potential country of origin
74%	Thai	Thailand
6.5%	Bahasa/others	Indonesia
3.5%	Malay/others	Malaysia
2%	Burmese/others	Myanmar
1.5%	Hindi	India
12.5%	indefinite	indefinite

Indonesian label



PERMEN

HOT HOT Pop



LOLLI KAKI
25
BIJI

BPOM RI MD 2371130

Produced by : Diproduksi oleh : BRONSON - MALANG 65125 IN

Burmese label

(၇)ရက်သားသမီးများတံတိုင်းရကြစေရန်



စင်စင်
တံတိုင်းရ
အမွှေးတိုင်

ရှင်မတောင်သနပ်ခါးအစပ်ဖြစ်ပြီလုပ်သည်။

REGD.2/2001, 807/2004, 1531/2005

စက္ကလမ်းသမ္ပုဒ်

မင်္ဂလာ - အမှတ်(၁/၃၇)၊ ငဝါလမ်း၊ အရှင်နောင်ပွဲရုံ၊ ရန်ကုန်မြို့၊ ဗုဒ္ဓ - ၀၁-၆၈၃၆၂၁၊ ၀၉-၅၀၀၄၉၇၄၊ ၀၉-၅၀၀၇၅၈၀

မှတ်တိုင်အမှတ်ပါမှသာ အစပ်ဖြစ်ပါသည်။ ဆင်တူပိုးမှား ခွဲခြားဝယ်ပါရန်။



TOURISM

700 HOTELS
40,000 ROOMS

- ⚡ Sewage
- ⚡ Urban runoff
- ⚡ Construction waste



**SEWAGE WATER
Discharged at HIGH TIDE**



KALIM REEF

95% Dead

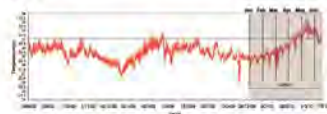


KALIM REEF

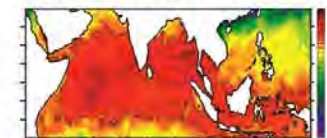


CORAL BLEACHING in Thailand in 2010

Coral reefs in Thailand have experienced extensive bleaching in 1991, 1995 and 1998. The coral bleaching events in 1998 were particularly severe in the Gulf of Thailand, while in the Andaman Sea the enhanced cool upwelling of that year resulted in decreasing the water temperature and a reduction in coral bleaching. Post-1998 mild coral bleaching events in Thailand occurred in 2003, 2005, and 2008.



▲ Temperature at Phuket 2008 - 2010



▲ The SST monitoring shows that the central of Bay of Bengal and the Andaman Sea is recently dominated by abnormally warm water, with SST over 31°C. Some regions (especially in the Andaman Sea) are shown to have extreme SST exceeding 32°C. The extreme SST is well observed by the buoy at (90E, 12N), which is one component of RAMA array developed under the coordination of CLIVAR-GOOS Indian Ocean Panel.



In 2010, sea surface temperature (SST) rose rapidly in Thai waters in both the Andaman Sea and the Gulf of Thailand. These elevated temperatures caused extensive coral bleaching from the last week of April onwards, with SST reaching 31°C in the first week of April. The putative threshold temperature of coral bleaching in the Andaman Sea was estimated as 30.1°C (blue line) which is about 1°C above maximum SST in this area (Brown 1997) though light levels may of course modify these thresholds.



Phuket Marine Biological Center is responsible for the study of the impact of coral bleaching on coral reefs in the Andaman Sea, while the Marine and Coastal Research Centers in the Gulf of Thailand take responsibility for coral reefs in the Gulf. Additional surveys by diving tourists and dive operators also contributed to the database. Roughly, 80% of corals bleached on each reef throughout every province along the Andaman Sea and the Gulf. Mortality rates of between 5 - 40% were already reported at the end of May.

Conclusions from these preliminary surveys are as follows:

1. In areas where environmental factors are good and coral diversity is high, with large numbers of colonies, corals are usually partial bleached. Some normally coloured colonies are found at these sites.
2. In the beginning, bleaching is more prevalent on shallow zones of the reef compared to the reef slopes. However later on bleaching spread down to lower slope (30 m).
3. In the Andaman Sea, the reefs on the east coast of the islands are more impacted than on the west. On the west sides of islands, which are subject to internal waves and generally stronger wave action, the reefs may show partial bleaching (or slight paling)
4. In turbid areas where the water flow is high, many coral colonies can resist bleaching. This is probably due to the acclimatization and adaptation of corals to extreme environmental conditions. Also, light penetration through the water column is decreased at these sites thus reducing the combined temperature/light stresses that induce bleaching.
5. The reefs which have been subject to human disturbance show more extensive bleaching than those which are less disturbed.
6. Very few coral species have been found which resist bleaching, e.g. *Pavona decussata*, *Diploastrea heliopora* and *Leptastrea transversa*. *Porites lutea* colonies frequently show partial bleaching (with apical surfaces being normally coloured while the sides are bleached).

Reference: Brown B.E. 1997 Coral Bleaching: causes and consequences. Coral Reefs, 16, Suppl.: S129-S138.



OFF-LIMITS

The National Parks, Wildlife and Plant Conservation Department has ordered the temporary closure of 18 dive sites affected by coral bleaching at seven marine national parks.



Source: The National Parks, Wildlife and Plant Conservation Department

Temperature

2010 Saw Extensive Coral Bleaching in Phuket



Before

After

The 2004 Indian Ocean Tsunami



CONCLUDING THOUGHTS

Phuket is inevitably moving toward a ***Surf City Culture***

Key Areas of Concern

🏄 **Beach & Water Quality**

🏄 **Beach & Ocean Safety**

- Develop a lifesaving culture

🏄 **Surf Site Sustainability & Conservation**

- Adopt the *Surfing Reserve* approach



**Research Articles Available at San Diego State University
Center for Surf Research
<http://csr.sdsu.edu/2012/11/14/steven-martin/>**

Global Surf Cities Conference 2013

**Please share your thoughts and suggestions
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