

# East Asian Seas Congress- Marine economies...in an uncertain Climate

## *The APEC framework for measuring the marine economy*

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# APEC Marine Economy (ME) project objectives

The project was developed by the Marine Resource Conservation Working group

- a) How can the ME project output, best aid decision makers?
- b) Uniform measurement of the marine economy?;
- c) Data, gaps, normalisation of data and approaches across APEC economies;
- d) Get recognition of the marine economy

# Defining the marine economy - previous studies

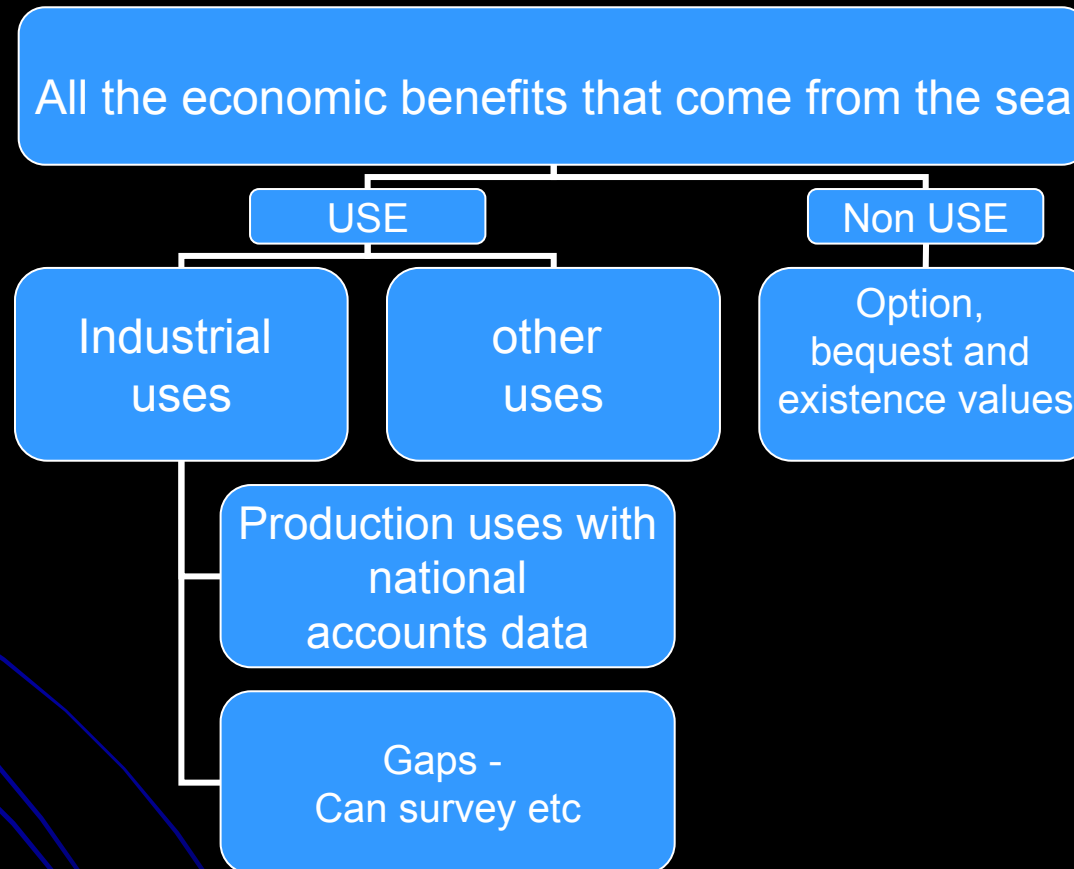
- Early work 1974 in US...contribution of the **coast and coastal ocean** to the U.S Economy (Kildow et al, 2000); **The ocean and coastal economy: National Ocean Economics Project, USA** (Kildow et al, 2000 Colgan, C.S. 2003);
- **Ocean Sector Canada (1996); Canada's Ocean Industries** (DFO, 1998);
- **Marine-related activities in the UK economy** (Pugh and Skinner, 1996 and 2002).

# Definitions of the marine economy

“Ocean industries are defined as those industries that are based in Canada's maritime zones and coastal communities adjoining these zones, or are dependent on activities in these areas for their income.” (DFO, 1998) **Canada;**

- “The ocean economy consists of all economic activity which derives all or part of its inputs from the ocean” Kildow/Colgan -NOEP 2001, **US\*\*;**
  - \*\* Ocean economy does not equal coastal economy

# Conceptualising the Marine Economy and economic value



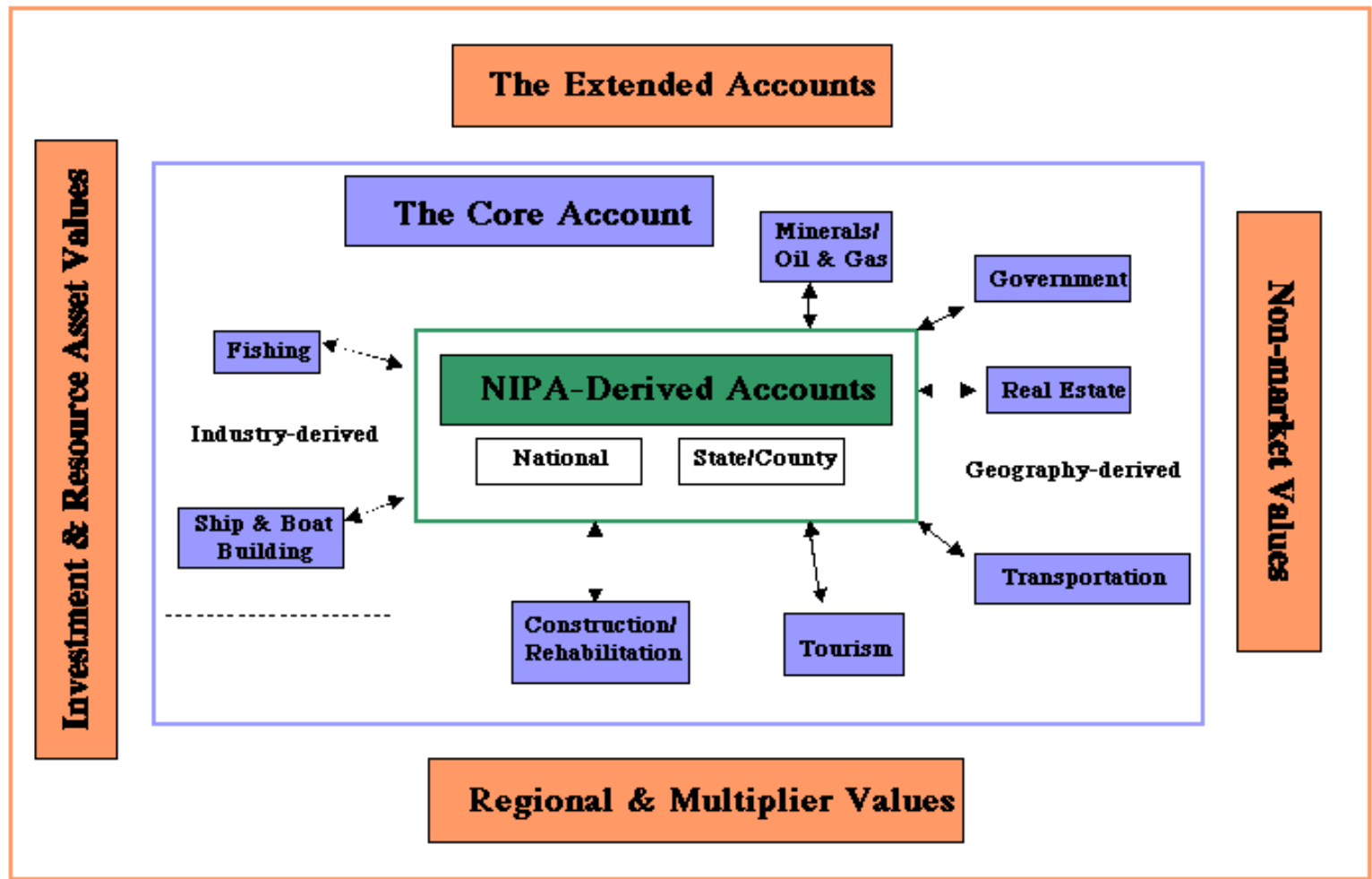


Figure 1. A Schematic Map of the Research Strategy

US NOEP

# Comparing Ocean industry study headings

## Australia

Marine Tourism

Offshore oil and gas

Fisheries and seafood

Shipping

Ship and boat building

Port based activities

n/a

**Marine industry total**

## Canada

Ocean Tourism industry

Offshore oil industry

Commercial fishing industry

Ocean transport industry

Marine construction industry

Ocean manufacturing and services

Government services industry

**Ocean industries total**

# How can ME information aid decision makers ?

- Gives the ME a voice in the regional, national and international arenas;
- Provides government & Industry with information on size (%GDP, % employment)
- Leads to more informed decision making
- Industry sector changes monitored annually;
- Regional marine economic dependence;
- Provides baseline information for impact analysis

## Measurement – approaches

- 1) Do specific surveys of marine industries;
- “.. estimate the level of economic activity in a sector by direct approaches, (company annual reports, surveys by Associations, sector market analyses and expert consultations. Internet data are now much more readily available (Pugh and Skinner, 2000).
- 2) Use the national accounts framework;
- The contribution of ocean industries has been measured by their value-added as a percentage of GDP.
- Information on industries is needed to interpret some national accounts data....apportioning land versus sea

# Economic measures

- Production measures
  - *Output GDP, Input and Added Value; and*
  - *Employment.*
- Value Added is preferred as it:
  - Removes the danger of double counting;
  - Gives a meaningful basis for industry comparisons; and
  - Simplifies analysis of regional impacts.

# Using national accounts data

## ● Previous studies

- *Australian and New Zealand Standard Industrial Classification (ANZSIC).*
- Statistics Canada's Standard Industrial Classification (CSIC)
- Standard Industrial Classification of Economic Activities (1992 - SICEA, 92) UK Study
- SIC replaced by North American Standard Industrial Classification (NASIC).
- International Standard Industrial Classification of All Economic Activities (ISIC)
- **There are some compatibility issues between systems**

# Results – Presenting the Economic contribution

Country	Author	Date of Study	Date of Data Study	\$ Marine Sector GDP/GVA*	Percentage of national GDP/GVA
Australia	Allen	2004	1996 - 2003	A\$26.7bn	3.6% GVA
Canada	RASCL	2004	1988-2000	C\$22.7bn	1.5% GDP
UK	Pugh & Skinner	2002	1999-2000	GB£39bn	4.9% GDP
USA	Colgan	2004	2000	US\$118bn	1.2% GDP

# What common approach could we recommend?

- Defining industries in the marine economy;
- Identify those industries in the national accounts;
- Estimate the proportion of total activity that is marine related ( have this transparent);
- Record the estimated marine sector activity;
- Compare this with available information from industry sources~ i.e. survey data /information to confirm estimates.

# Economies at different stages

Some economies could:

- identify marine industry categories
- provide a rough estimate of industry production;
- produce a first estimate of the value of the ME from national accounts by apportioning (accuracy?);

But with additional resources it is possible to:

- do a national accounts based study which can give accurate regional information also;
- verify this with information from marine industries;
- present information, as part of APEC approach.

# Scenarios

The APEC (2004) study proposes agreeing on:

1. *definitions of the marine economy that will assist subsequent valuation;*
2. *classification of industries and activities in the marine economy;*
3. *methodologies to estimate the value of the marine economy; and*
4. *presentation of economic indices, such as value added.*
5. *presentation of change over time.*

# APEC MRC Roundtable, Easter Is., list of agreed industry sectors

From the review of existing studies presented at the APEC MRC working group the following list of sectors was identified:

- i. **Oil and Gas** (ie. minerals)
- ii. **Fisheries / Aquaculture** (ie. living resources including sea plants)
- iii. **Shipping** (ie. transportation and shipbuilding)
- iv. **Defence / Government** (ie. government services)
- v. **Marine Construction** (eg. coastal defences and restoration)
- vi. **Marine Tourism** (ie. leisure services)
- vii. **Manufacturing** (ie. equipment, medicines, etc)
- viii. **Marine Services** (eg. mapping, surveying, consulting)
- ix. **Marine Research and Education**

This list was generated by the MRC Working Group Round Table Forum (APEC, 2004).



# The Bali Plan of Action

- Ministers of all of the 21 APEC economies signed the Bali Plan Action in 2005. It prioritises the value of the marine sector

## BALI PLAN OF ACTION

**Towards Healthy Oceans and Coasts for the Sustainable Growth and Prosperity of the Asia-Pacific Community**

### Understanding the value of the marine sector

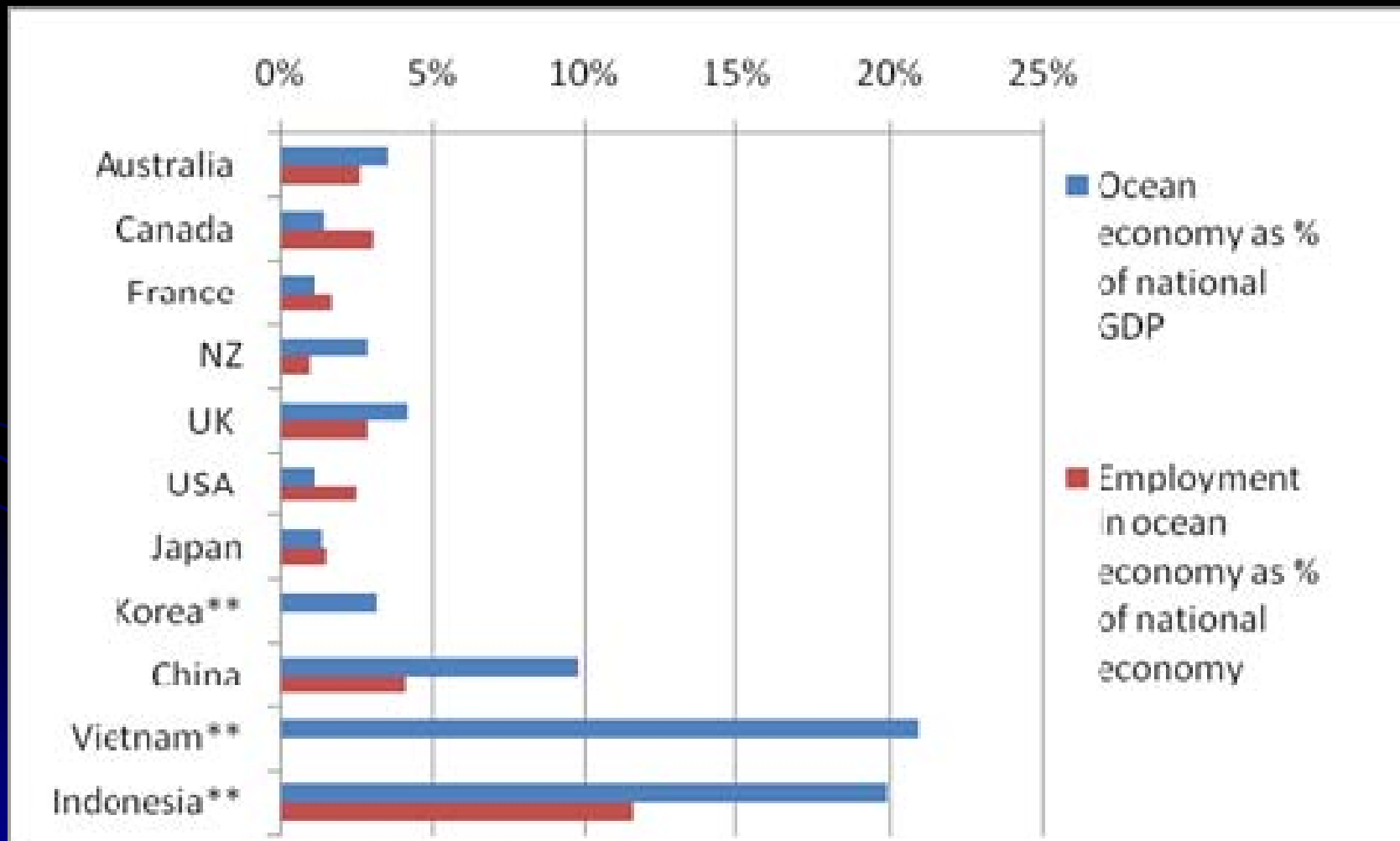
*A better understanding of the short-term and long-term market and non-market value of the marine sector would better enable stakeholders and decision makers to achieve sustainable, integrated marine management.*

- x. Study the market and non-market value of the marine environment and marine industries in the Asia-Pacific region, including by undertaking research, communication and information exchange on marine activities.

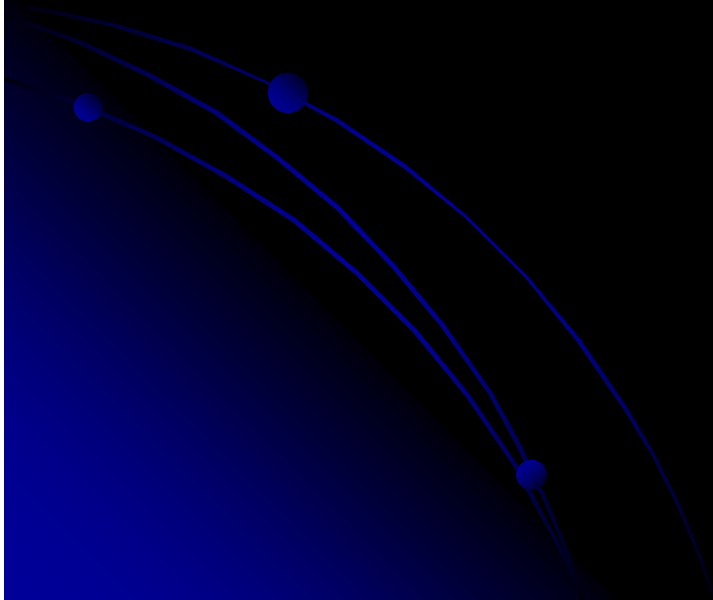
# Benefits of the APEC approach?

OCEAN ECONOMY- APEC Industry Sectors	Indon.	Japan	Korea	Malays.	Phil.	Thai.	Vietn.
Oil and Gas (Minerals)	•	•	•	•	•	•	•
Fisheries/ Aquaculture (Living Resources)	•	•	•	•	•	•	•
Shipping (Marine transportation and ship building)	•	•	•	•	•	•	•
Defence/Government	N/A	N/A	Some	N/A	Some	•	•
Marine Construction	•	•	•	N/A	N/A	•	•
Marine Tourism (Leisure services)	•	•	•	•	•	•	•
Manufacturing (Equipment)	•	N/A	•	•	•	N/A	•
Marine services (Mapping surveying consulting)	•	N/A	Some	N/A	N/A	•	N/A
Marine research and education	N/A	N/A	N/A	N/A	•	•	N/A

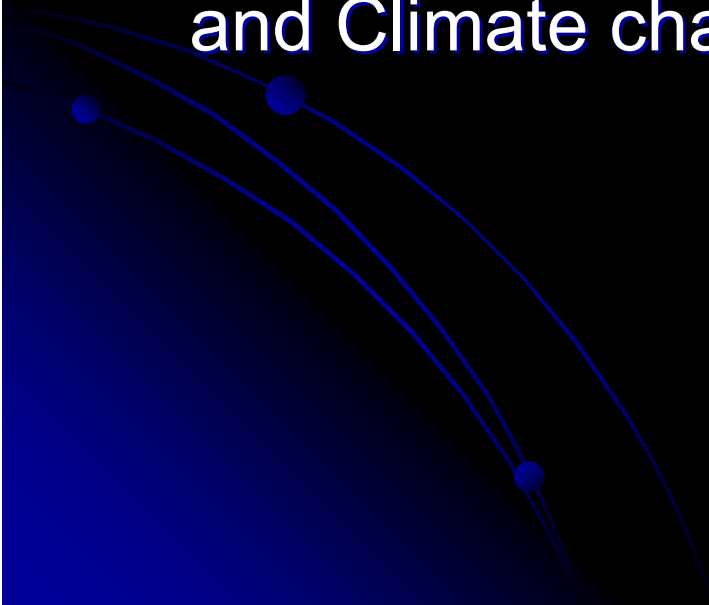
# Comparing %GDP %Employment – Does SE Asia lead the way?




**Valuing the Marine Economy -  
Contribution to Policy and managing  
national wealth in uncertain times.**



# Valuing the Marine Economy - Contribution to Policy and managing national wealth in uncertain times.

- How can ME information Inform policy makers?
  - Managing the ME and national wealth;
  - Managing the changing environment - the GFC and Climate change
- 

## How can ME information Inform policy makers?

- Support sectoral significance and unites industries with common interests;
  - Provides data on marine contribution to national wealth and the scale of this, including regions and linkages;
  - Enable planners to have an economic profile;
  - The profile of marine industries can be monitored trends, growth and their causes.
  - Potential economic impacts can be assessed
- 

## Managing the ME and national wealth;

- Sectors differ in contributions to the ME.
  - eg. potential for industry growth versus need to keep sustainability (fisheries) OR
  - a new port development reducing tourist amenity, but generating local employment
  - Local community amenity  $\vee$  national income?
- External Impacts of industry growth (more pollution)

# Managing change - the Global Financial Crisis (GFC)

- ME and economic change - GFC
  - Fish trade - mixed demand impacts
  - Oil & Gas price related effects
  - Reduction in Private Sector investing (not LNG)
  - Asia-US shipping fell (L.A. 1/3 reduction 1<sup>st</sup> 1/2 of 2009)
  - Recreational craft sales severely reduced
  - Marine tourism - reduced, stay at home, less project investment, cruises discounted.

# Managing Climate Change (CC)

- Sea level rise, storm events (tsunamis), & changes in resource location
  - Need information on the variability, event frequency & degree of impact

- The ME identifies

## **Economic Vulnerability**

*Kurnell refinery, Sydney*

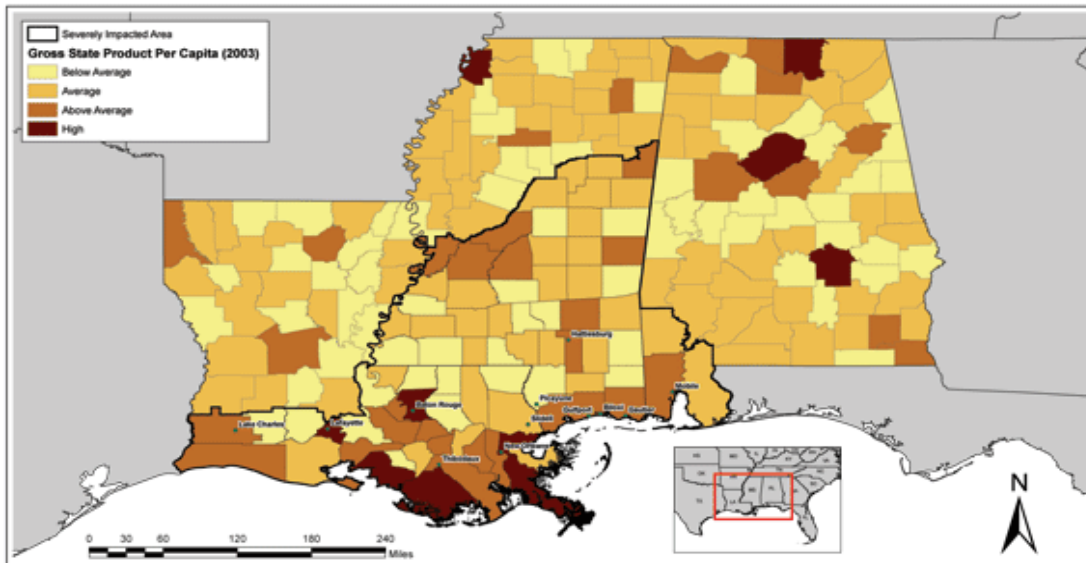
- NOEP and

Hurricane Katrina...next slide (Thanks J.Kildow)



# The Economic Footprint of Hurricane Katrina

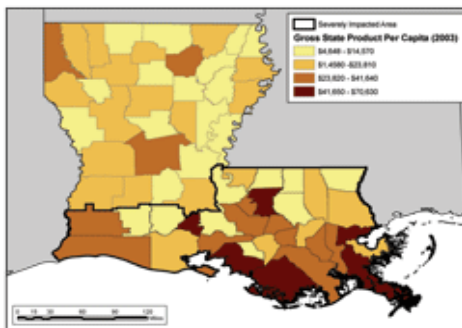
## Insights from the National Ocean Economics Program



**Almost half the jobs and more than half the economic output of Louisiana, Mississippi, and Alabama come from the area hardest hit by Hurricane Katrina. In the 80 counties initially identified as most severely impacted by this storm, more than two million employees in 2003 created \$180 billion of economic output. Economic activity in this 80-county area represents a fraction of the national economy, but the state and regional impacts are profound.**

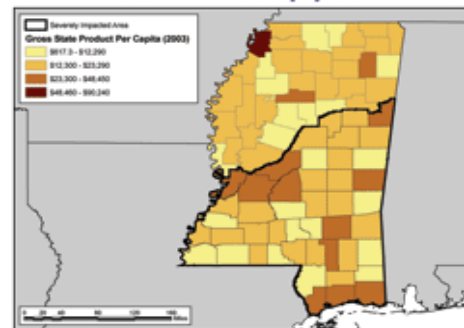
These data are from the Department of Commerce-sponsored National Ocean Economics Program (NOEP). For more information on the NOEP, see [www.oceaneconomics.org](http://www.oceaneconomics.org).

### Louisiana



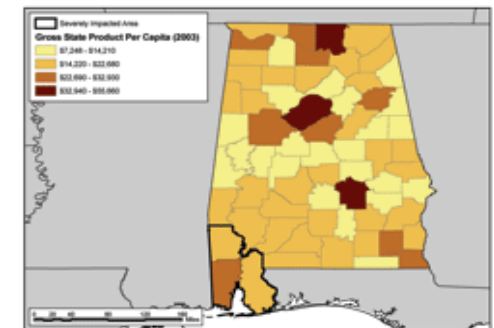
In Louisiana, productivity within the most severely impacted counties is about 80 percent higher than in the rest of the state. The six counties with the highest output per employee were among those counties most severely impacted by the storm.

### Mississippi



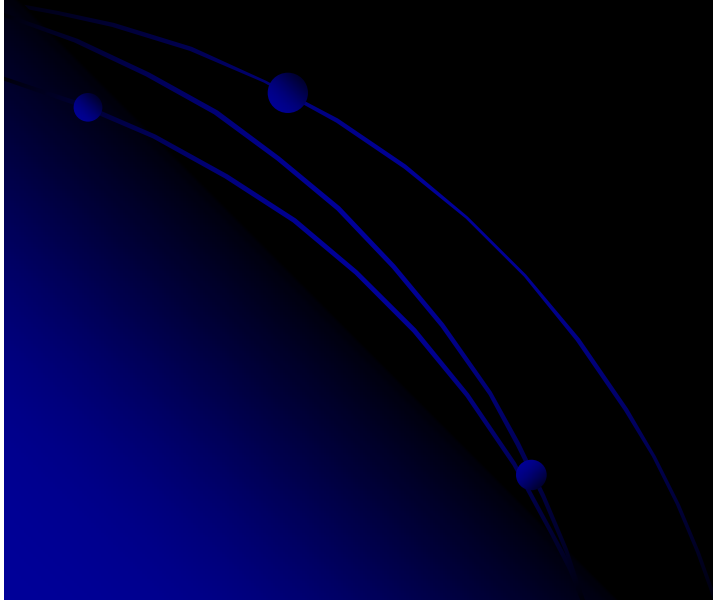
The most severely impacted counties in Mississippi account for 58 percent of the area of that state, 65 percent of the state's employment, and 68 percent of the output. The large geographic extent of the damage accounts for the enormity of impact to this state.

### Alabama



The initial disaster declarations identified only three counties in Alabama as severely impacted by Katrina. These three counties, comprising eight percent of the area of the state, includes 12 percent of the employment and 11 percent of the output. Seven other counties were subsequently added to the list of severely impacted counties in this state.

**Discussion –  
Elements of a future Marine  
economy project proposal?**



# Objectives of a future project proposal

1. To develop a regionally consistent marine economy profile for each SE Asian economy
  1. (see next slide)
2. Pilot the use of ME data in marine planning
3. Measure the coastal economy of each economy in a regionally consistent way
4. Demonstrate the use of marine valuation in assessing economic growth, sustainability and climate change impacts.

# Regional progress

1. **Complete marine sector estimate (% GDP)** – Japan, China, Indonesia and the R o Korea. (Vietnam\*) (4-5)
2. **Industry Category level** - Philippines and Singapore\* (2) Malaysia (ext.), Thailand (ext.)
3. **No involvement yet** - Cambodia, DPR Korea, Laos PDR, and Timor-Leste (4). Chinese Taipei and Russia are unknown?