



Rethinking Sustainable Coastal and Marine Tourism Development

Green Fins – Sustainable Diving and Snorkelling Tourism

James Harvey



- UK marine biologist
- Researcher
- Conservationist
- 15 years diving in South East Asia
- Green Fins International Coordinator





ENVIRONMENTALLY
FRIENDLY
DIVING

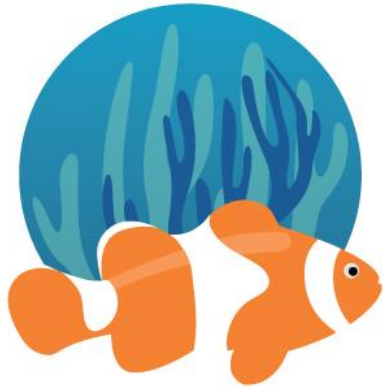
**An initiative for managing the impacts
of diving and snorkelling activities
on the marine environment**





- UK Registered charity
- Started in Phuket, Thailand in 1996
- Roots in education and alternative livelihoods
- Working alongside governments globally
- Main partner with UN Environment





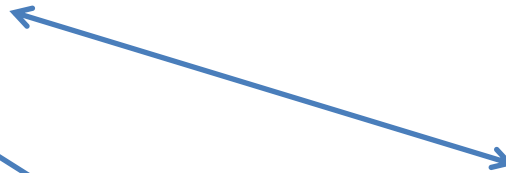
REEF-WORLD
FOUNDATION



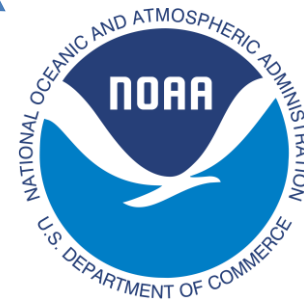
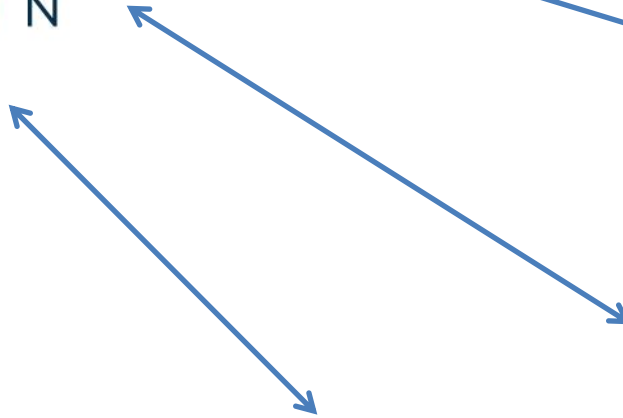
Governments



UNEP



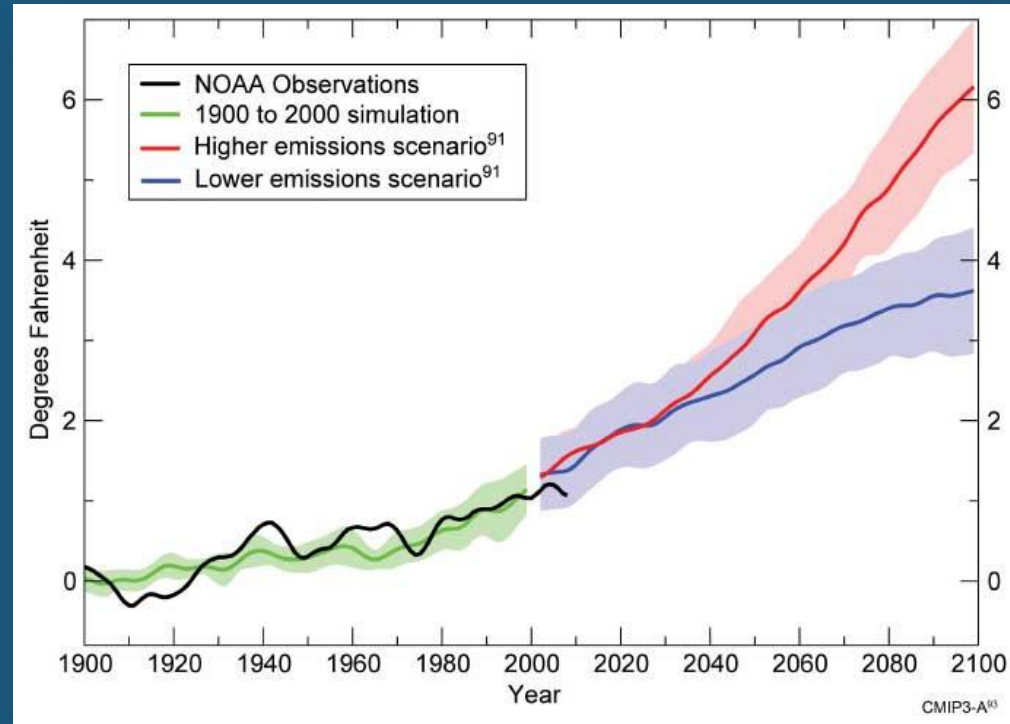
INTERNATIONAL
CORAL REEF INITIATIVE



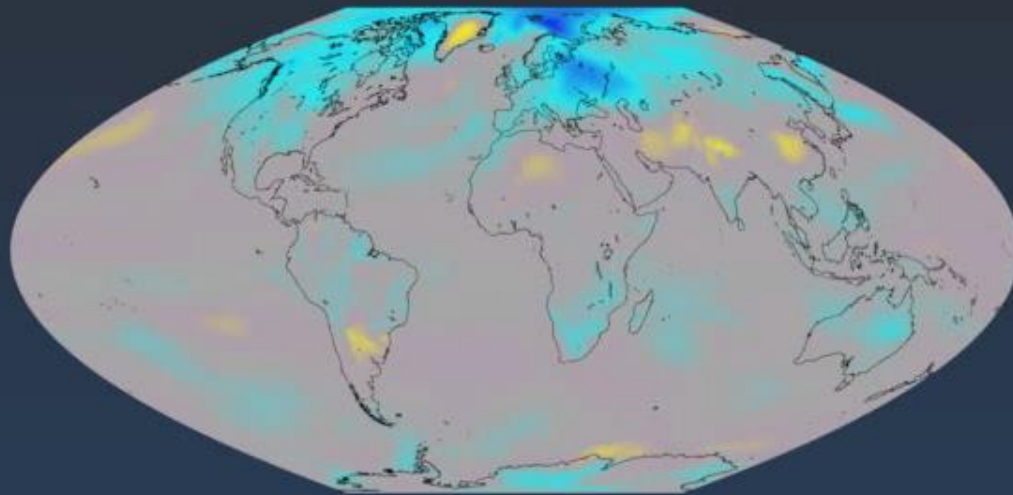
Current Global Situation

'The situation is here, now and real'

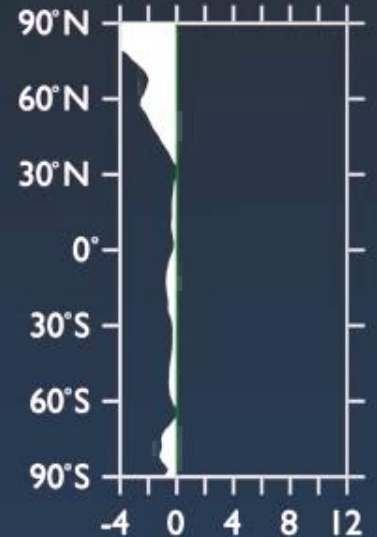
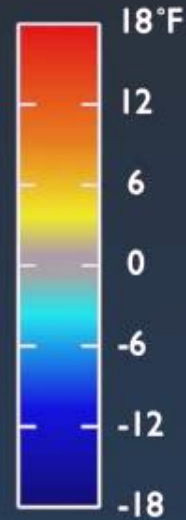
- 15 of 16 warmest years on record since 2000, and 2016 locked in to be warmest ever
- “If you are <30, not a single month in your entire life was colder than average”



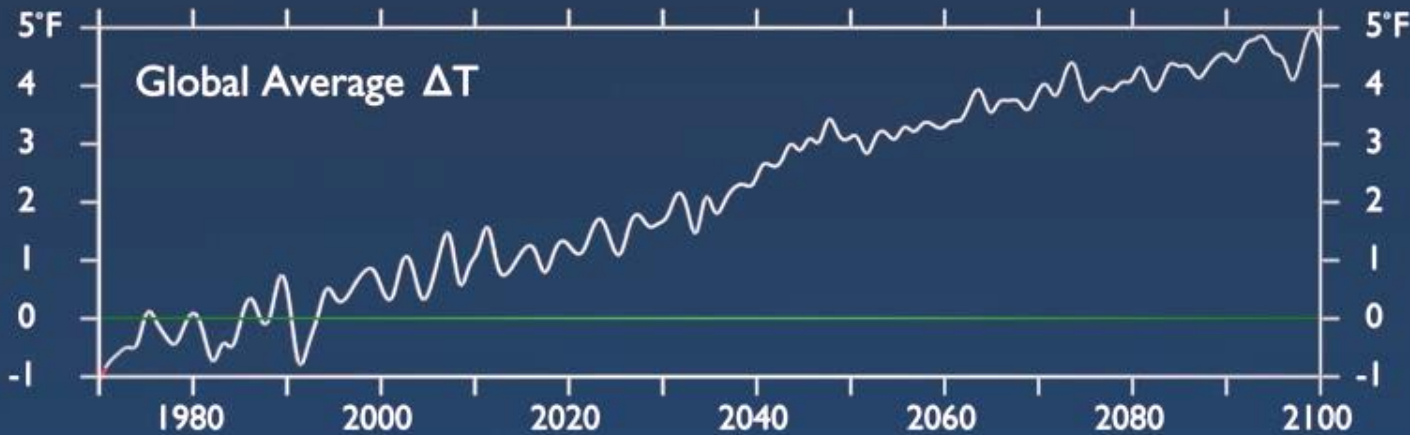
SURFACE AIR TEMPERATURE ANOMALIES



ΔT Anomalies Relative to 1971-2000 Mean



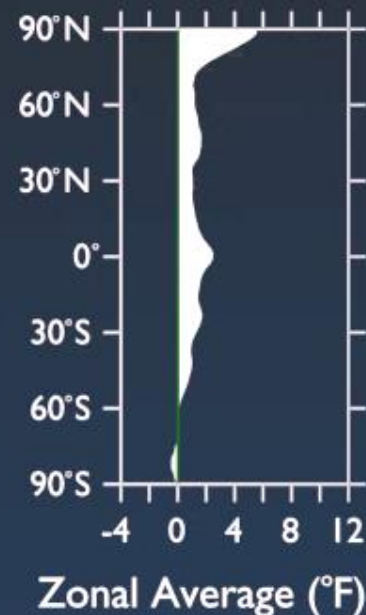
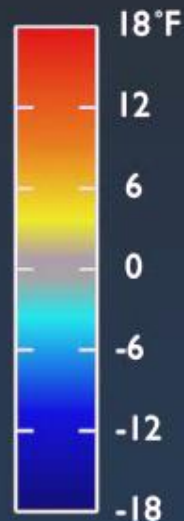
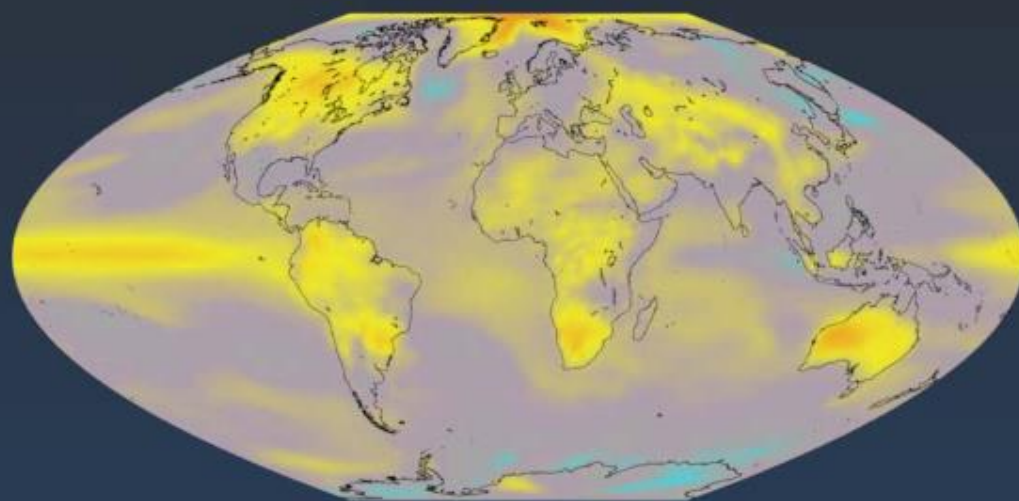
Zonal Average (°F)



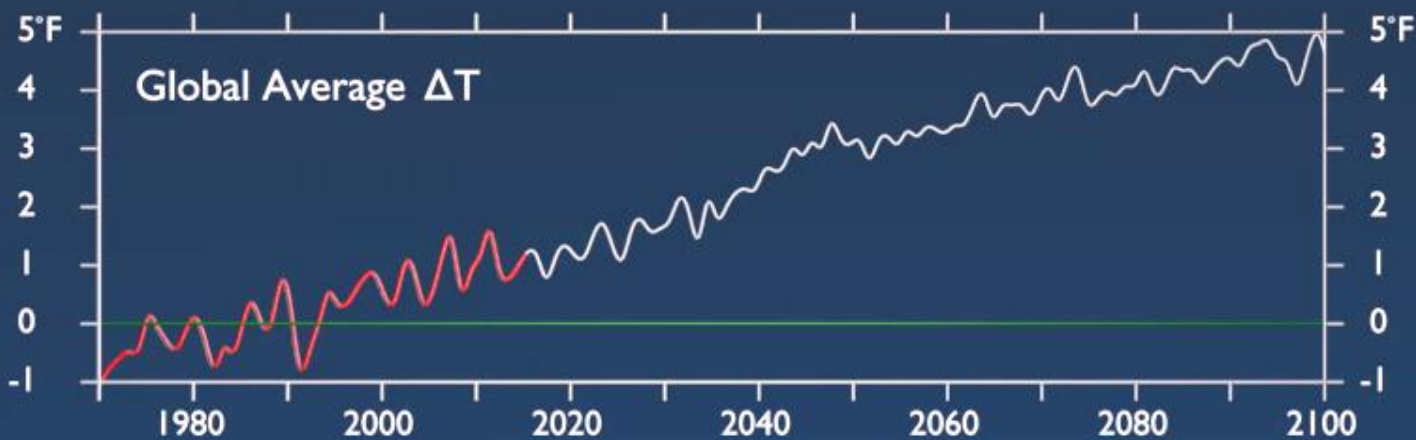
1972
(Model Year)

GFDL CM 2.1
Climate Model

SURFACE AIR TEMPERATURE ANOMALIES



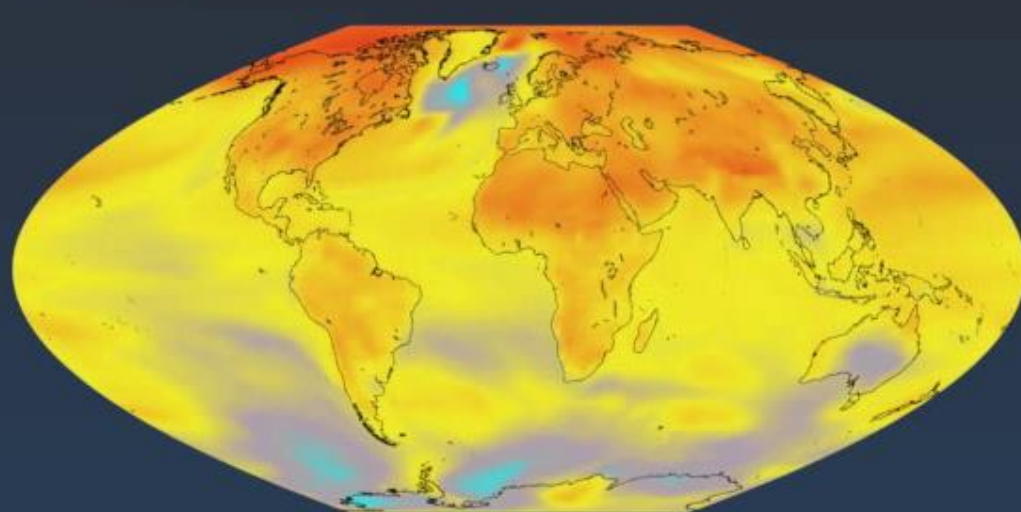
ΔT Anomalies Relative to 1971-2000 Mean



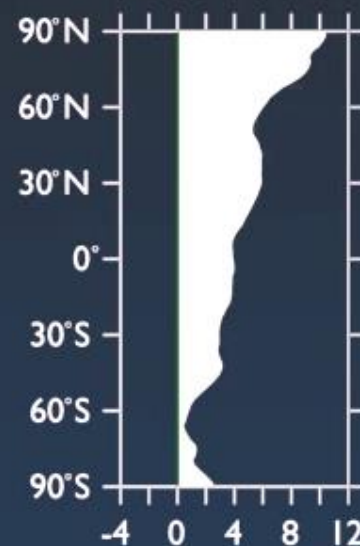
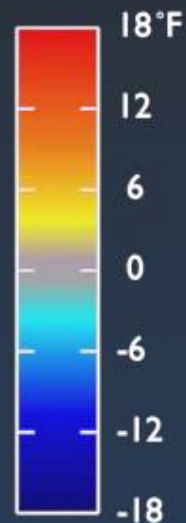
2016
(Model Year)

GFDL CM 2.1
Climate Model

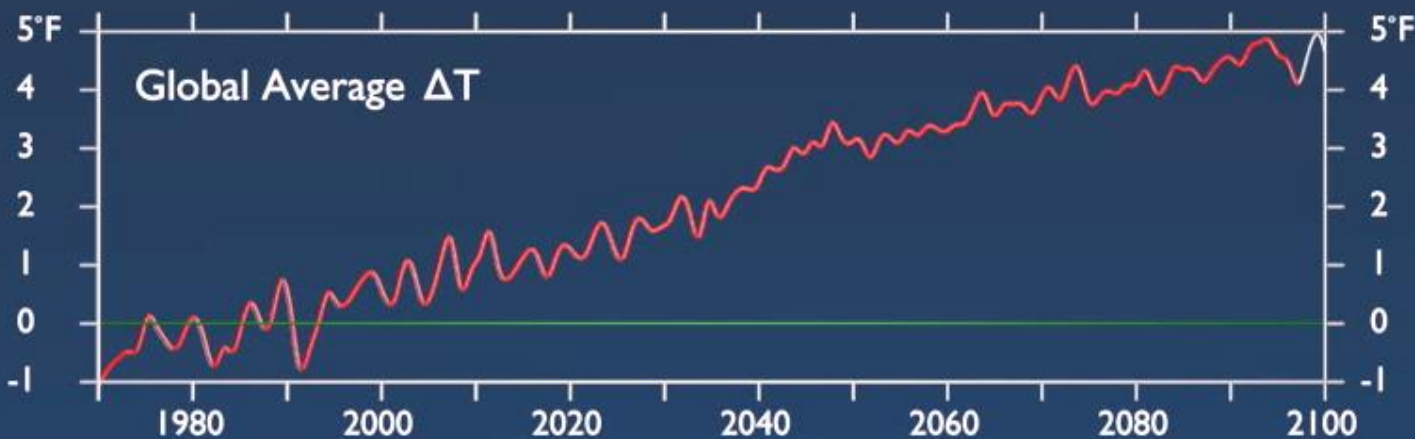
SURFACE AIR TEMPERATURE ANOMALIES



ΔT Anomalies Relative to 1971-2000 Mean



Zonal Average (°F)



2097
(Model Year)

GFDL CM 2.1
Climate Model

Current Global Situation

Consequences for seas, oceans and coasts

- Damage from increased storms
- Sea Level rise
- Coral Bleaching



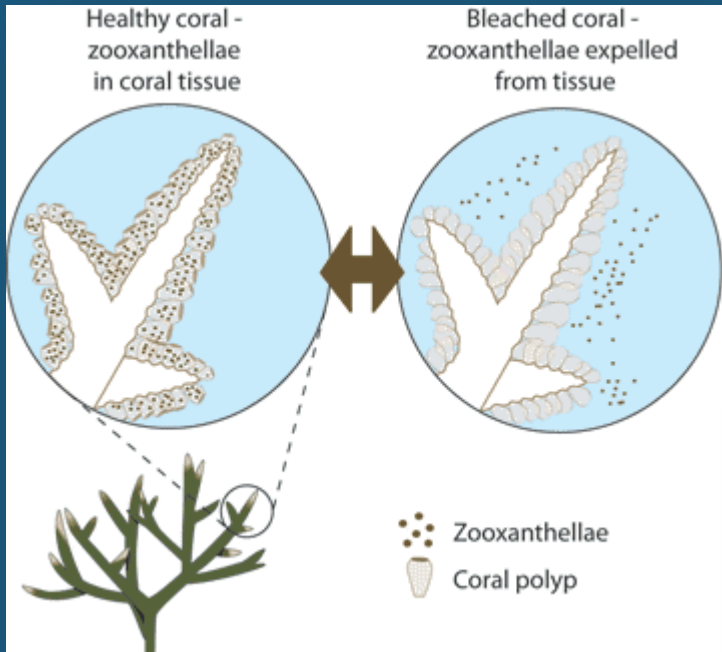
Coral Bleaching



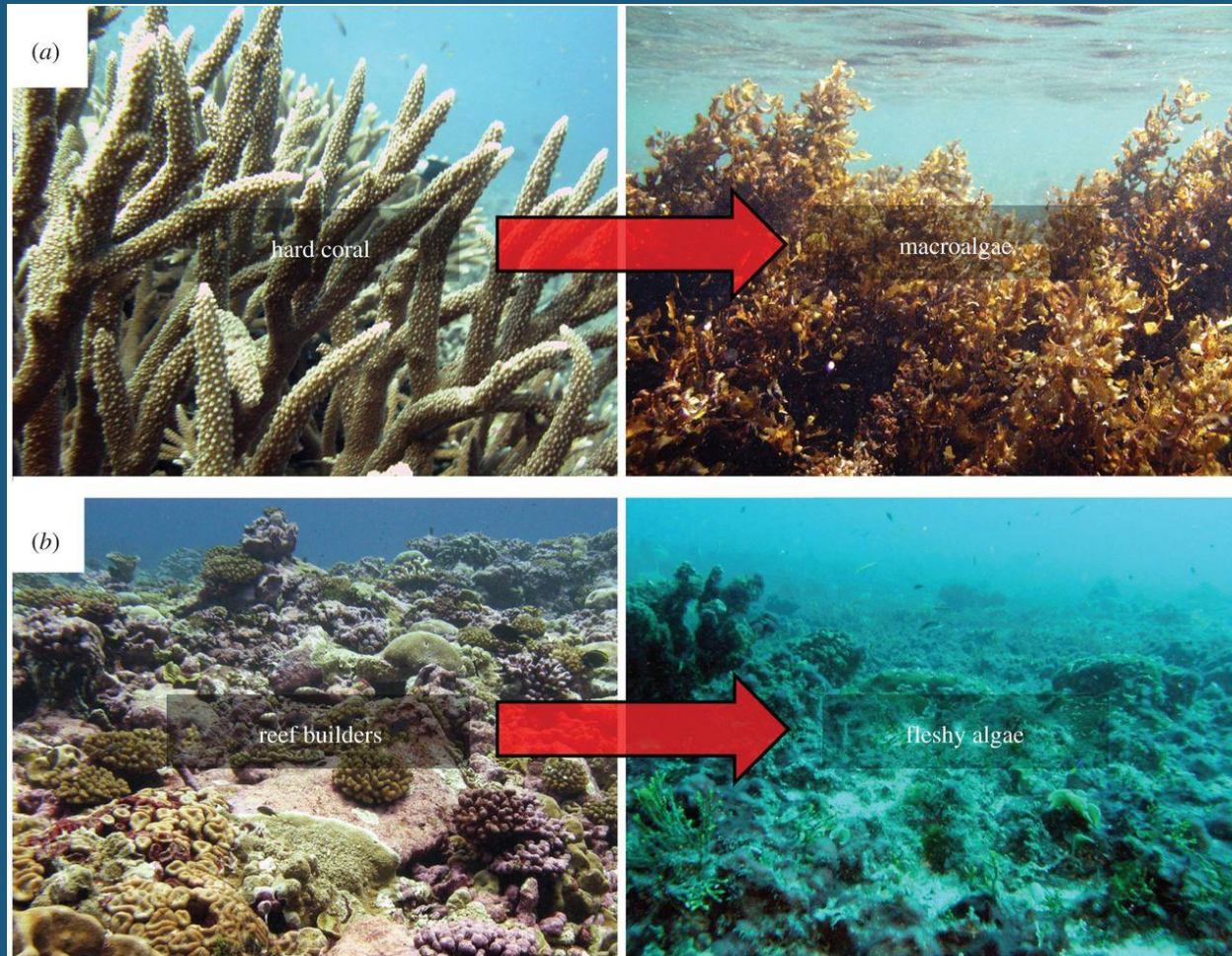
Lots of colonies make up a CORAL REEF



Coral Bleaching



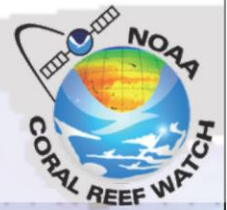
Coral v Algae



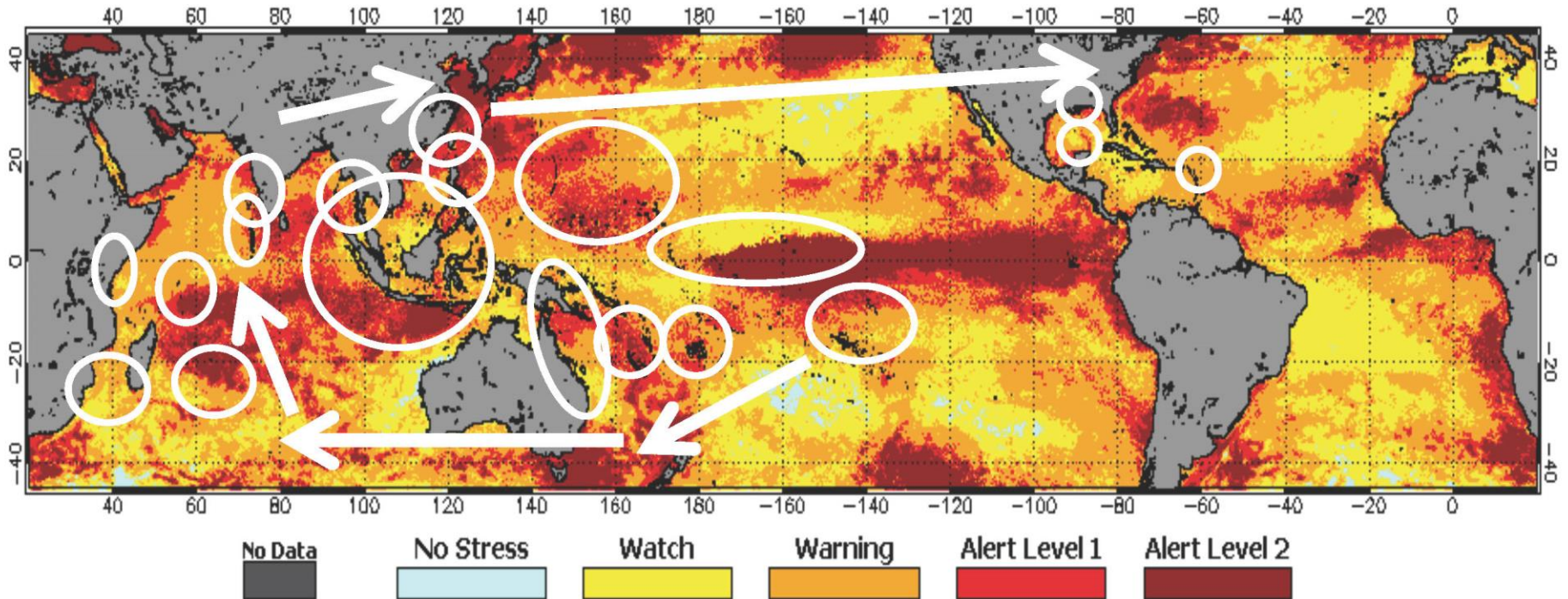
Smith et al (2016) Re-evaluating the health of coral reef communities: baselines and evidence for human impacts across the central Pacific



Global Bleaching: 2016 to date

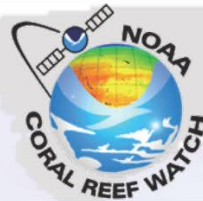


NOAA Coral Reef Watch Maximum Satellite Coral Bleaching Alert Area 1Jan.-23Oct 2016

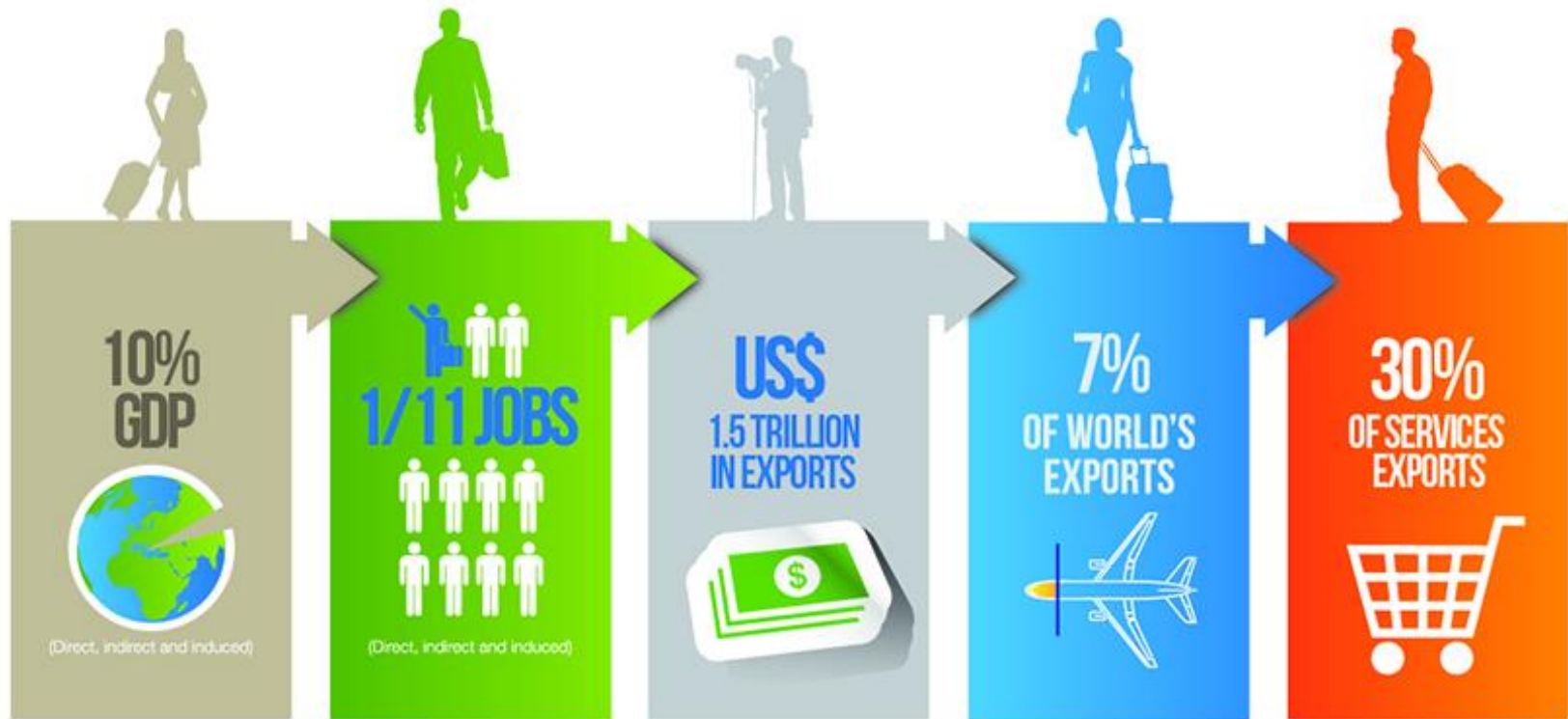


- | | | | | |
|---------------------|--------------|---------------|--------------|------------------|
| Western India | Taiwan | Vietnam | Marianas | Kiribati |
| Seychelles Maldives | Philippines | New Caledonia | Palau | French Polynesia |
| Kenya/Tanzania | Réunion | Thailand | Fiji | Flower Gardens |
| Mozambique | Mauritius | Indonesia | Micronesia | Yucatan |
| Madagascar | E. Australia | Japan | Marshall Is. | Saba |

Management Response: 2015 Hawai'i Bleaching – DAR “Ark”



Current Global Situation



WHY TOURISM MATTERS

Current Global Situation



Tourism - Threat and Opportunity

Psychedelic frogfish (*Histiophryne psychedelica*)



Tourism - Threat and Opportunity

Psychedelic frogfish (*Histiophryne psychedelica*)

Divers impacts include:

- Stress
 - Touching
 - Moving
 - Photography
- Fish Feeding
- Physical damage
 - Fins
 - Anchor damage
- Removing for souvenirs



Tourism - Threat and Opportunity

Sharks and Palau



1 shark / Annual value to tourism

- \$179,000 or
- \$1.9 million over its lifetime

1 dead shark \$108!







To protect and conserve coral reefs by establishing and implementing environmentally friendly guidelines to promote a sustainable diving and snorkelling tourism industry.



Green Fins is...

- Code of conduct
- Outreach and training
- Robust assessment system
- Certification
- Influencing core business
- Regulatory support from government
- Proven and replicable approach for divers and dive operators





THAILAND

VIETNAM

THE PHILIPPINES

MALAYSIA

SINGAPORE

INDONESIA

THE MALDIVES



Green Fins Members

- Green Fins Members are doing their best
- Trained to a high standard
- World's only UN endorsed programme for diving and snorkelling



Key Elements of Green Fins

1) Effective partners



Key Elements of Green Fins

1) Effective partnerships

Public private partnership

- Can support each other – e.g. moorings and awareness
- Unique strengths – Clear roles
- More people = more support



Key Elements of Green Fins

2) Sustainable Financing *Business / Private sector*

- Alleviate operational costs
- Direct in-kind support

Why?

- Smart marketing
- Drives competition – 75% sign up
- Cost saving solutions
- Increased customer satisfaction



Key Elements of Green Fins

2) Sustainable Financing *Government*

- Provide national funds to support implementation

Why?

- Supports national targets (e.g awareness raising)
- Achieves international targets



Key Elements of Green Fins

2) Sustainable Financing

The public / tourists

- Product marketing - social media, word of mouth
- Tourists can support research

Why?

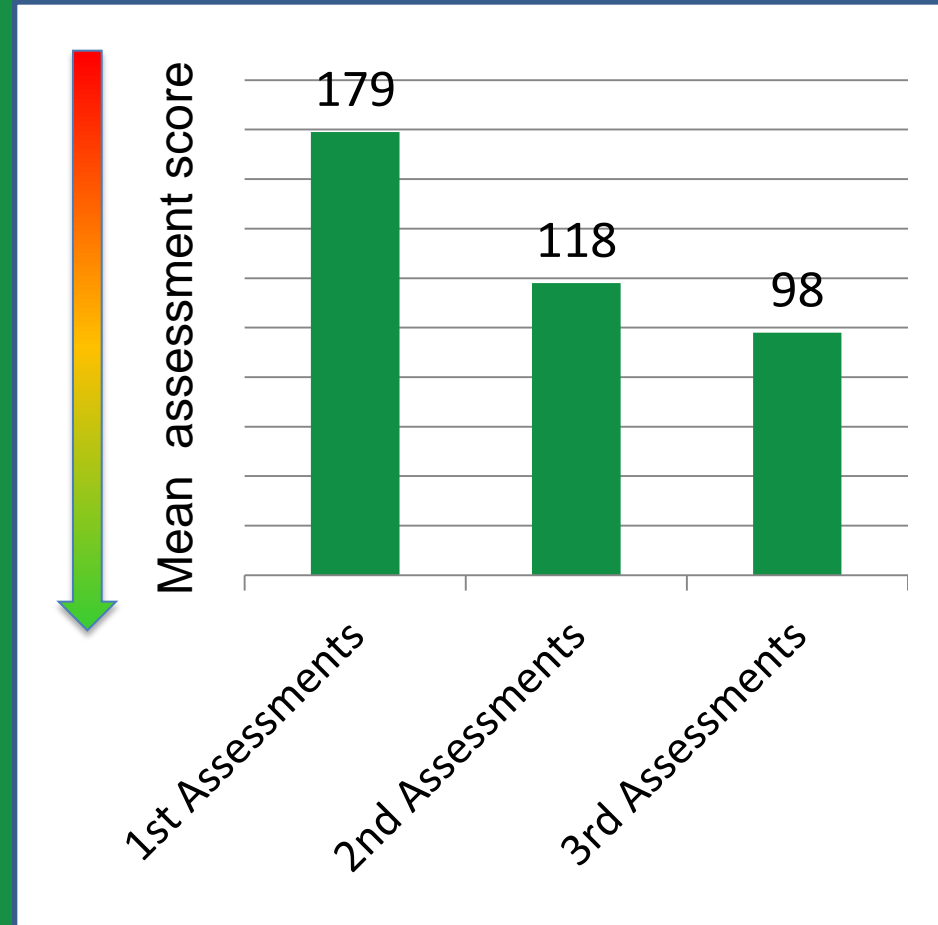
- User created content
- Consumer demand for Green services



Key Elements of Green Fins

3) Impact Evaluation

- Real-time, simple and accessible to all
- Can demonstrate success areas
- Helps to identify industry wide issues
- Show ROI from businesses and gov



Over to you...

- 1) Effective Partnerships
- 2) Sustainable Financing
- 3) Impact Evaluation



Chera Dwip - St Martin Island – Cox's Bazar District
Courtesy of Offroad Bangladesh website



