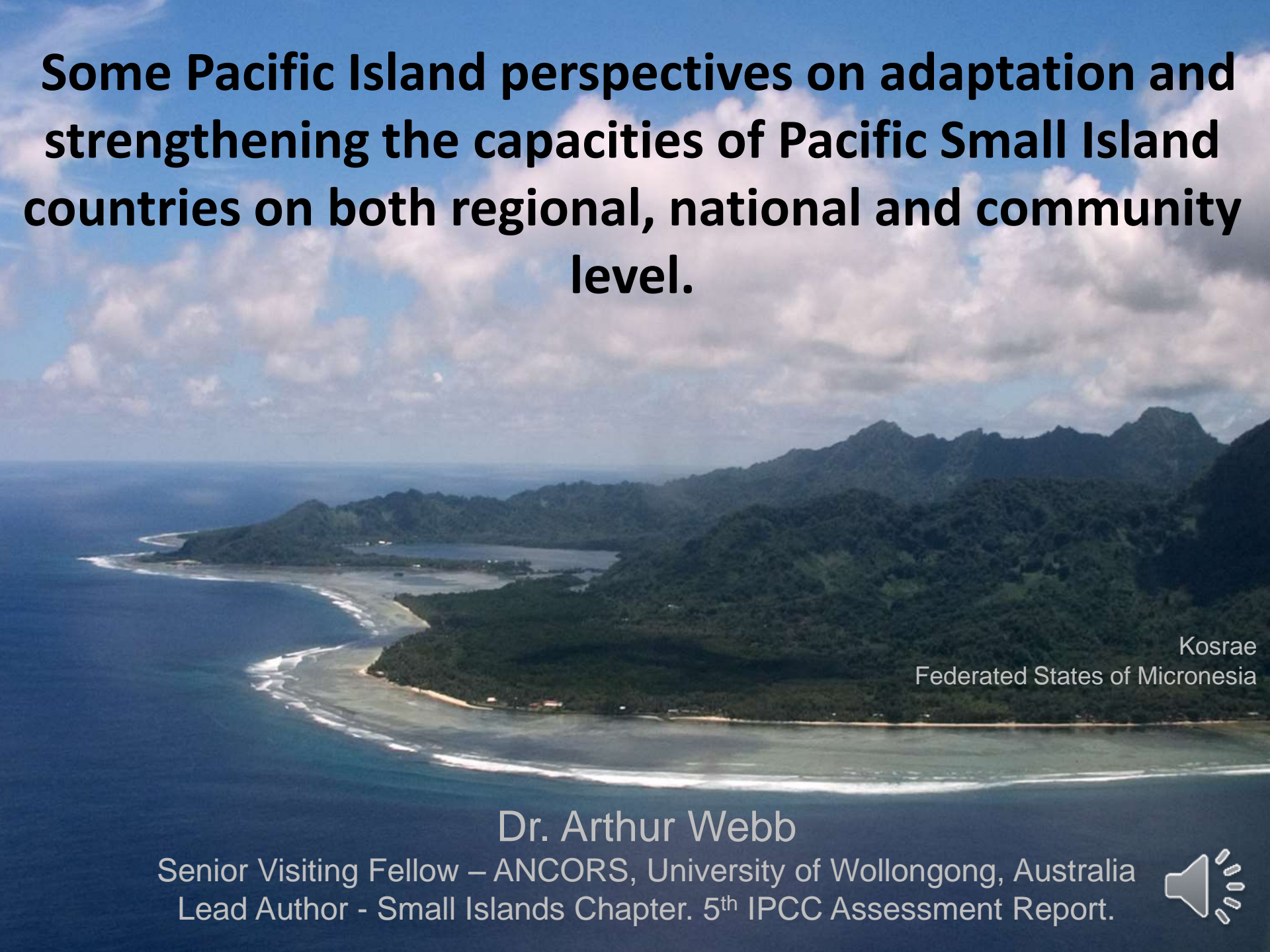


# Some Pacific Island perspectives on adaptation and strengthening the capacities of Pacific Small Island countries on both regional, national and community level.



Kosrae  
Federated States of Micronesia

Dr. Arthur Webb

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Lead Author - Small Islands Chapter. 5<sup>th</sup> IPCC Assessment Report.



Perhaps the stereotypical  
vision of what a tropical  
pacific islands are all  
like.....



Borabora, French Polynesia



Funafuti Atoll, Tuvalu







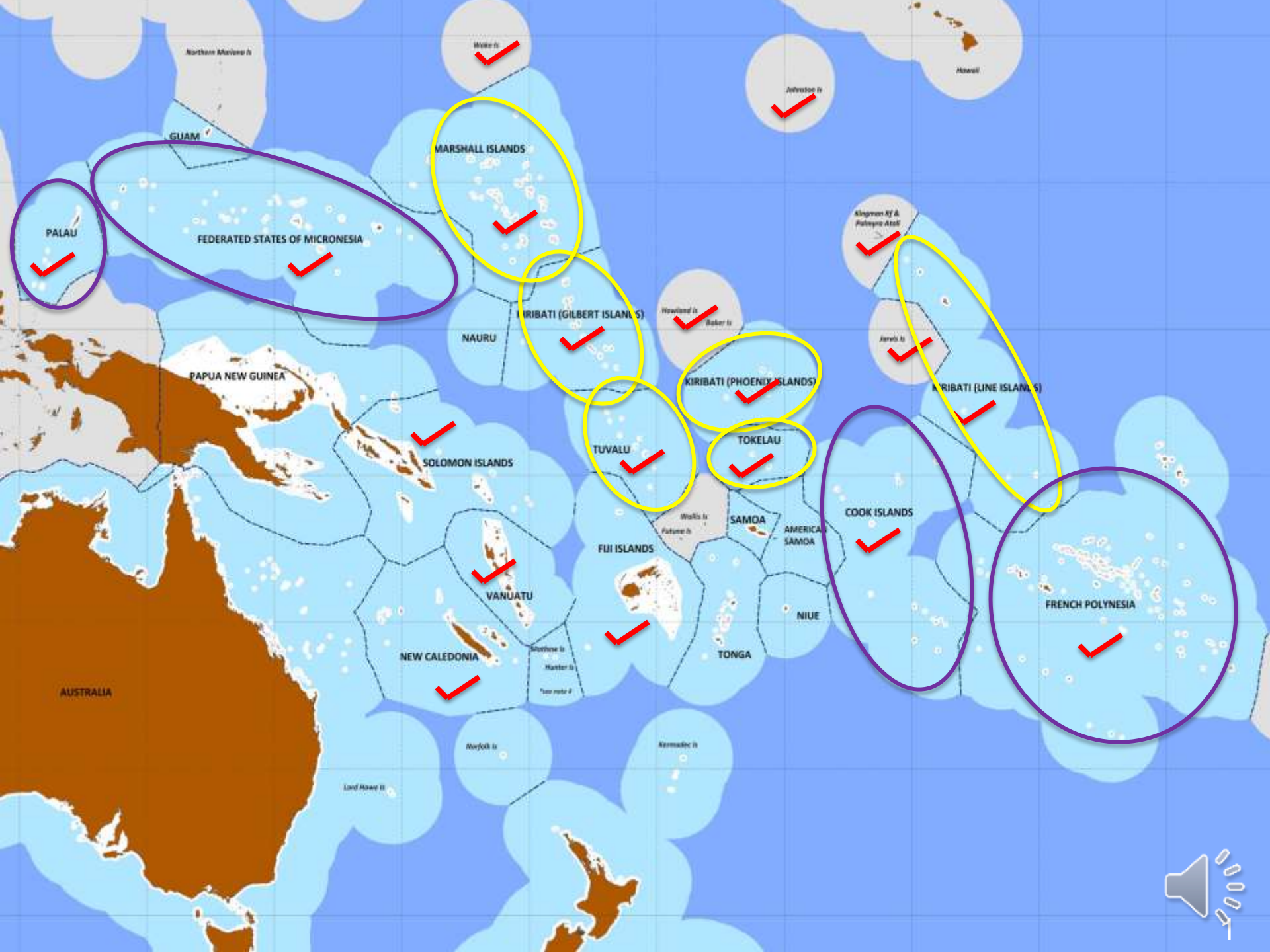
Norman Manley  
International Airport,  
Jamaica














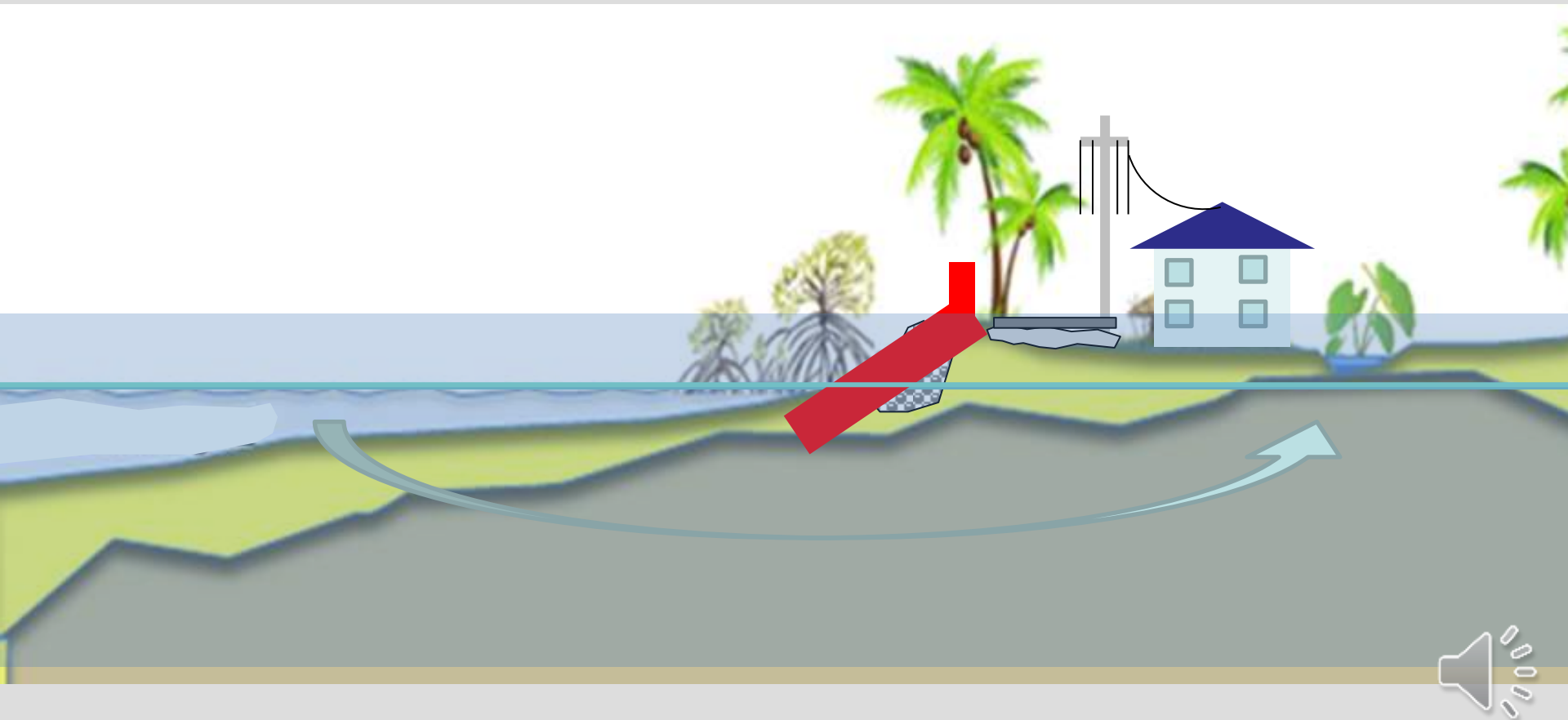


The greater majority of our “high island” communities and infrastructure development is in near-shore low lying zones as well ..... analogous to atoll conditions.



Seawalls are a common response in the Pacific and there is no doubt that well designed and constructed seawalls will continue to be the mainstay of shoreline defence.

However, at this time seawalls are seldom of adequate design and it is usually not understood that in our typically low laying near-shore zones flooding will occur behind the seawall irrespective of how well the wall performs.



Population bears a direct relationship to “development” but also human wellbeing, vulnerability / resilience dynamics and asset investments.



Makin



Ebeye



An aerial photograph of a small island, likely Nukuoro in the Federated States of Micronesia. The island is roughly circular and features a large, deep blue lagoon in the center. A narrow, light-colored strip of land, possibly a beach or a road, runs along the perimeter of the lagoon. The surrounding ocean is a darker blue. The text is overlaid on the lagoon area.

Small island environments +  
Rapid development +  
Climate change & sea level rise

=

**Coastal resilience issues are among  
our most urgent challenges.**

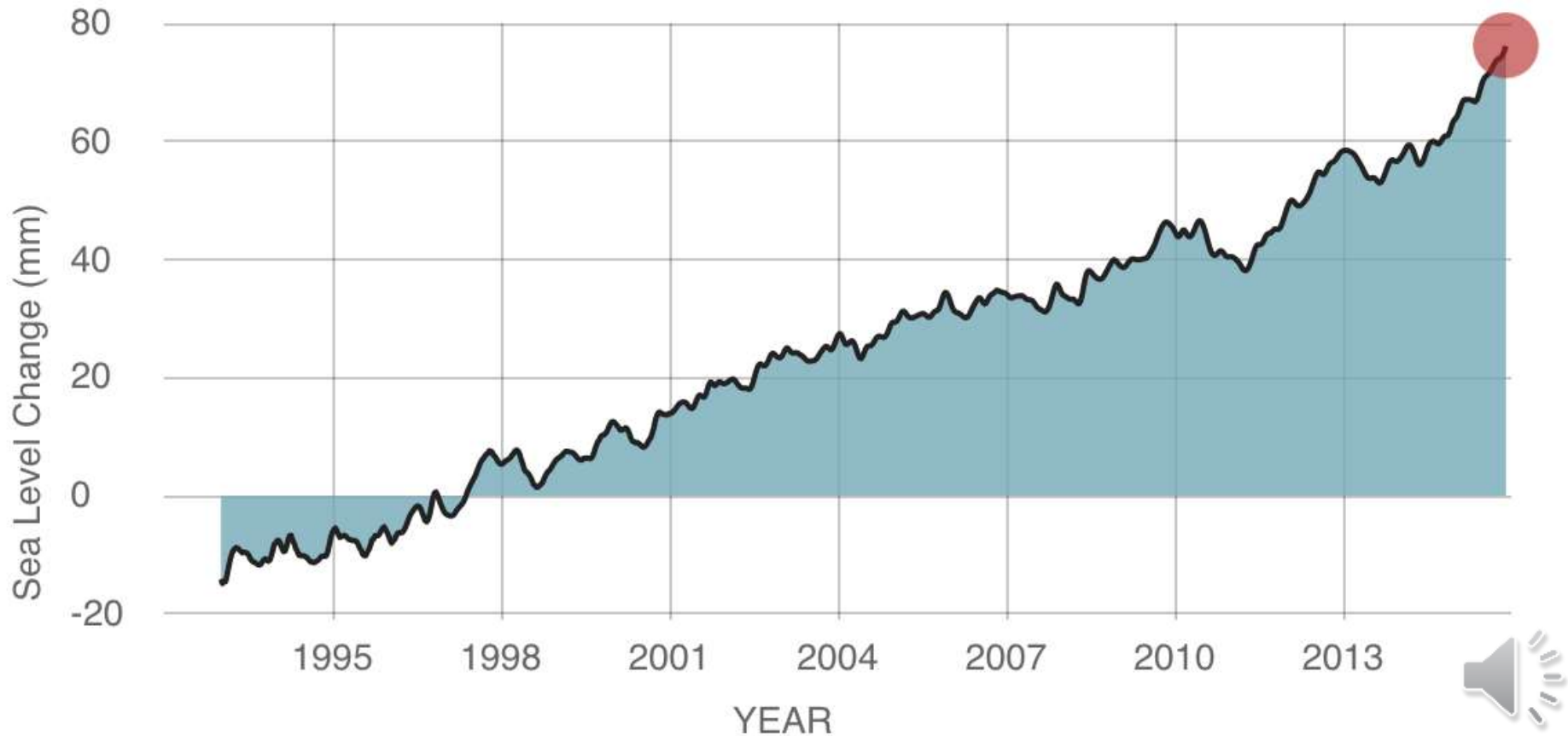


## SATELLITE DATA: 1993-PRESENT

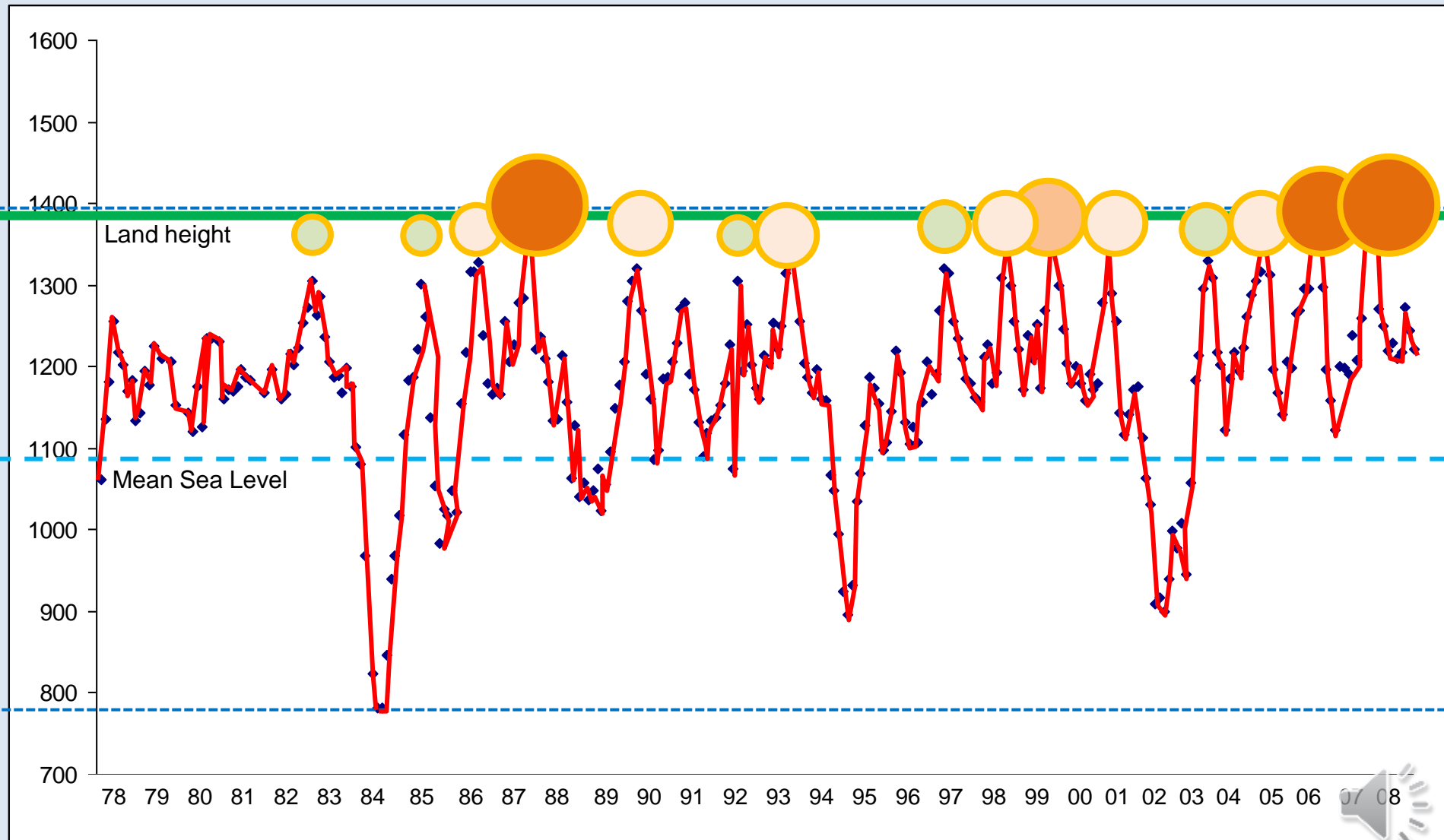
Data source: Satellite sea level observations.  
Credit: NASA Goddard Space Flight Center

RATE OF CHANGE

↑ 3.41  
mm per year



What we see today in respect to flooding in the Pacific Islands is entirely consistent with what should be expected as the “baseline” of sealevel is gradually increased.





Sea level rise:  
The challenge of maintaining our  
coastal infrastructure.



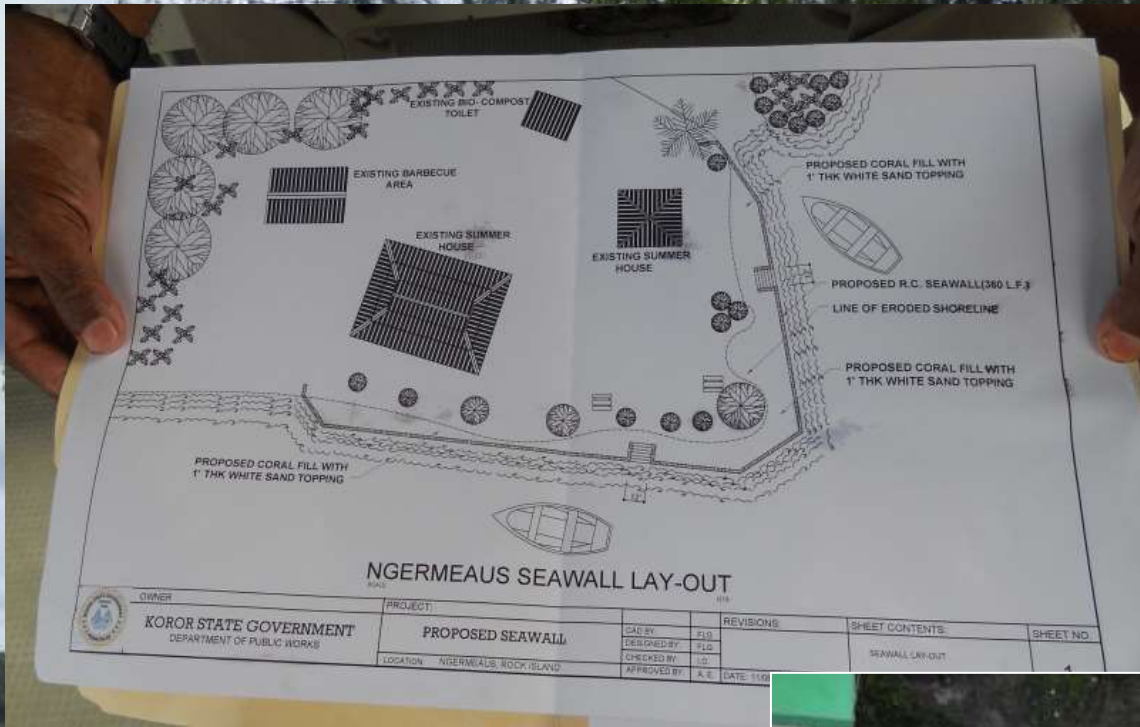
Whilst we desperately NEED to see a rapid increase in urgency and resources to address issues like sea level rise. Tragically this same urgency combined with poor resourcing at this time can lead to mal-adaptation, inappropriate engineering and inefficient use of limited resources.



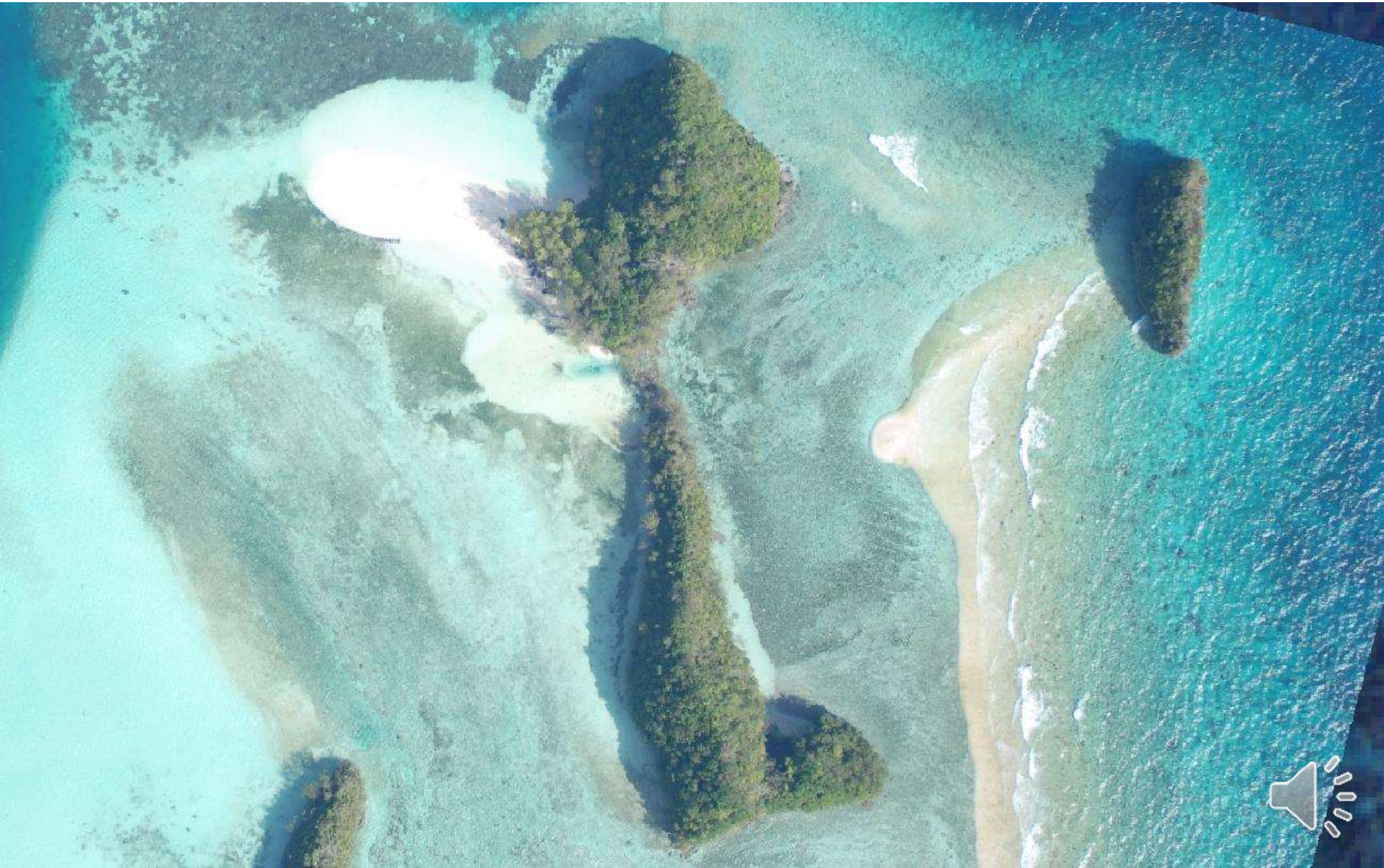
Rock Islands PALAU







# PALAU, Rock Islands - Ngkesill 2013



# 2013



Beach footprint 2013



# 2012



Beach footprint 2013



# 2011



Beach footprint 2013



2006



Beach footprint 2013



# 1994



Beach footprint 2013



# 1992

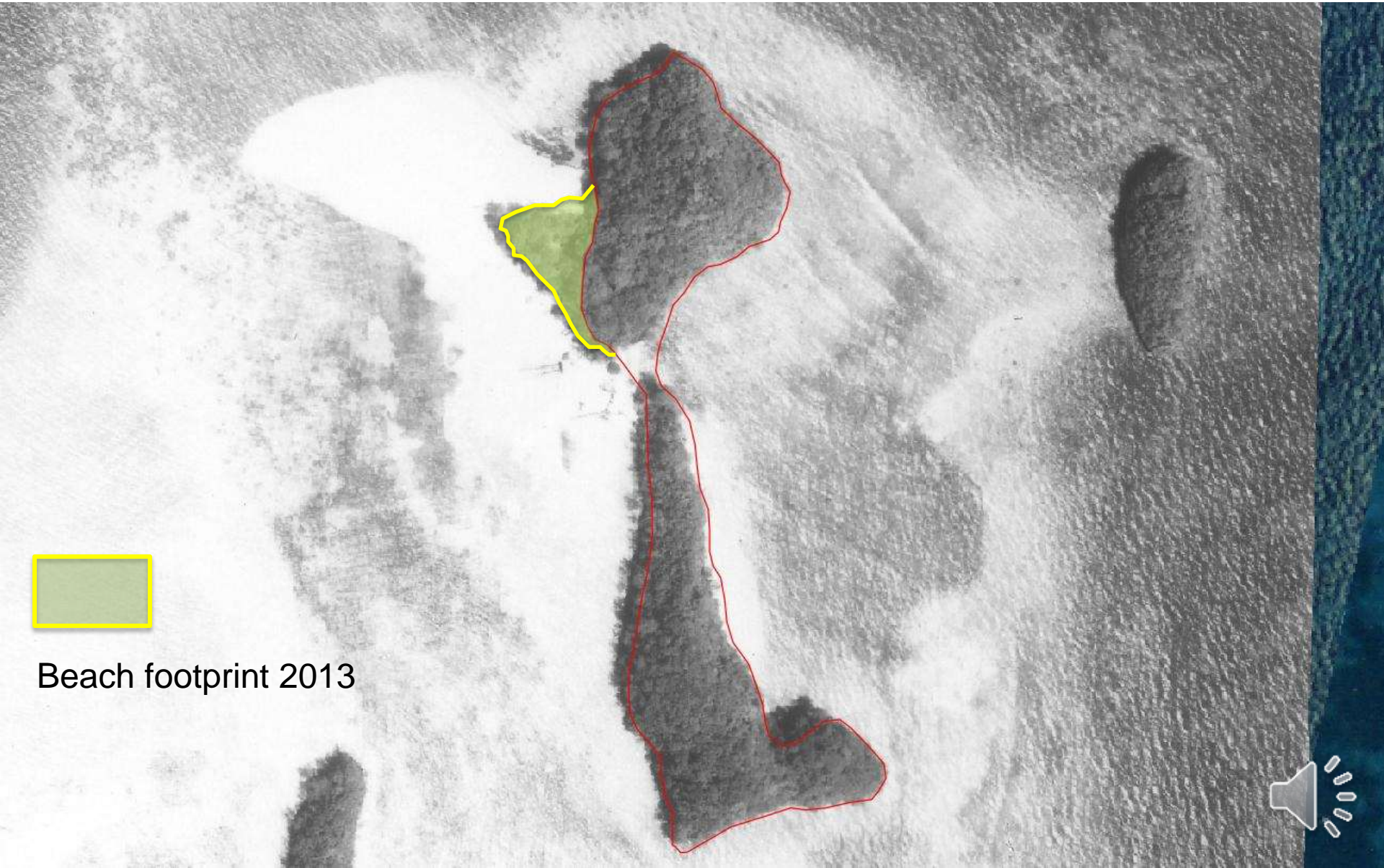


Beach footprint 2013





# 1976



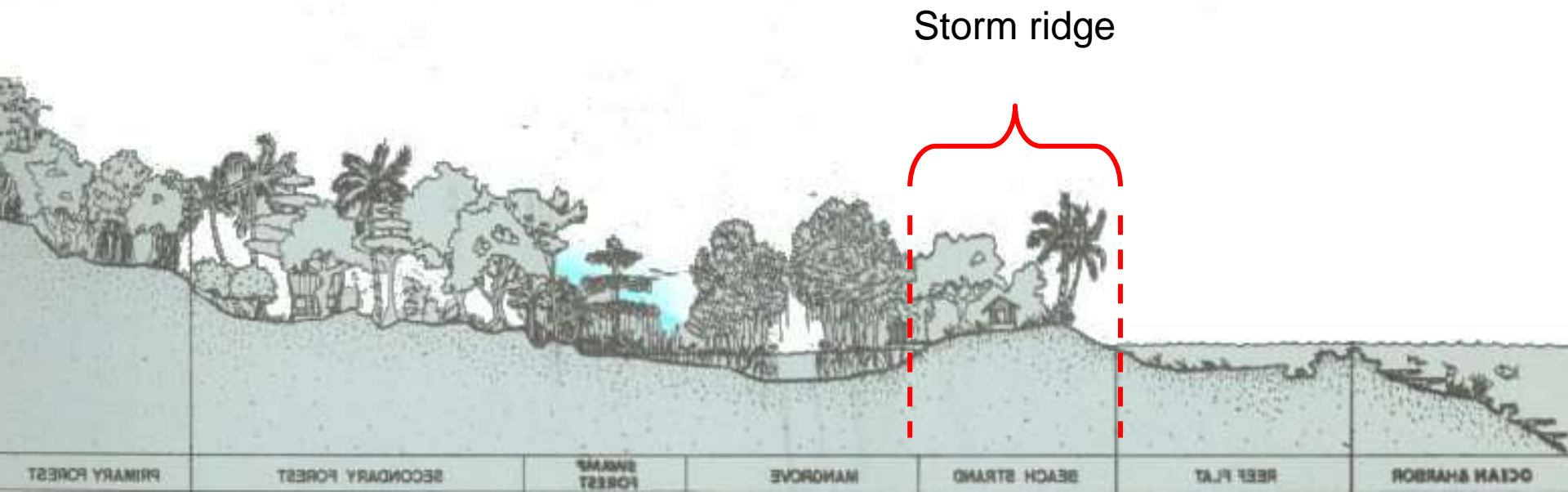
Beach footprint 2013



Coastal infrastructure planning, maintenance and management an urgent issue.



The role of planning is key to improved resilience.



2012  
2014



# What can long term coastal resilience look like.





Funafuti - TUVALU



Before



After



# A few “take home” points.....

- The greater majority of Pacific Island Communities and infrastructure are located in low-lying vulnerable coastal zones, on atolls and on our high islands.
- Today we still have a roughly 50/50 split between rural and urban across the region - the wellbeing of subsistence communities are immediately linked to the sustained function of environmental and ecosystem services.
- Climate change and associated sea level rise present unprecedented challenges in the region; however unplanned urbanisation, poor decision making and inappropriate infrastructure development is also a major driver of enhanced coastal vulnerability at this time.
- This is in fact good news! Since simple support in areas like; planning, infrastructure development, asset management, engineering, etc. can make a huge difference to human well being, resilience into the future, the costs of disasters, etc.
- Right now there is a huge gap in the necessary technical support and resources needed to assist Pacific Islands to address such challenges

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# Kam Bati n Rabwa!

(Thank you very much!) if you'd like to discuss any aspect of this presentation please feel free to email: [webbarthur@gmail.com](mailto:webbarthur@gmail.com)



Abaiang, Kiribati