

# Hurricane Donna to Hurricanes Irma & Maria – 57 years of lessons learnt, forgotten or ignored.

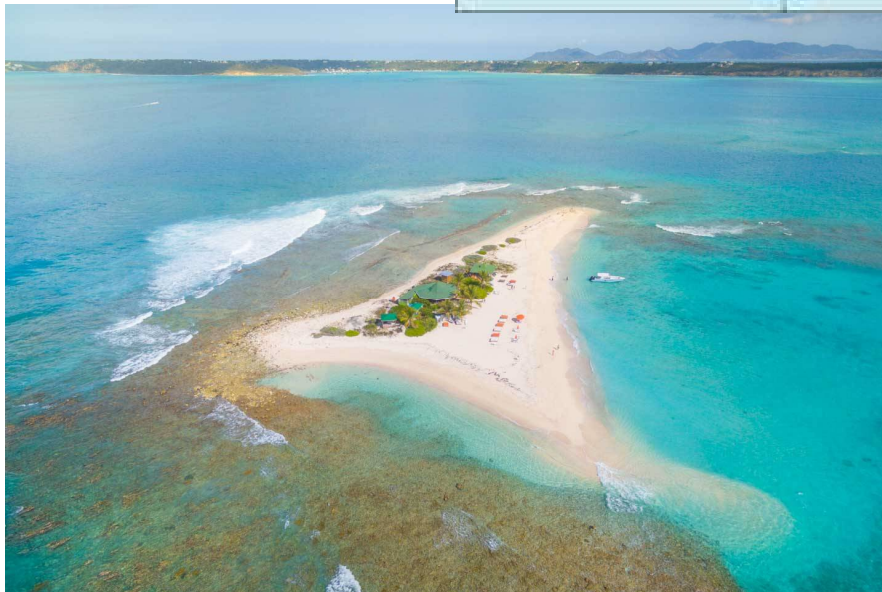
WS129

Governor's Hurricane Conference

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# Anguilla



# Hazards we Face

## Top 15 Hazards (ranked in order of risk)

Hurricane (Cat 4 or above)

Water Shortage/Drought

Tsunami

Marine Incidents

Earthquake (7.0 or greater)

Flooding (Rainfall induced)

Epidemic

Fire/Explosion

Coastal Flooding/Storm Surge/Ground Sea

Landslides/Slope Failures

Extreme Heat

Aviation Accidents

Mass Casualty

Security Threats (Borders, Terrorism, Sabotage)

Civil Disorder (Riots, Public Convergence)



# Hurricane Donna 1960

- Struck with winds of 145 mph at Category 4 on 4<sup>th</sup> September. All homes were impacted or destroyed. Fishing and shipping were severely impacted. When you consider that in 1960 Anguilla was home to 4,000 people.
- There was island wide destruction.

# Lessons Learnt - Donna

- Home construction changed to concrete throughout with reinforced steel columns.
- Concrete roof
- Galvanised roof – particular Pitch of sides to minimise wind impacts

# 1961 - 1994

- No significant Tropical cyclone activity
- Complacency
- Old stories forgotten
- Galvanised roof cheaper and more prevalent

# Hurricane Luis 1995

- Cat 4 Cape Verde Hurricane
- 39<sup>th</sup> tropical wave of the season
- 4<sup>th</sup> Sept eye passed Barbuda
- Cat 4 - 4/5<sup>th</sup> Sept eye passed Anguilla & St.Martin/St.Maarten
- 2-3mph
- 36 hours pummelled the islands

# Hurricane Lenny - 1999

- First storm in recorded history to have an extended west to east track across the Caribbean
- 8<sup>th</sup> - November detected
- 14<sup>th</sup> – Tropical Storm
- 18<sup>th</sup> – Category 3
- Excessive flooding of the island
- Hurricane Jose 2 weeks before



# 2000 - 2007

- 2000 – 2007 – No significant tropical cyclone activity. A few near misses

# 2008-2016

- 2008 – Hurricane Omar 14-15<sup>th</sup> October
  - Cat 1-3 113mph
  - Track Caribbean Sea to Atlantic
- 2010 – Hurricane Earl 29-30<sup>th</sup> September
  - Cat 1-2
- 2014 – Hurricane Gonzalo 12<sup>th</sup> October
  - Cat 1-2
- 2015 - TS Danny & Erika – Near misses

# Hurricane Irma

- Cat 5 – 185mph sustained gusts 200+ mph
  - 2<sup>nd</sup> strongest wind speed ever in the Atlantic basin
- 85% of homes damaged from slight to totally destroyed

## National Response and Relief Operations

- NEOC activated in response to IRMA on Tuesday 5<sup>th</sup> September at noon (12 p.m.)
- Four (4) Hurricane shelters opened for the passage of IRMA at 4 p.m.
- Response and Relief effort coordinated from the NEOC
- Damage Assessment and Needs Analysis conducted by DANA teams following the storm. This was preceded by the initial windshield survey conducted on September 6<sup>th</sup>. An aerial reconnaissance was performed on September 7<sup>th</sup>.
- Debris clearance conducted in concert with utilities
- Relief distribution coordinated and executed from the NEOC with the assistance of the Anguilla Red Cross
- Relief supplies continue to be delivered to vulnerable members of the population
- Government of Anguilla and ARC implemented a cash relief programme based on reported damages.

# Lessons Learnt - Irma

- Structurally inefficient infrastructure (GoA) and lack of funds are impacting GoA's response mechanisms;
- Structural integrity of GoA buildings to be assessed especially those to be occupied during an event.
- Business continuity plans needed for essential Government entities;
- Better use of civil servants to assist with the response effort such as relief distribution, DANA or road clearance.
- Fuel distribution mechanism to be reviewed. Development of a Fuel plan with possibly detailing having a strategic fuel reserve
- GoA response communications, including within and between the emergency services, were heavily dependent on 'mobile phone' services, even with the loss of functionality of one provider initially. There is a need for increased/improved Radio Communication capability.

# Lessons Forgotten

- To

# Lessons Ignored

- The message from the ancestors.
  - Where and how to build

# AnguillaStrong

- Increase emphasis placed on mitigative measures including a Fleet garage and a fuel depot in order to aid response
- Ideally ensuring infrastructure be able to withstand up to 155mph wind speeds – noting that building resilience would take considerable money (e.g. putting power and communication lines underground);
- Recognising that a loss across the education system of a month's schooling occurred, "Safe School" mechanism should be used in the rebuilding of schools;
- A strong Business Continuity Planning programme in place for public and private sector - Each Government Department to be trained in business continuity planning
- Enhanced public awareness and education is needed within the public and the private sectors;
- GoA alerts and bulletins issued largely through established media outlets. May mean certain people did not receive (e.g. tourists, foreign speakers, non-radio listeners). Should consider scope for more diverse range of communication channels to be employed to ensure effective means to inform the public.