



Climate Services in the Solomon Islands Meteorological Service

Ra V Seminar On Climate Services
1 to 4 November 2011
Honiara
Solomon Islands





Outline

- SI in Brief
- Climate Drivers
- Climate Variability
- Observation network
- Proposed network
- Climate extremes
- Climate services
- Gaps & Needs





SI in Brief



- Divided into 9 political boundaries/provinces
 - ✓ Guadalcanal
 - ✓ Central
 - ✓ Malaita
 - ✓ Isabel
 - ✓ Choiseul
 - ✓ Western
 - ✓ Makira
 - ✓ Rennell & Bellona
 - ✓ Temotu





SI in Brief – Climate Drivers



- Main Climate Drivers
 - ✓ Western monsoon
 - ✓ Inter Tropical Convergence Zone (ITCZ)
 - ✓ South Pacific Convergence Zone (SPCZ)
 - ✓ El Nino Southern Oscillation (ENSO)

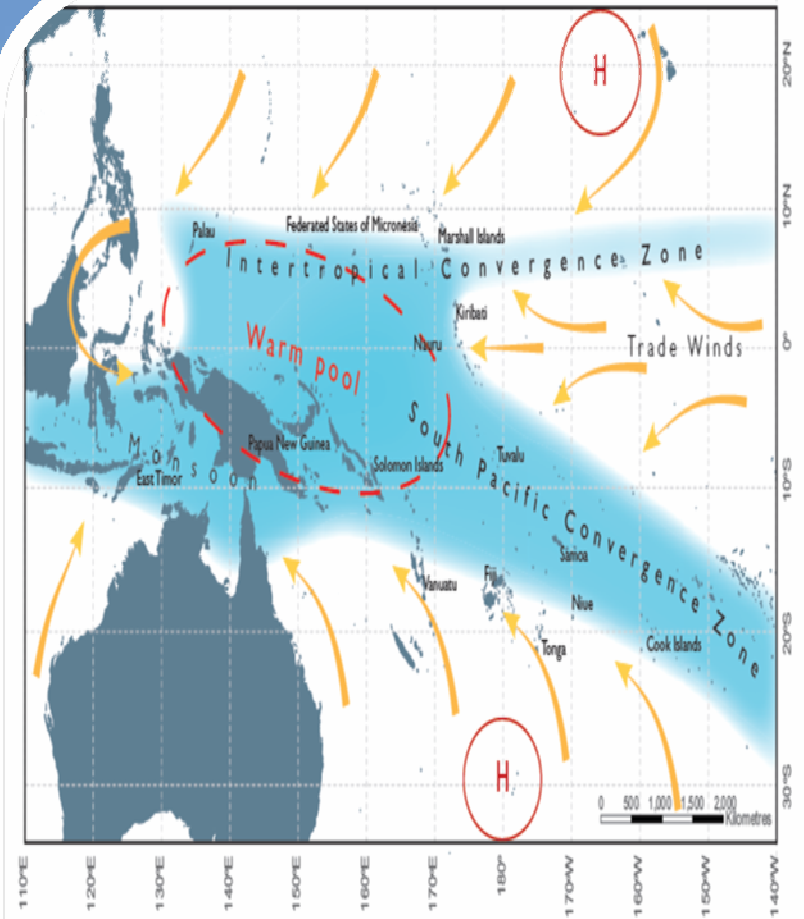


Figure 1: The average positions of the climate features in November to April. The arrows show near surface winds, the blue shading represents the bands of rainfall convergence zones, the dashed oval shows the West Pacific Warm Pool and H represents typical positions of moving high pressure systems.

Source: Pacific Climate Change Science Program

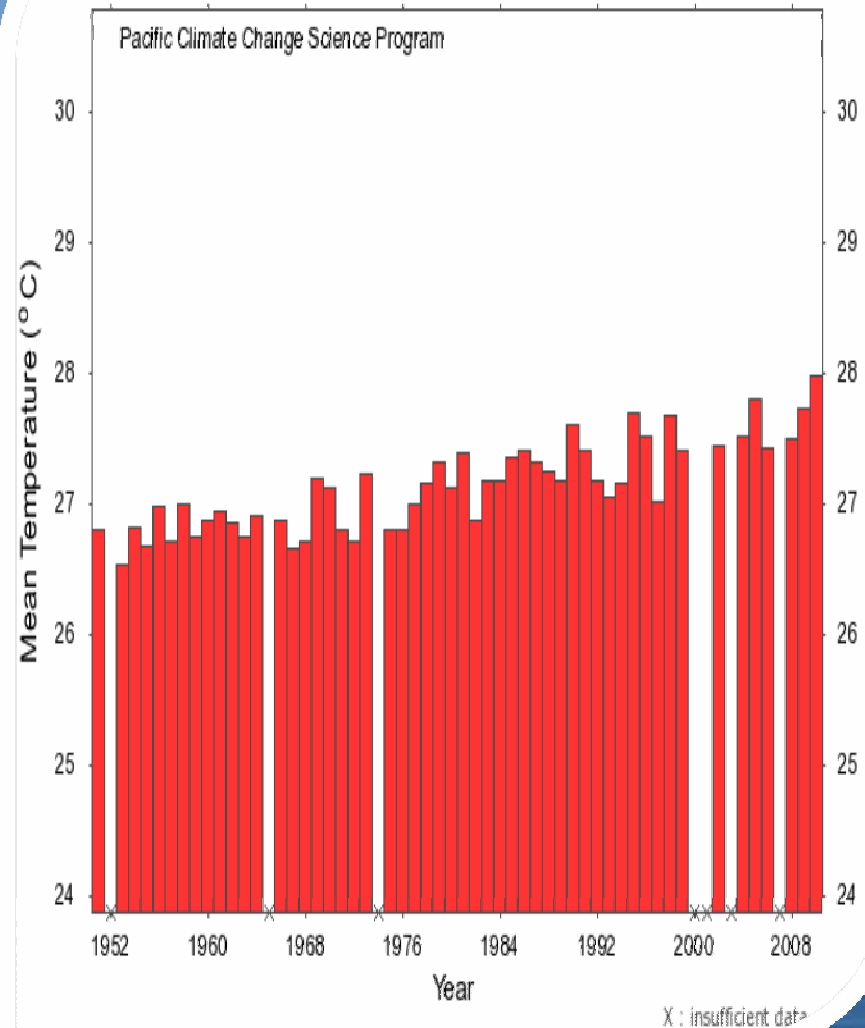


SI in Brief



- 2 seasons – wet & dry
- Ara & Komburu
 - ✓ terms describes the onset of the trade winds.
- A lot of variability in rainfall
- Very little variation in temperature but increasing trend

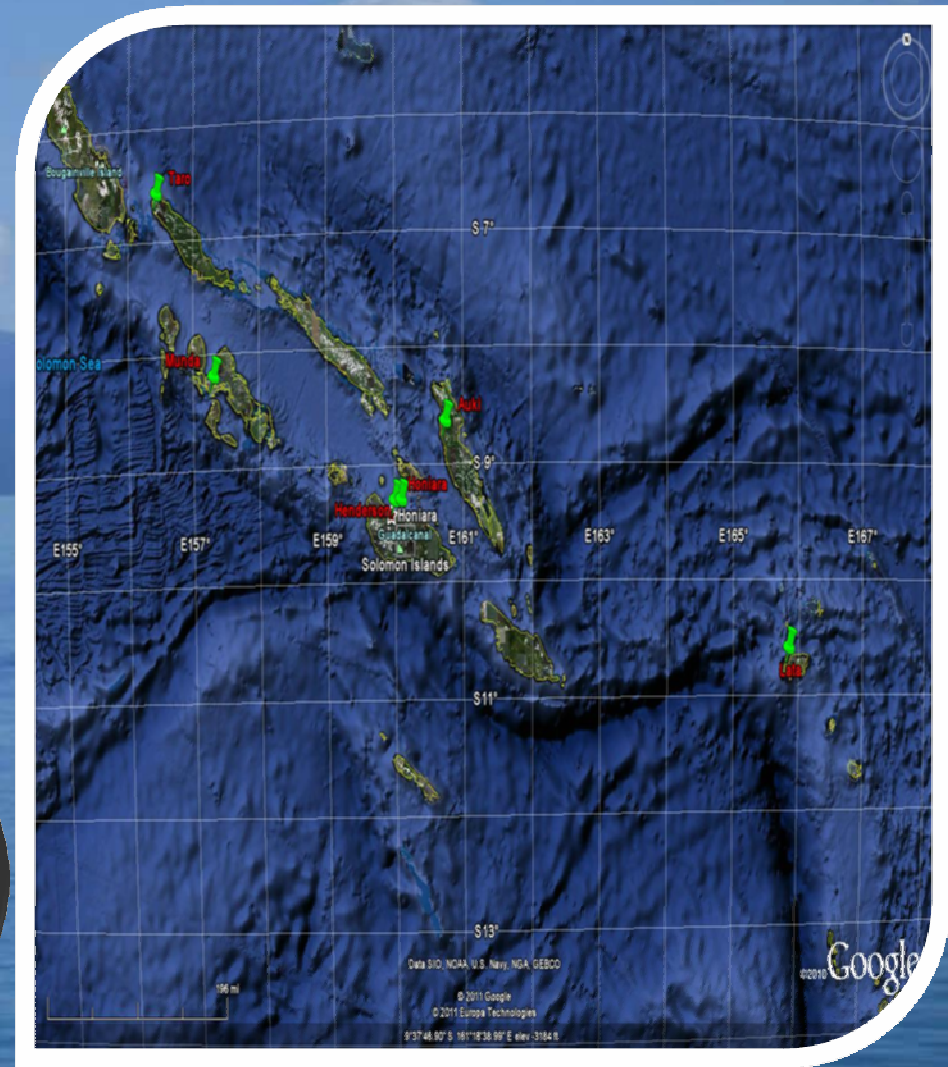
Annual Mean Temperature - Honiara





Observation Network

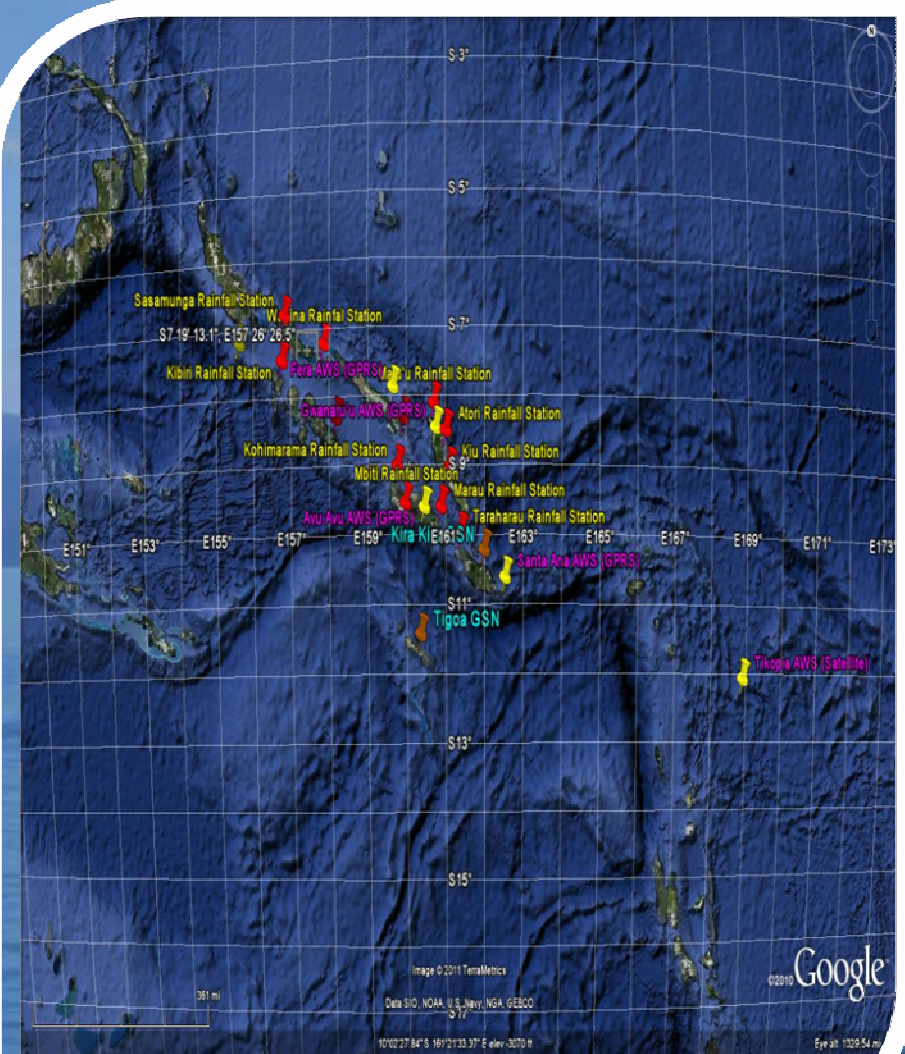
- Climate Observation
 - ✓ Six (6) operational manned stations
 - ✓ 21 voluntarily rainfall stations
 - ✓ One upper air station





Proposed Network

- Two manned stations (SIG)
 - ✓ Tigoa – Rennell
 - ✓ Kira Kira – Makira
 - ✓ Automatic weather station – Henderson Airport
- Adaptation Fund Project.
 - ✓ 12 automatic rainfall stations
 - ✓ 4 automatic agmet weather stations
- 2 private automatic weather stations





Climate extremes

Tropical Cyclone



Tropical cyclone Zoe, 2002





Climate Extremes

Flooding



West Guadalcanal flood, 2009





Climate extremes-cont



Drought



The last well on Bellona Island, Solomon Islands still had water, but it was badly polluted. First rains had turned the vegetation green but it would not be productive for some weeks.



Major pest damage to the first green vegetable crop in northern Solomon Islands after the rain began.

Source: 97/98 drought assessment report, AusAid.



Climate Extremes-cont



King tide, 2008



Sea Level Rise





Climate Extremes-cont



*Storm Surges
&
Coastal Erosion*





Climate Services

- Climate Services
 - ✓ Quality control
 - ✓ Data rescue & digitization
 - ✓ seasonal forecast
 - ✓ 3 months rainfall outlook
- Pacific Climate Change Science Program (PCCSP)
 - ✓ Climate data base
 - ✓ Climate variability and change
- Climate early warning system (CLEWS)
 - ✓ Collaboration with NIWA
 - ✓ Focus on agriculture and food security
 - ✓ Partner with Climate Change Office, UNDP, Ministry of Agriculture, Nut Growers Association, Kastom Garden, School of Natural Resources



Photo: SWOCK Project



Gaps & needs

- Strengthening human capacities
 - ✓ Upgrading of educational level, scientific and technical qualifications of the officers meet the current requirements
- Technical capacities
 - ✓ Most of the equipment needs to be modernized and automated
 - ✓ Significant expansion and upgrading of the observation network.
- Strengthen our partnership with users and ensure products are accessible
- Additional funds to have a complete our CLEWS
- Need additional resources for data rescue and digitization





TANKIO TUMAS

