

AMIE

(ACRF MJO Investigation Experiment)

Planning Meeting

AMIE Science Steering Committee

Chuck Long, Tony DelGenio, Bill Gustafson, Bob Houze, Mike Jensen, Steve Klein, Ruby Leung, Xaihong Liu, Ed Luke, Peter May, Sally McFarlane, Pat Minnis, Courtney Schumacher, Andy Vogelmann, Yi Wang, Xiaoqing Wu, Shaohong Xie

Agenda

- Proposal due May 1 !!!!!
- Primary purpose of this meeting is discussions and planning in support of completing the proposal
- Defining the science and ACRF support needed to do it

New Scientific Synergy

- Pushed back AMIE one year
- Now November 2011 – March 2012
- Moved to coincide with CINDY2011/DYNAMO
- Will allow study of initiation and propagation/evolution of the MJO
- Chidong Zhang will present
- Followed by discussions.....

News!



- **C-POL for Manus**

News!

- C-POL planned for Manus!
- This potentially “frees up” resources
- Or alternately affords new/enhanced science opportunities

Some Possibilities?

- Increase Manus sondes to 8/day for entire experiment?
 - Better capture the vertical evolution
- Go to 4/day sondes on Nauru
 - Studies show no MJO signature in SW/LW or cloud amount, but is in pressure fields
- Additional sonde site “near” Manus

Some Possibilities?

- Add surface latent/sensible heat flux on Manus
 - Models show decrease in MJO as it propagates through maritime continent
 - One hypothesis is the difference in land/ocean surface/atmosphere energy exchange
 - TAO array (buoys) for ocean
 - Manus forest tower to represent land?

Typical Island Vegetation



Manus Site at Airport



Manus Site at Airport



Some Possibilities?

Aerosol in-situ measurements?

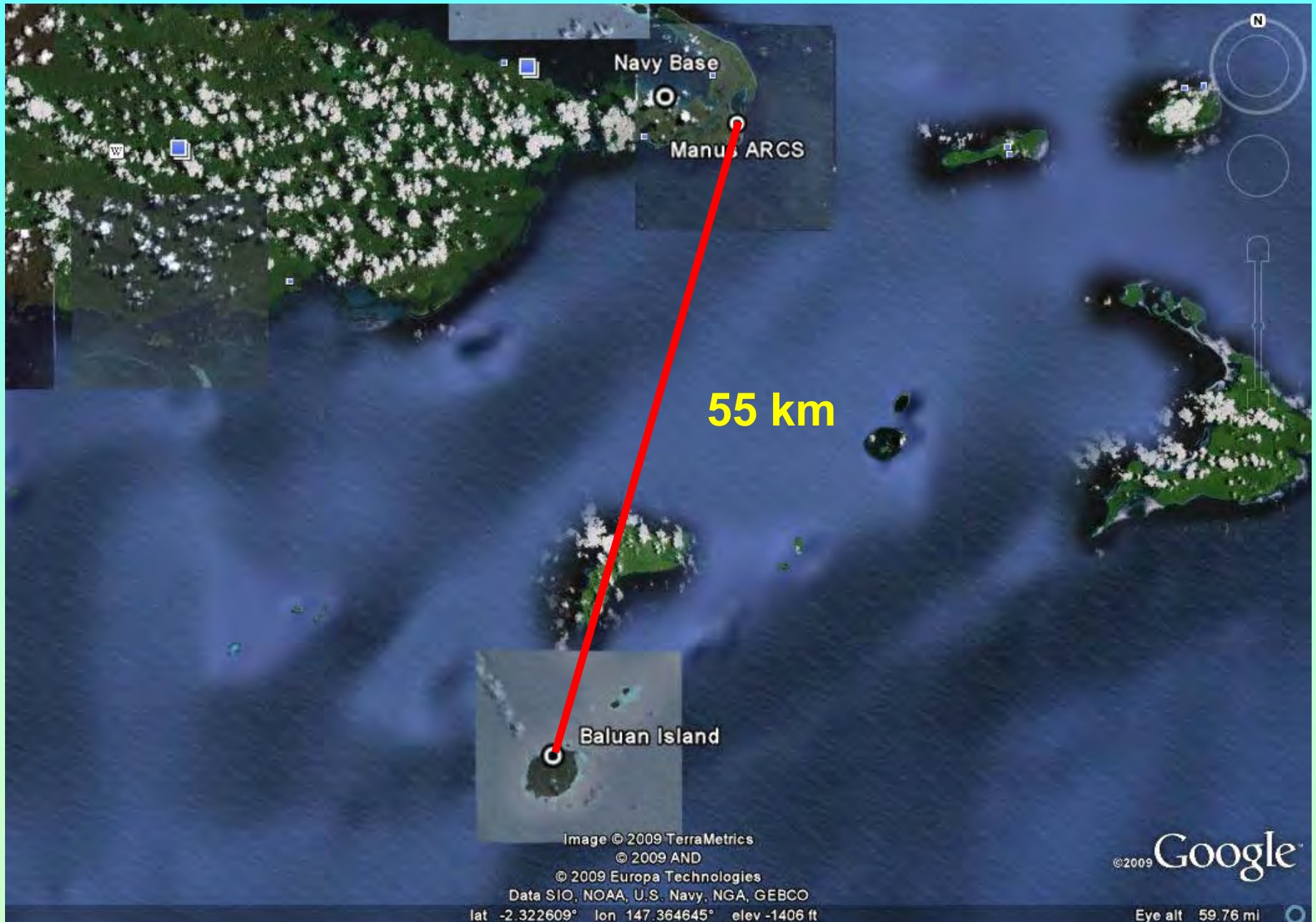
- Document aerosol composition
- Effects of composition/concentration on convection/development
- Rain gauge array?
 - Constrain precip radar retrievals

Some Possibilities?

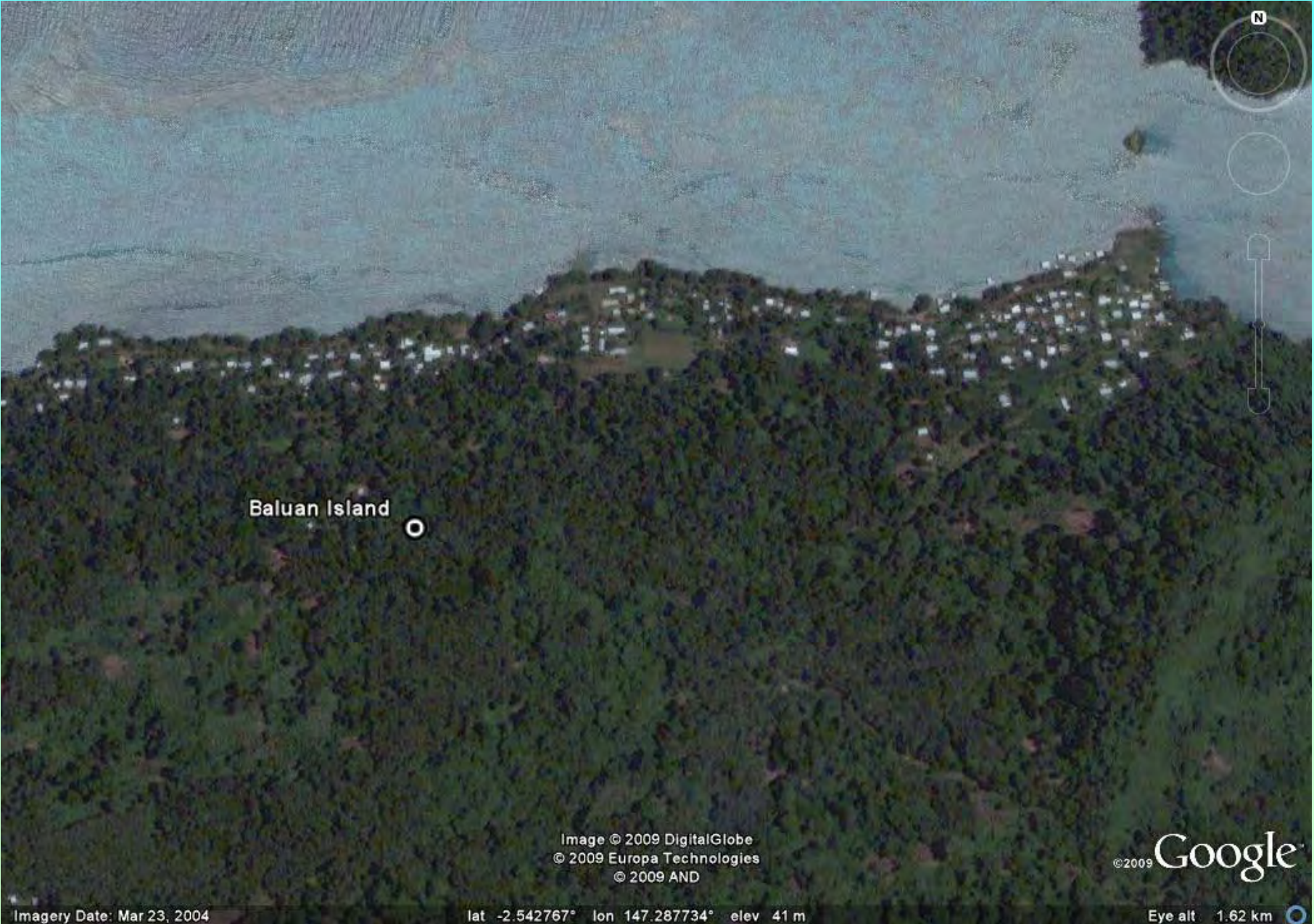
Deploy SMART-R for dual-Doppler studies

- Siting will be extremely difficult
- Thus will significantly increase cost
- Science potential will need to be well argued
- Maybe add as additional option?

Baluan Island



Baluan Island



Baluan Island ○

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Baluan Infrastructure

- This is how much I can recall since my last visit in 2007 (Myra Selan, Manus Observer).
- BALUAN ISLAND: UPDATE ON INFRASTRUCTURE
 - BALUAN PRIMARY SCHOOL: 6 CLASSROOMS WITH ROOFING IRON
 - 2 CHURCH BUILDINGS WITH ROOFING IRON
 - ROAD IS NOT VEHICLE WORTHY (ROCKY ISLAND DUE VOLCANO)
 - BRIDGE/ JETTY STILL IN USE.
- ELECTRICITY: A FEW HOUSES POWERED BY SOLAR PANELS AND GENERATORS.
- WATER SUPPLY: NIL. TANKS USED TO CATCH RAIN WATER.
- HEALTH CENTRE: LOCATED ON NEIGHBOURING ISLAND (LOU).

Let's talk...