Approaches for assessing risk and losses on fisheries and agriculture

Geospatial analyses based on the 2015/2016 El Niño and other climate variabilities in Pacific SIDS

Assessing damage and loss

Three key questions

- How much is at risk?
- How much was lost?
- How much likely to be lost in the future?

PRE-DISASTER RISK ASSESSMENT:
Hazard, vulnerability, Exposure
- *Geospatial approach*
- *Probabilistic Approach*

DISASTER LOSSES (PAST EVENTS)
Loss Accounting
- *Recording impacts (damage and loss)*
- *Measuring Trends*

DISASTER LOSSES (FUTURE RISK)
- *Downscaling climate scenarios using geospatial approaches*
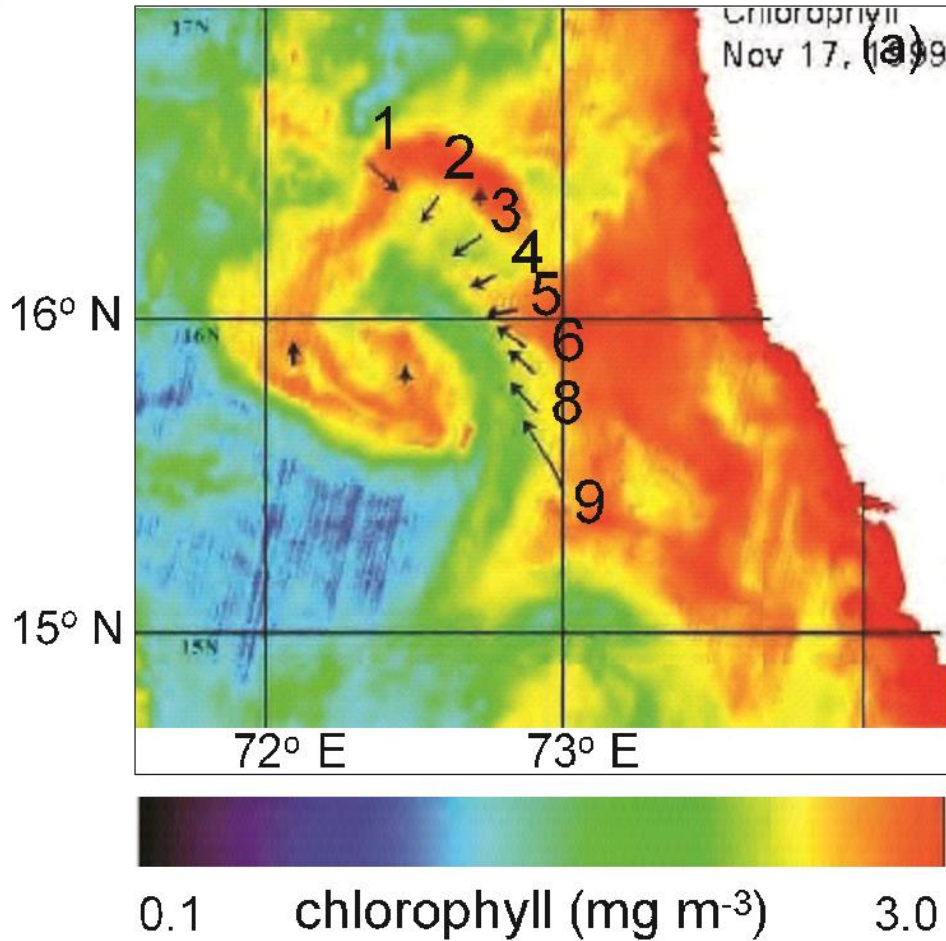- *Probability of losses / Average Annual Loss*

HOW MUCH IS AT RISK?

HOW MUCH WAS LOST?

HOW MUCH IS LIKELY TO BE LOST IN THE FUTURE?

# 2015/2016 El Niño Impacts on fisheries

November 17, 1999

- Thermal remote sensing for chlorophyll identifying fishing grounds

- Higher catches reported for high chlorophyll areas (track 1-9)

Hokkaido, S.S, Chasso, E. et.al. (2009). Remote sensing applications to fish harvesting.

2015/2016 El Niño Impacts on fisheries

- Directly related to agriculture productivity including fisheries

- Amplifications of potential weather impacts

- Huge masses of warm water travel east across the Pacific Ocean and warm water changes storm systems in the atmosphere

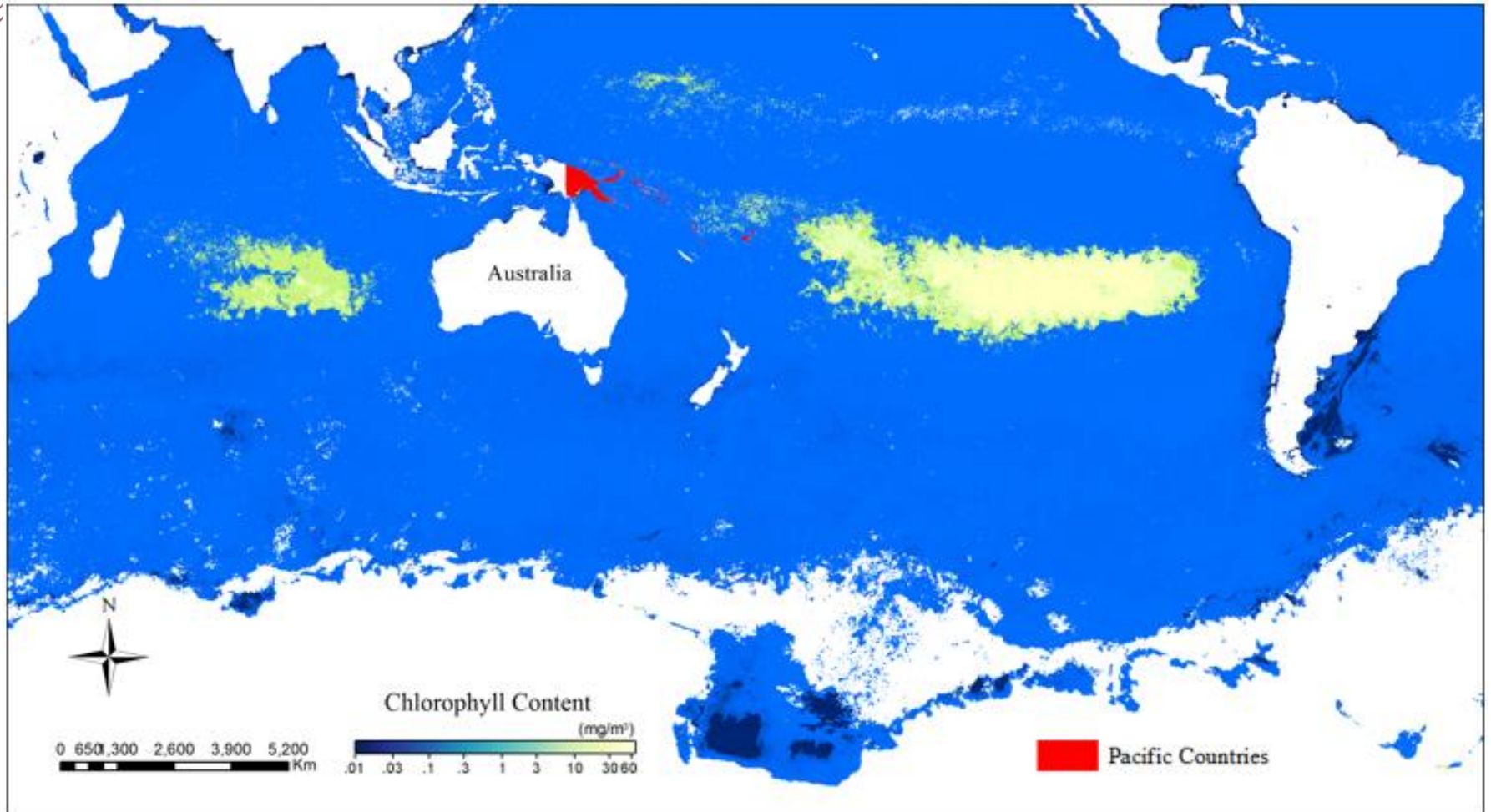- El Niño impacts chlorophyll concentration and phytoplankton bloom
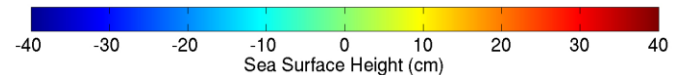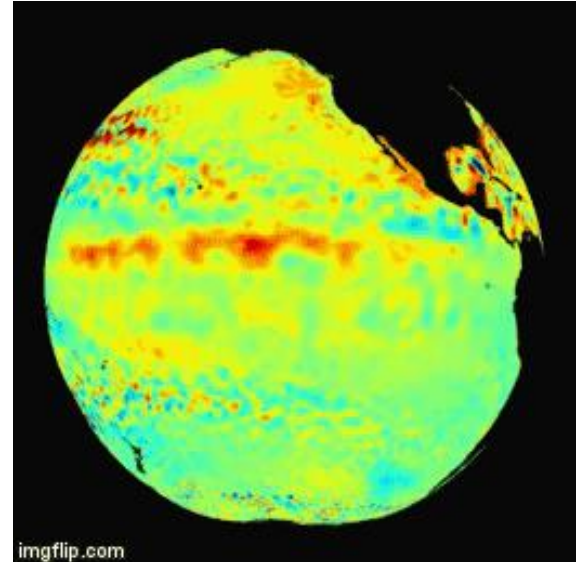
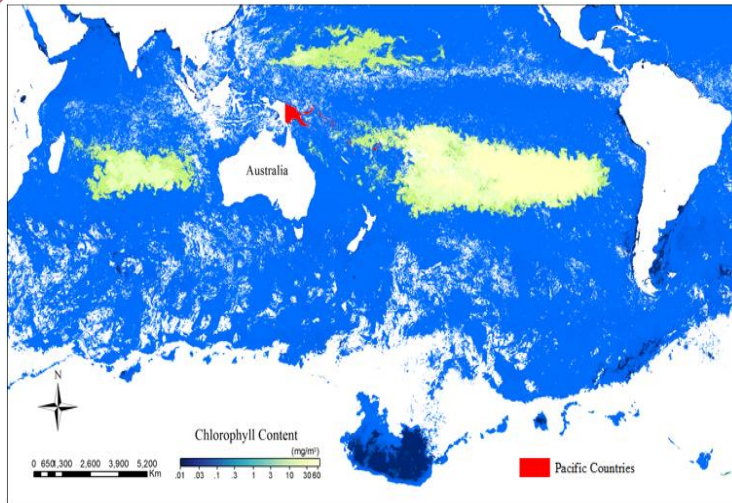# Determining global risk for fisheries during the 2015/2016 El Niño year
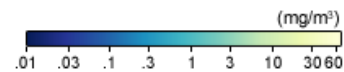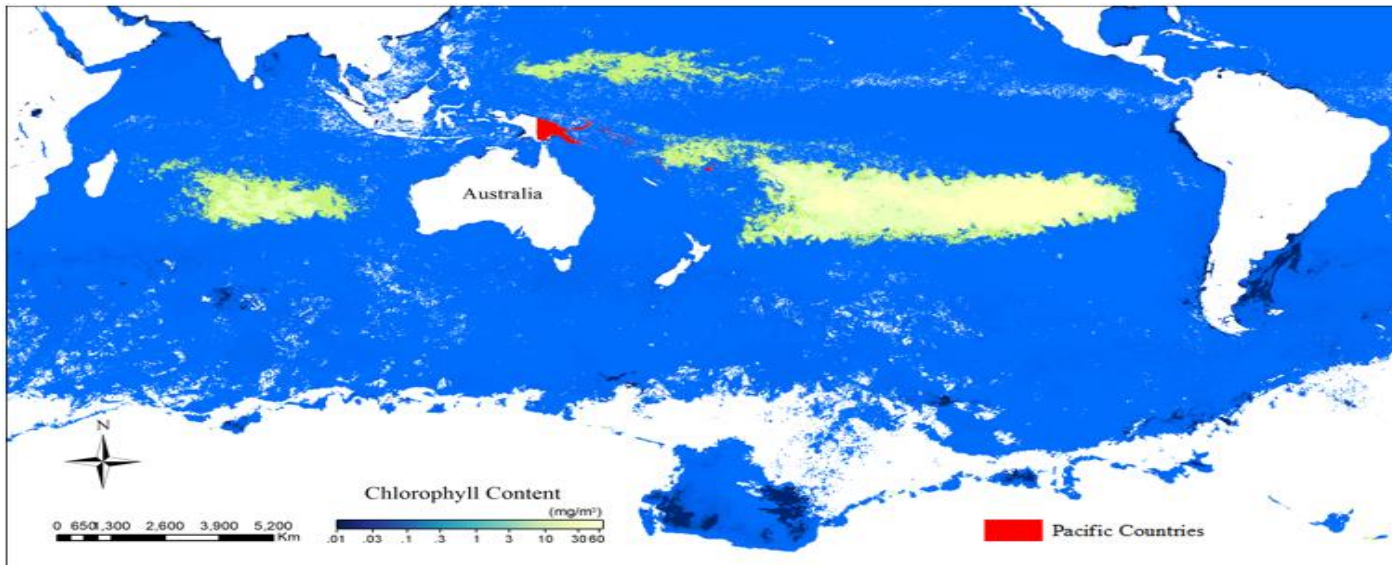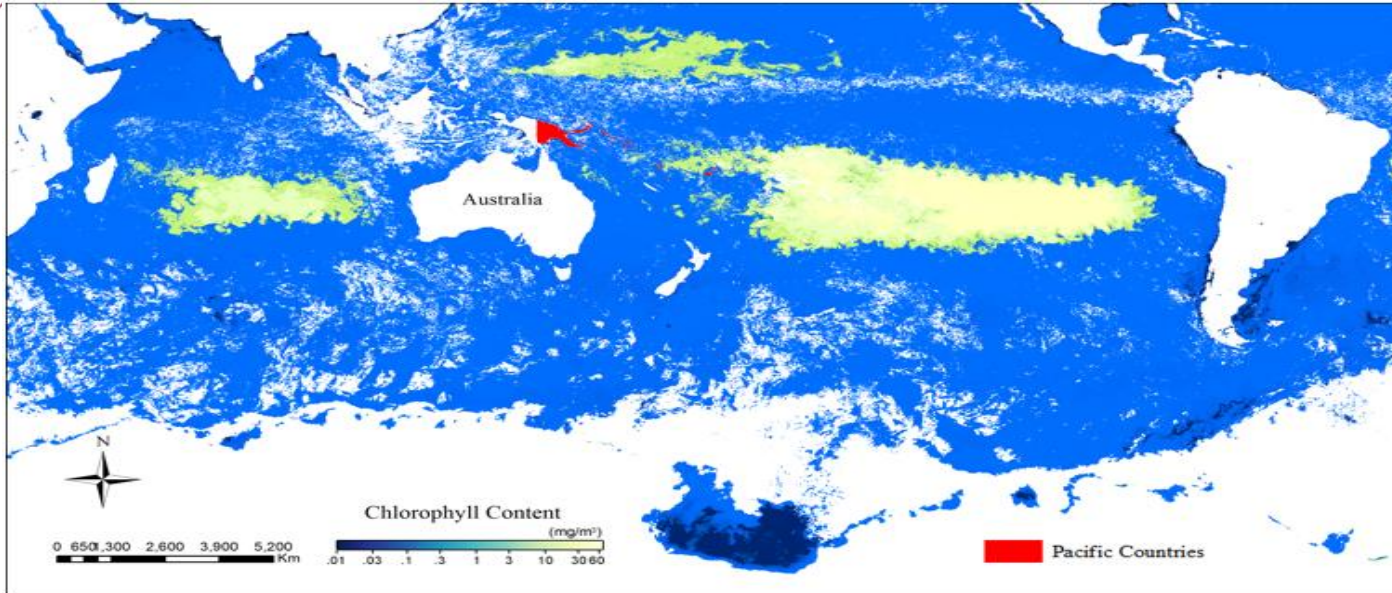
2005

2013

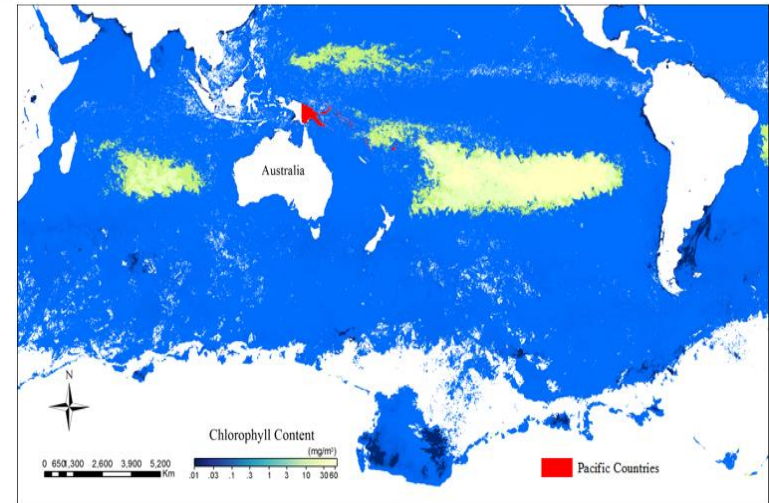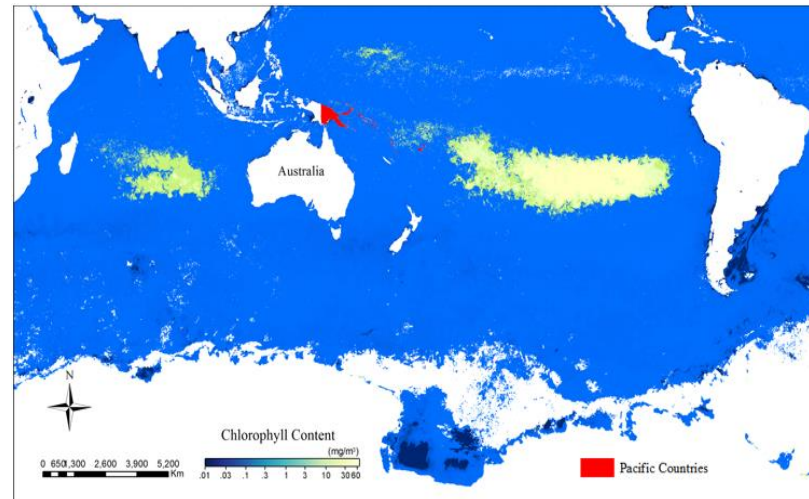# Determining global risk for fisheries during the 2015/2016 El Niño year

2015

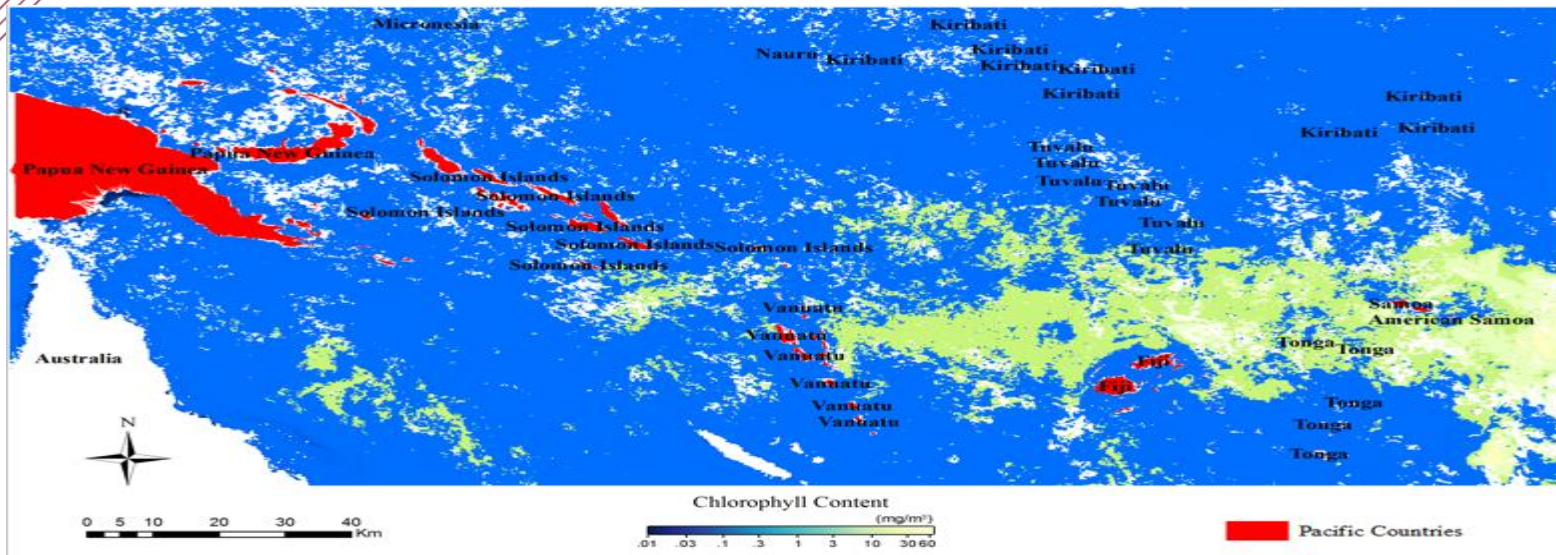# Determining global risk for fisheries during the El Niño year

2005

2013

2015

Determining regional risk for fisheries in Pacific Islands during the 2015/2016 El Niño year

2005

2013