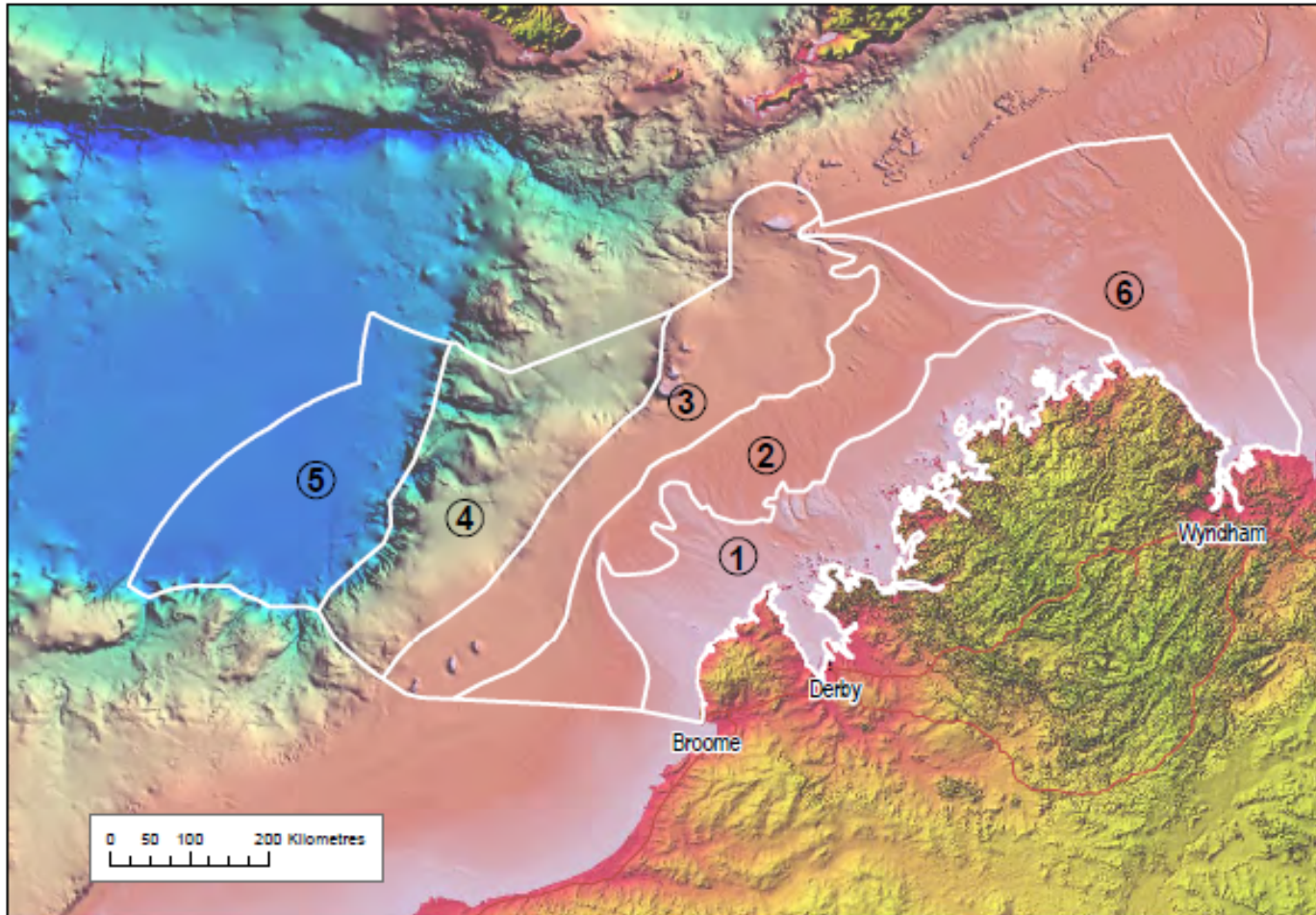




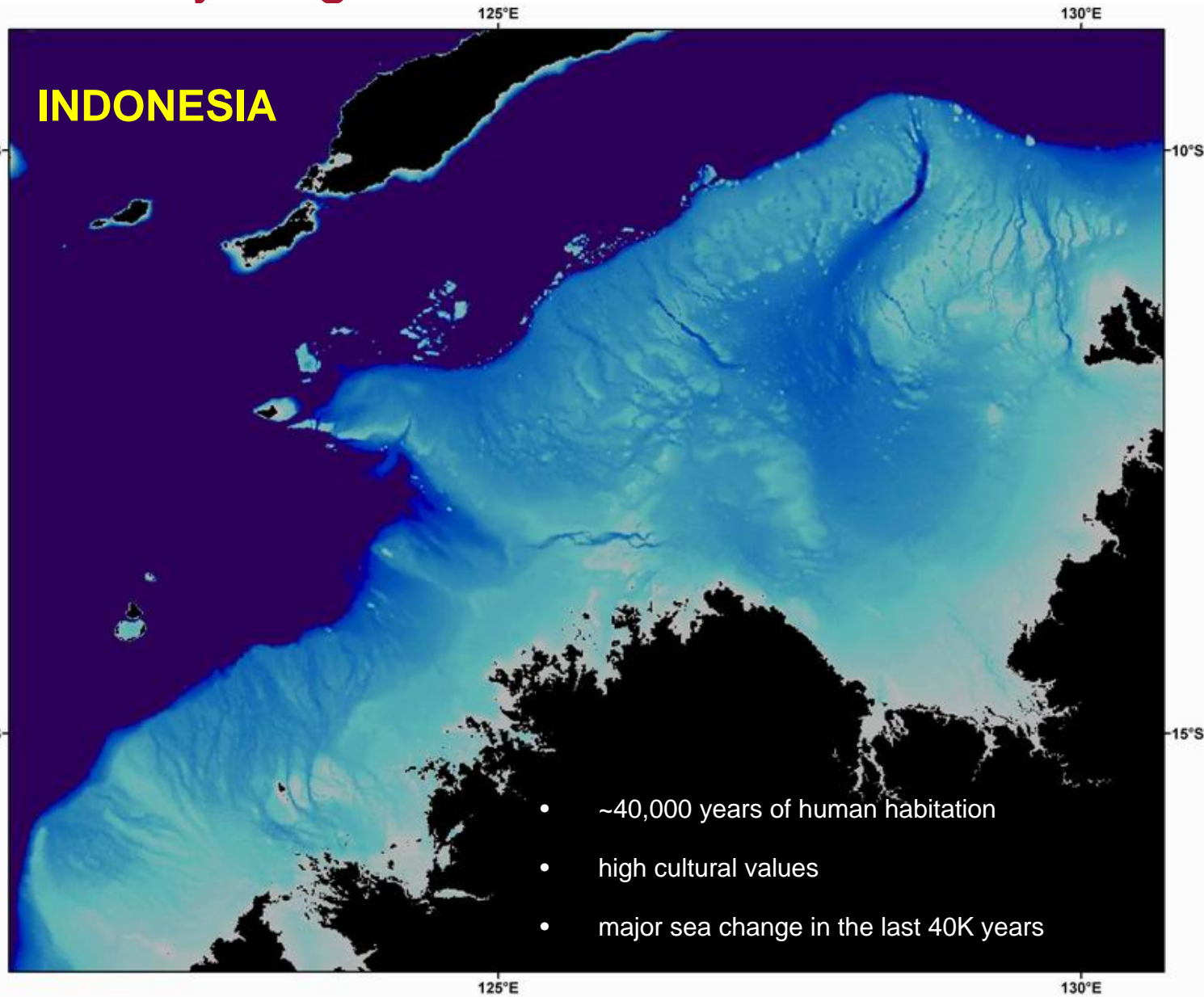
# Scientific Knowledge of the Kimberley Region

Luke Smith

# Kimberley Region



# Kimberley Region



# Waters of the Kimberley

## *Inshore:*

- **Physical:** high temperatures, extremes tides, extensive mixing, high turbidity, high cyclonic activity
- **Marine habitats:** fringing coral reefs, mangroves, seagrass, FF communities

## *Offshore:*

- **Physical:** High temperature, large tides, large internal waves
- **Marine Habitats:** extensive areas of low biodiversity on reef shelf and slope, coral reefs





# Marine Research

## **Nearshore (historic 1800-1990)**

1803 – Nicolas Baudin (*Naturaliste*)

1819/21 – Phillip Parker King (*Mermaid*)

1910/13 – Swedish Mjoberg Expeditions

1970/80's - WA Museum/ Fisheries

## **Barriers to Research**

Isolation (no land access/ roads) – requires large research vessels \$\$\$\$

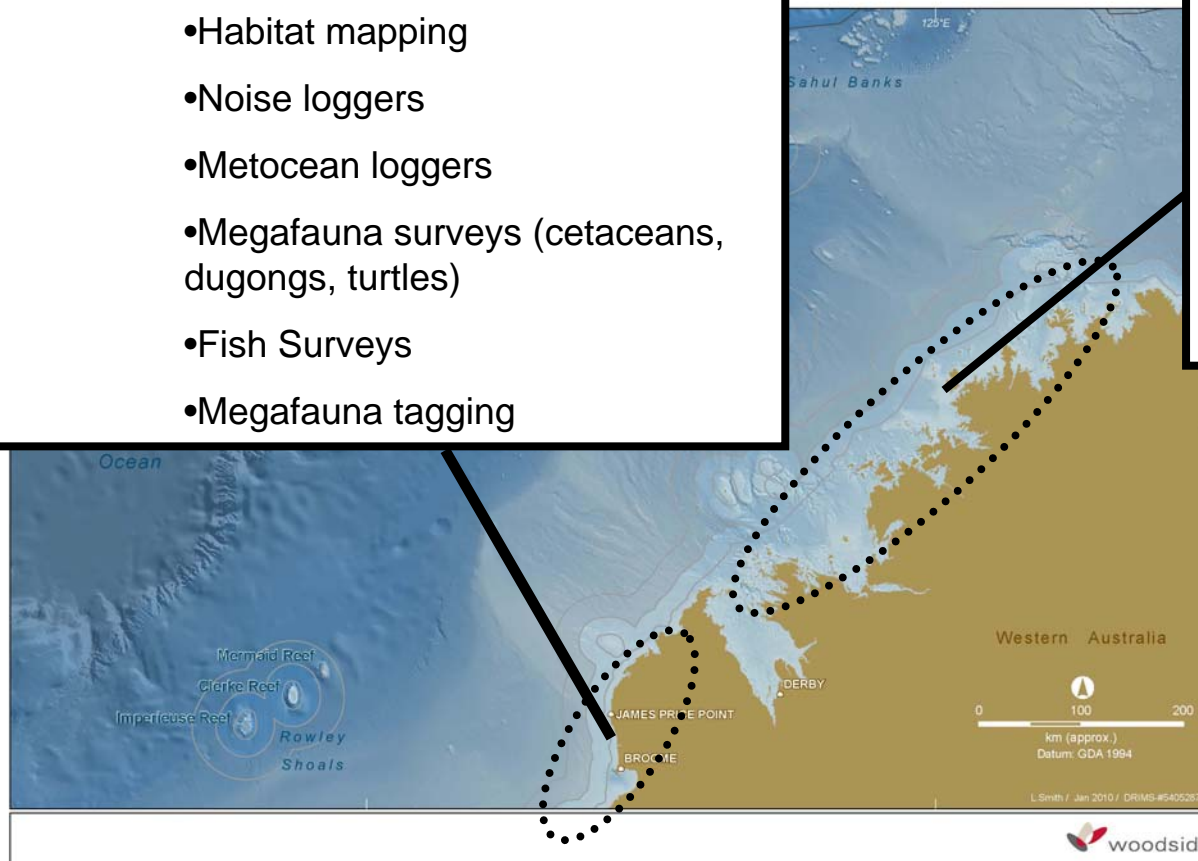
Difficult physical conditions (tides, cyclones, turbidity)

Could get eaten or stung

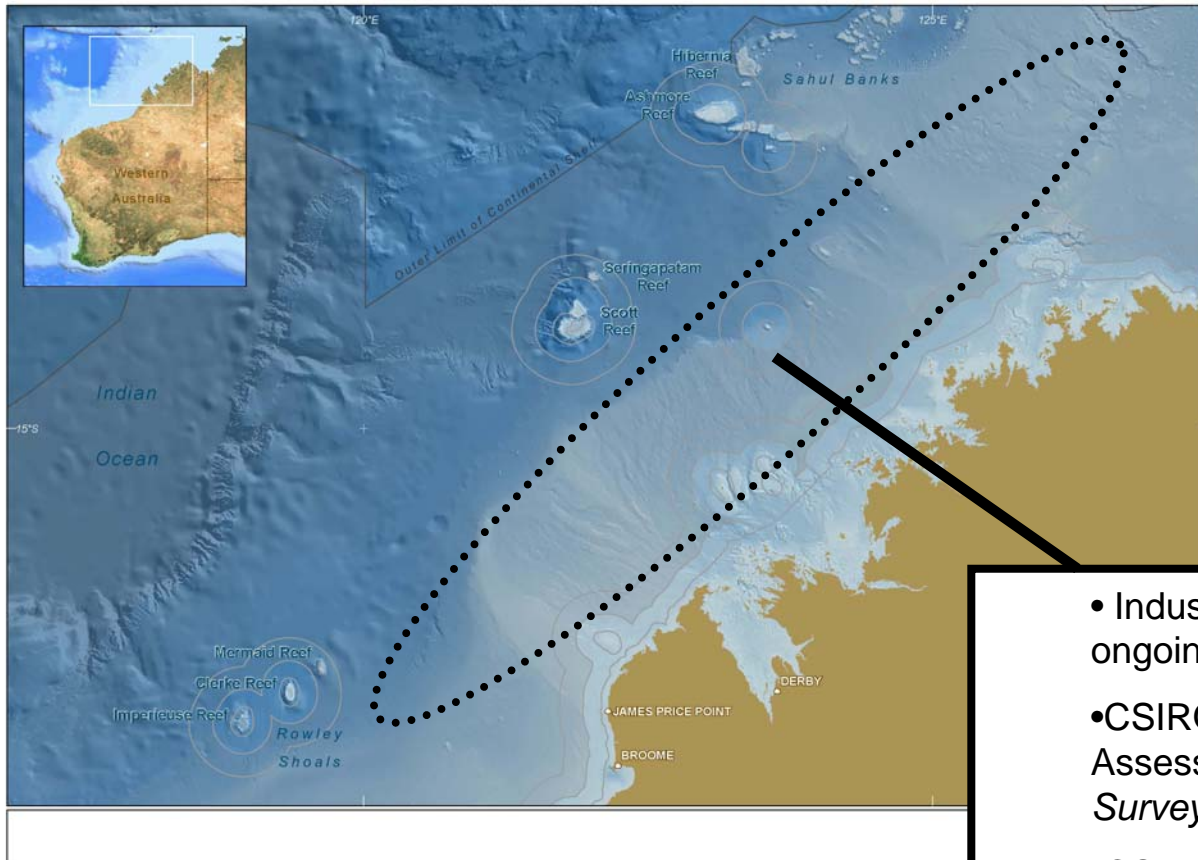
# Nearshore

- Browse LNG Precinct (2008 –ongoing)
  - Biodiversity assessment
  - Habitat mapping
  - Noise loggers
  - Metocean loggers
  - Megafauna surveys (cetaceans, dugongs, turtles)
  - Fish Surveys
  - Megafauna tagging

- WAM Surveys 1981 -1997
- INPEX environmental studies
- WAM/ WEL Kimberley Collection (2009-11)
- AIMS/ GA Habitat Assessment Project
- CWR (humpbacks)



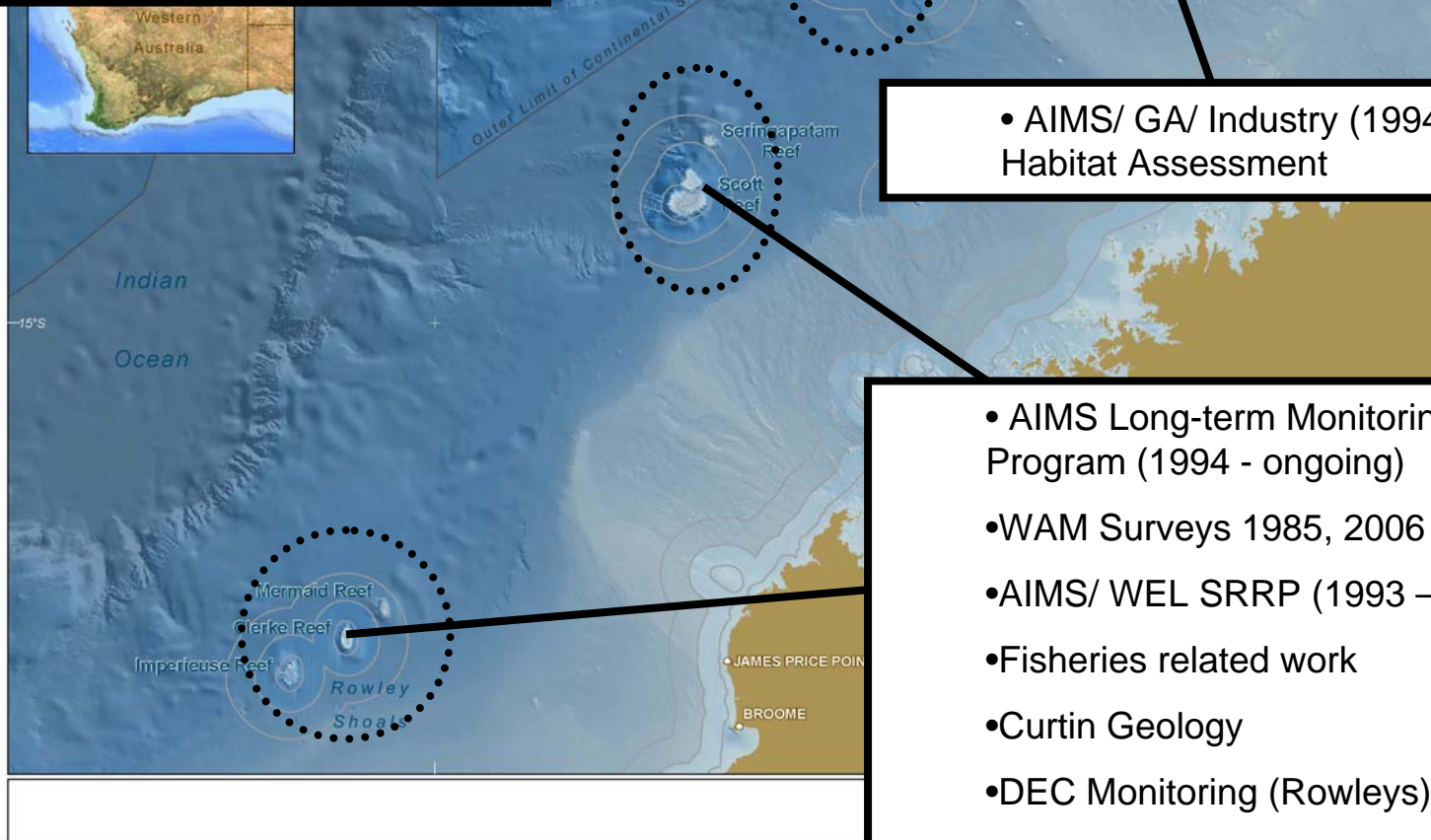
# Mid-shelf



- Industry biodiversity surveys (2008 – ongoing)
- CSIRO/ Museums Habitat Assessment research *RV Southern Surveyor* 2007
- CSIRO/ Murdoch biological oceanography cruise (2010)

# Offshore Continental Slope Atolls

- WAM/ NT Museum Biodiversity
- AIMS/ CSIRO – exploited species
- Other connectivity studies



- AIMS/ GA/ Industry (1994 – 1999) Habitat Assessment

- AIMS Long-term Monitoring Program (1994 - ongoing)
- WAM Surveys 1985, 2006
- AIMS/ WEL SRRP (1993 – ongoing)
- Fisheries related work
- Curtin Geology
- DEC Monitoring (Rowleys)
- CSIRO (exploited invert)

# Conclusions

- Large area with a diverse range of physical and biological drivers
- Numerous barriers to research
- Most research to date has focused around MPAs/ Fisheries/ O&G developments

