Protected areas

- Rich biodiversity
- Iconic landscapes
- Tourism destinations

Ula Muda, Malaysia

Tourists, Nepal

Khakaborazi National Park, Myanmar
Climate change impacts on protected areas: mountains

- Changed rainfall → water stress for wildlife
- Decreased snowpack → dispersal & hibernation problems for wildlife
- Species’ movement up mountains (inc. pests & weeds)

(Monzon et al. 2011, Parmesan & Yohe 2003)
Climate change impacts on protected areas: coasts & coral reefs

- Coral reef bleaching & death
- Sea level rise & vegetation loss/change

(Monzon et al. 2011, Parmesan & Yoher 2003)
Climate change impacts on protected areas: forests

- Changes in rainforest composition
- Declines in rainforest fauna populations (15-37% predicted)
- Increased forest fires
Ecotourism

- Ecotourism:
  - Nature based
  - Education & learning fostered
  - Sustainability sought
  - Financial viability important

- Status of tourism & ecotourism:
  - 1.1 billion international tourists in 2014
  - Est. 20% are ecotourists

(UNWTO 2015, Newsome et al., 2013)
Building resilience: protected areas & ecotourism

- Resilience
- Protected areas
- Ecotourism

A changing world & climate
Contributions by protected areas to climate change mitigation

- Carbon storage by forests
- Maintaining local hydrological cycles
- Best land use practice in areas subject to disasters
- Deforestation rates reduced by presence of protected areas (e.g. Brazil) & ecotourism in them (e.g. Peru)

(REDD 2015, Soares-Filho et al., 2010, Vuohelainen et al. 2012)
Contributions by protected areas to climate change adaptation

- Refugia for biodiversity & preventing extinctions
- Additional or new habitat
- Species’ migration through linked protected areas
- Marine reserves protect organisms from other impacts so more resistant to climate change
- Buffering of coastlines (e.g. Sunderbans, Bangladesh)

(Thorne et al. 2013, Imbah et al. 2013, Micheli et al. 2012)
Building resilience: protected areas & ecotourism

- Resilience
- Protected areas
- Ecotourism
- A changing world & climate
Contributions by ecotourism to protected areas

- Money from protected areas: entry, accommodation & guiding fees; merchandise; concessions
- Money for locals & others: direct employment in parks, souvenirs, accommodation, guiding

Guiding, Adasibe National Park, Madagascar
Contributions by ecotourism to protected areas (cont.)

- Political support (local → international) for protected areas
- Creation & management of protected areas

Cristalino Jungle Lodge & State Reserve, Amazonia, Brazil
Building resilience through protected area ecotourism

1. Meeting Aichi targets (17% of land, 10% of seas)

2. Supporting good science:
   - Climate change impacts
   - Ecology
   - Tourists

3. Having good governance:
   - Effective, consistent regulation
   - Transparent & accountable
   - Financially beneficial & equitable
TAPAS Group Vision. Protected area tourism has a positive impact on biodiversity, & is environmentally, socially & economically sustainable.