Future Forests under changed climate conditions

Helen Wallace, Peter Waterman and Kathy Wood
Future proofing
Future proofing

- Decision making cycles
- Resource conservation
- Asset protection
- Risk management
- Disaster mitigation
- Sustainable adaptation
- Transformation synergies
Tropical and subtropical forestry research

- Hardwoods and African Mahogany
- Molecular breeding
- Efficient phenotyping
- Clonal techniques – “plastic seeds”
- Environmental risks and benefits
Change in dry season precipitation >200mm from baseline climate to 2030

Baseline: 1961 -1990

GCM Pattern: Ensemble, A1FI, High
Change in dry season precipitation >200mm from baseline climate to 2070

Baseline: 1961 - 1990

GCM Pattern: Ensemble, A1FI, High
Change in dry season precipitation >200mm from baseline climate to 2100

Baseline: 1961 -1990

GCM Pattern: Ensemble, A1FI, High

< 200mm / annum

> 200mm / annum
Change in dry season precipitation >200mm from baseline climate to 2030

Baseline: 1961 - 1990

GCM Pattern: CSIRO 3.5, A1FI, High
Change in dry season precipitation >200mm from baseline climate to 2070

Baseline: 1961 - 1990

GCM Pattern: CSIRO 3.5, A1FI, High

< 200mm / annum
> 200mm / annum
Change in dry season precipitation
>200mm from baseline climate to 2100

Baseline: 1961 -1990

GCM Pattern: CSIRO 3.5, A1FI, High
Understanding the limitations

- Biophysical
- Social
- Economic
- Governance
Assessment of species productive potential in 2100

*E. pilularis* land capability in the Burnett Mary

Potential profitability of *E. pilularis* based on land suitability in the Burnett Mary
Opportunities

• Change management practices
• New values attached to forests
• Sequestration – bio-diverse sequestration
• Eco-system services
• Sustainable production forestry
Synergistic transformation

- New and existing pressures
- Flexibility
- Link between science and sustainable adaptation
- New species
- New markets
- Value adding
Reduce vulnerability and promote long term resilience