

# Polar Bear Status Update, Moscow, 2013

- ◆ Realistic research Priorities
- ◆ Management needs





# Research priorities

1. Calibration/verification of new or alternative methods
2. Population responses to climate change
3. Better Projection models
4. Sea ice loss projections by subpopulation
5. Harvest data analyses
6. Polar bear health
7. Effects of development



# 1. Calibration of Alternative methods

Issue: To collect data from remote areas with limited funding, less intensive monitoring methods are needed. But such methods need to be ground-truthed before application.

Need: Test low intensity methods against historic methods and compare results.





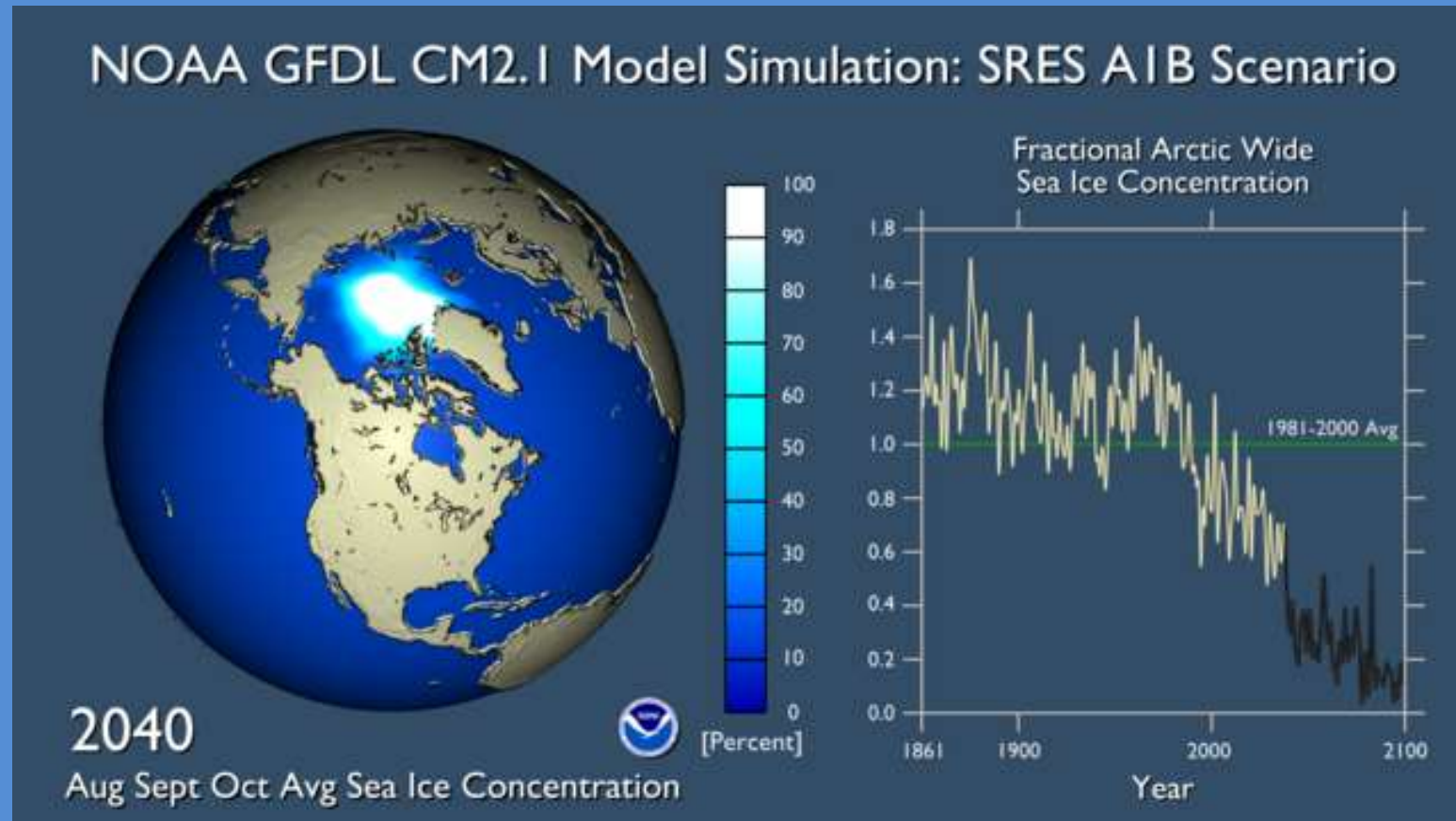
## 2. Population responses

- Issue: Mechanisms by which polar bears can or cannot respond to reduced habitat availability are not well known.
- Need: Understand methods of coping (e.g. potential value of alternative foods), limitations on fasting, and early warning signals of changing population status (e.g., hair cortisol levels)



### 3. Better Projection models

- Issue: Whereas ultimate effects can be predicted without error, predicting nearer term events is not yet possible
- Need: New analytical approaches (e.g. energetics models coupled with sea ice conditions) to develop precautionary approaches



# Need Better understanding of the near term and approach to the long term

Complication:  
the signal to  
noise ratio

Mid-Century  
Departure from  
historic variability

GHGs Increasing

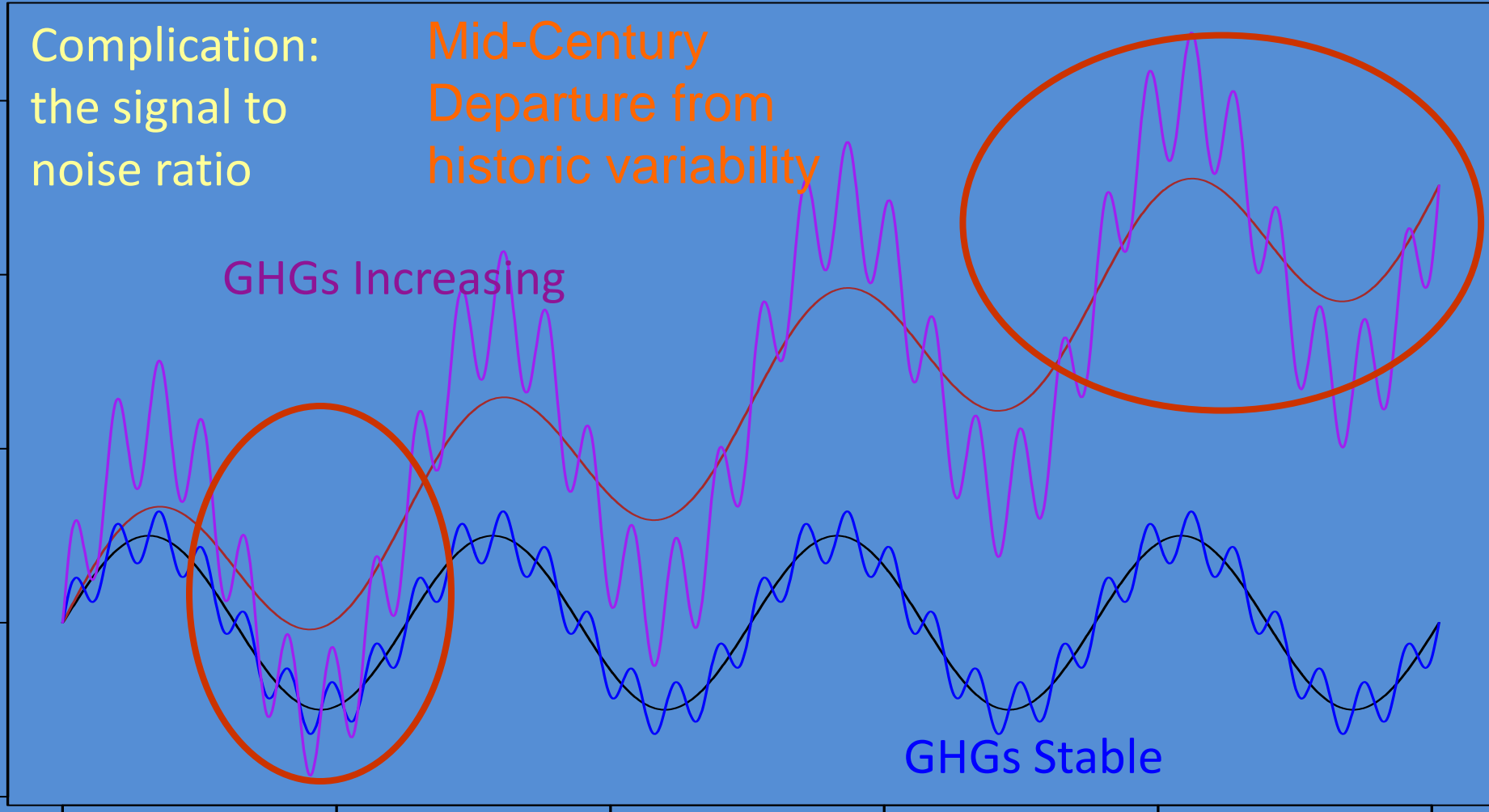
GHGs Stable

Temperature

6  
4  
2  
0  
-2

0 5 10 15 20 25

Time



## 4. Sea ice monitoring by subpopulation

- Issue: Sea ice conditions are not being assessed in a coordinated manner as an early warning of population stress
- Need: Coordinated sea ice condition analyses by subpopulation. Can we project, for example, when certain thresholds of sea ice absence will be crossed. How can we link those threshold exceedences to management and harvest quotas?





## 5. Harvest data analyses

- Issue: Polar bear harvest information remains under-utilized despite large investments and universal agreement on its importance.
- Need: Standardized collection and long term analysis of age & sex structure, condition, tissue collections etc.





## 6. Polar bear health

- Issue: Despite good models (e.g. AMMTAP) there is no coordinated system to determine the range-wide health of polar bears (e.g., disease, parasites, pollution)
- Need: Develop and obtain funding for coordinated research, monitoring, and information transfer.



## 7. Effects of development



- Issue: Little research has been conducted on possible impacts posed by development (e.g., shipping, offshore oil development)
- Need: Coordinated research and monitoring, development of mitigation tools. (e.g. Pt. Thompson project)
- Guidance for future infrastructure siting.

# Management Needs

- Develop Coordinated models and plans for intervention/prevention of major events.
- Model costs and benefits of different responses to catastrophic changes in the sea ice.
- Explore degree of public acceptance of different approaches.
- Evaluate budgetary impacts of various levels of implementation.

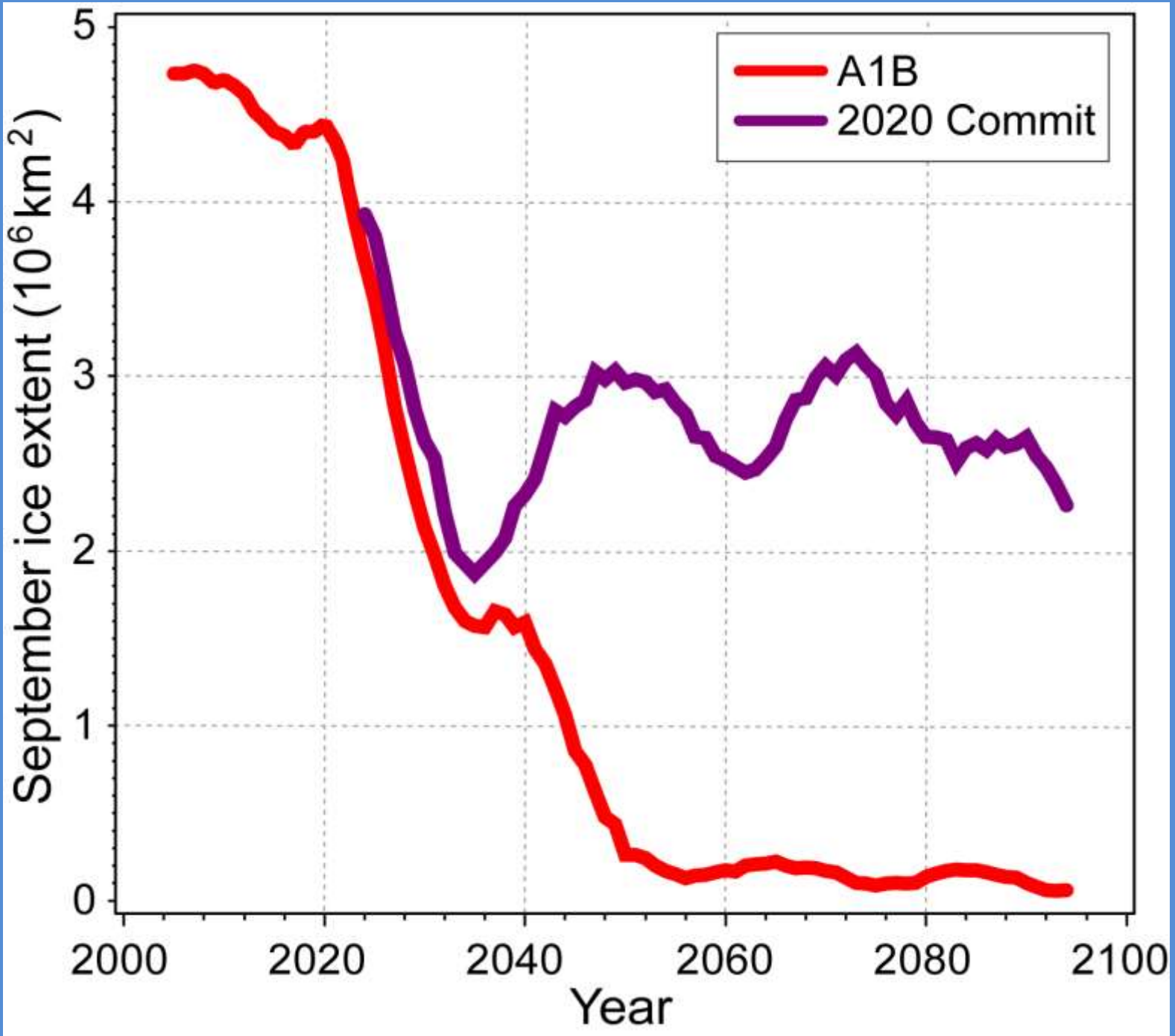




Most Importantly: Engage policy people in every Range State in efforts to take GHG mitigation seriously.



We Still have  
time to Act.  
And the  
consequences  
of not doing so  
will be dire.



Thank you

