

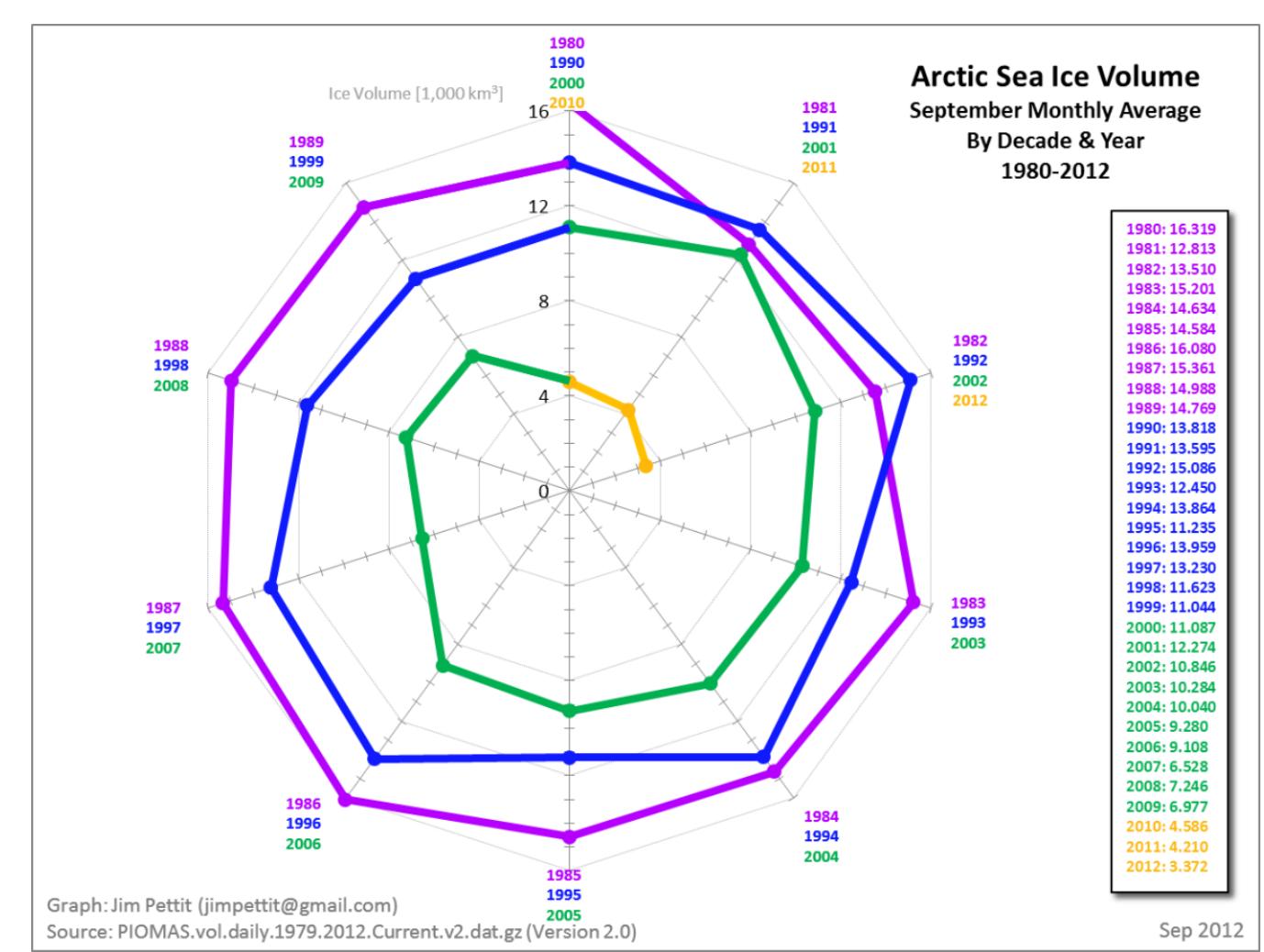


Validation of the Sea-Ice Thickness simulated in an Ocean-Sea Ice Coupled Model

the names and addresses of the associated institutions

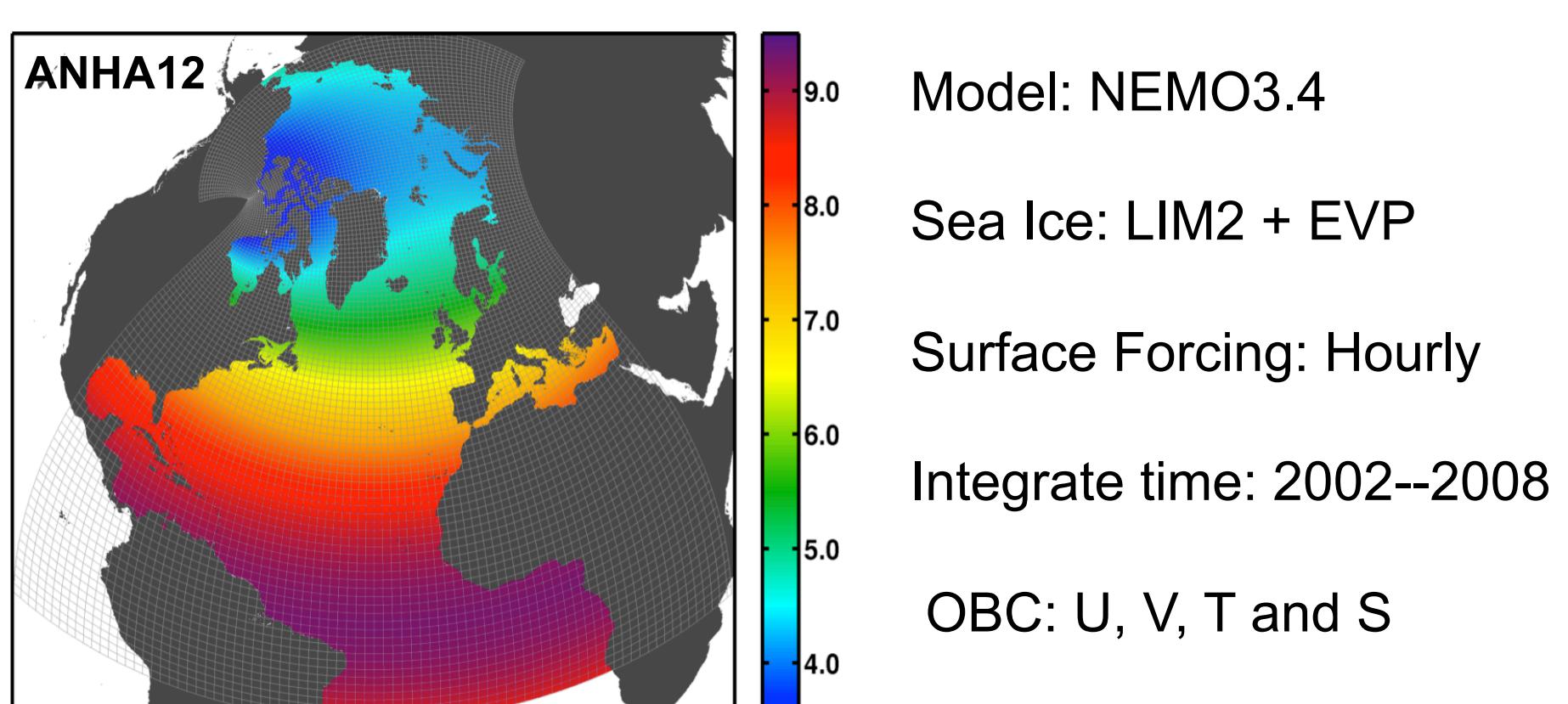
INTRODUCTION

In recent several decades, we witnessed a dramatic decrease in Arctic sea ice in response to atmospheric greenhouse gas (GHG) loading. This rapid decline was also predicted by climate models which play important roles in sea-ice forecasts.



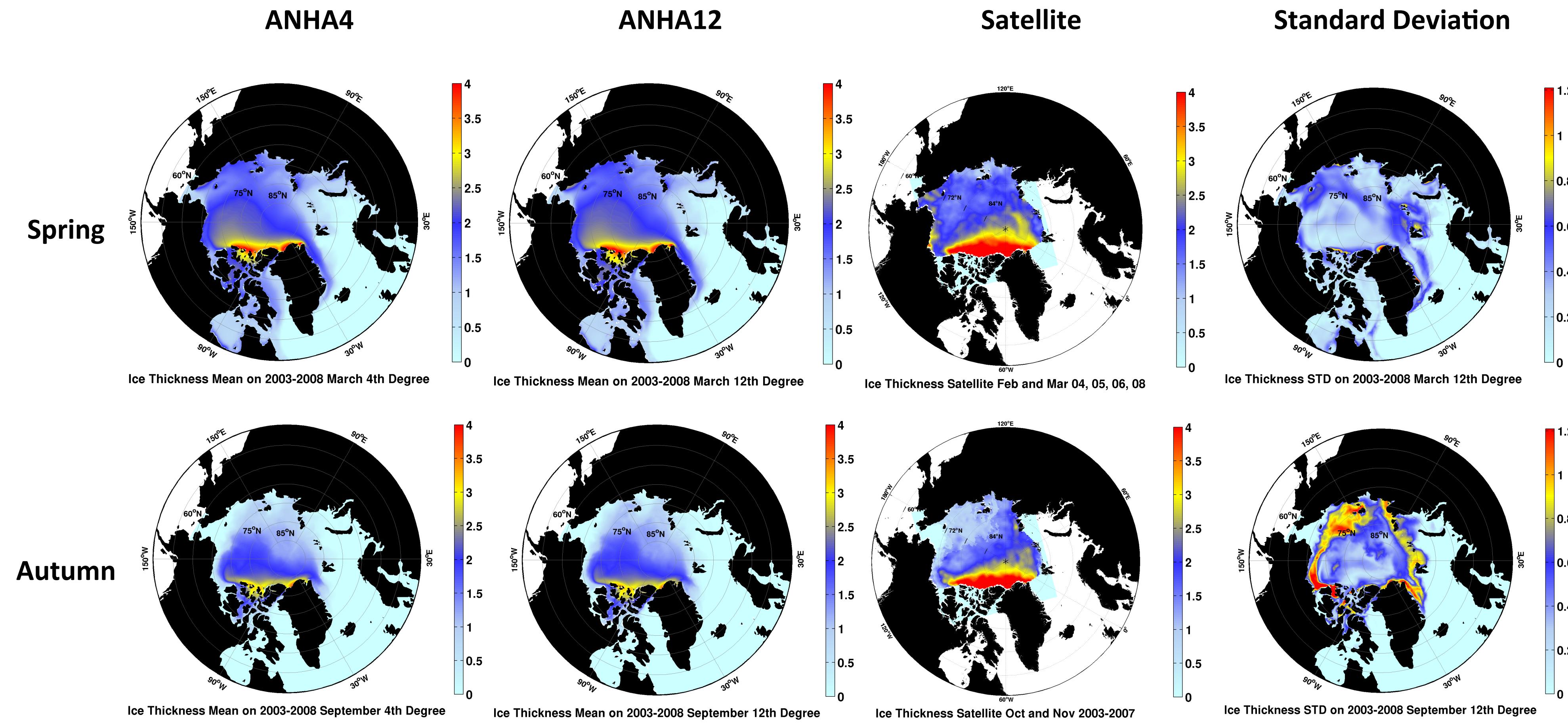
To validate and improve the accuracy and reliability of the model, it is crucial to compare with observations including sea-ice characteristic like ice thickness. The thickness estimates probability of sea ice survival over the melt season and its distribution appears to be undergoing rapid changes. The focus of this research is to validate the model by comparison and finally help refine the model.

MODEL DESCRIPTION

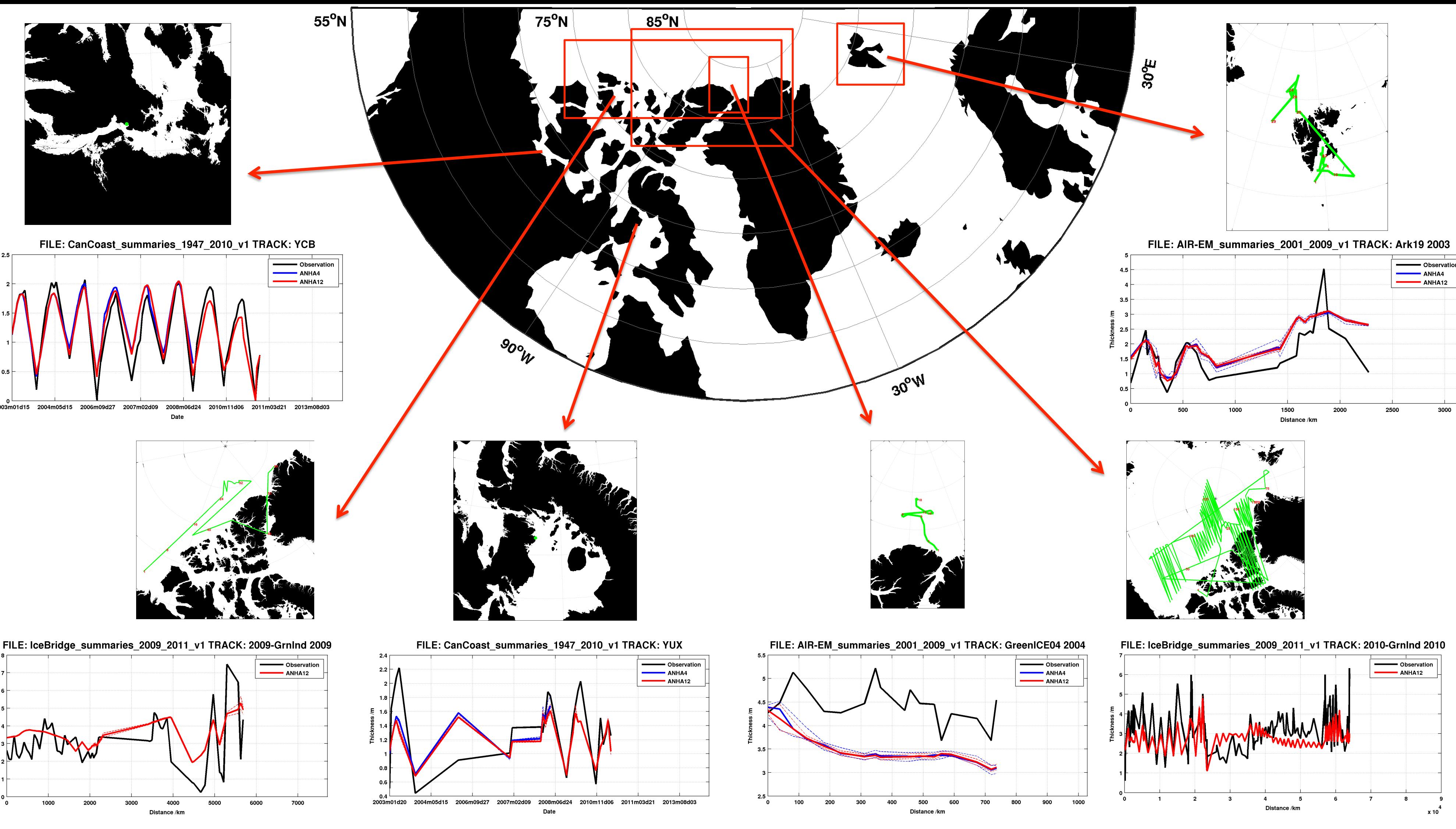


	ANHA4	ANHA12
Domain	Arctic and Northern Hemisphere Atlantic	
Horizontal Resolution	1/4 degree	1/12 degree
Vertical Resolution	50 levels	
Mesh	544 x 800	1632 x 2400

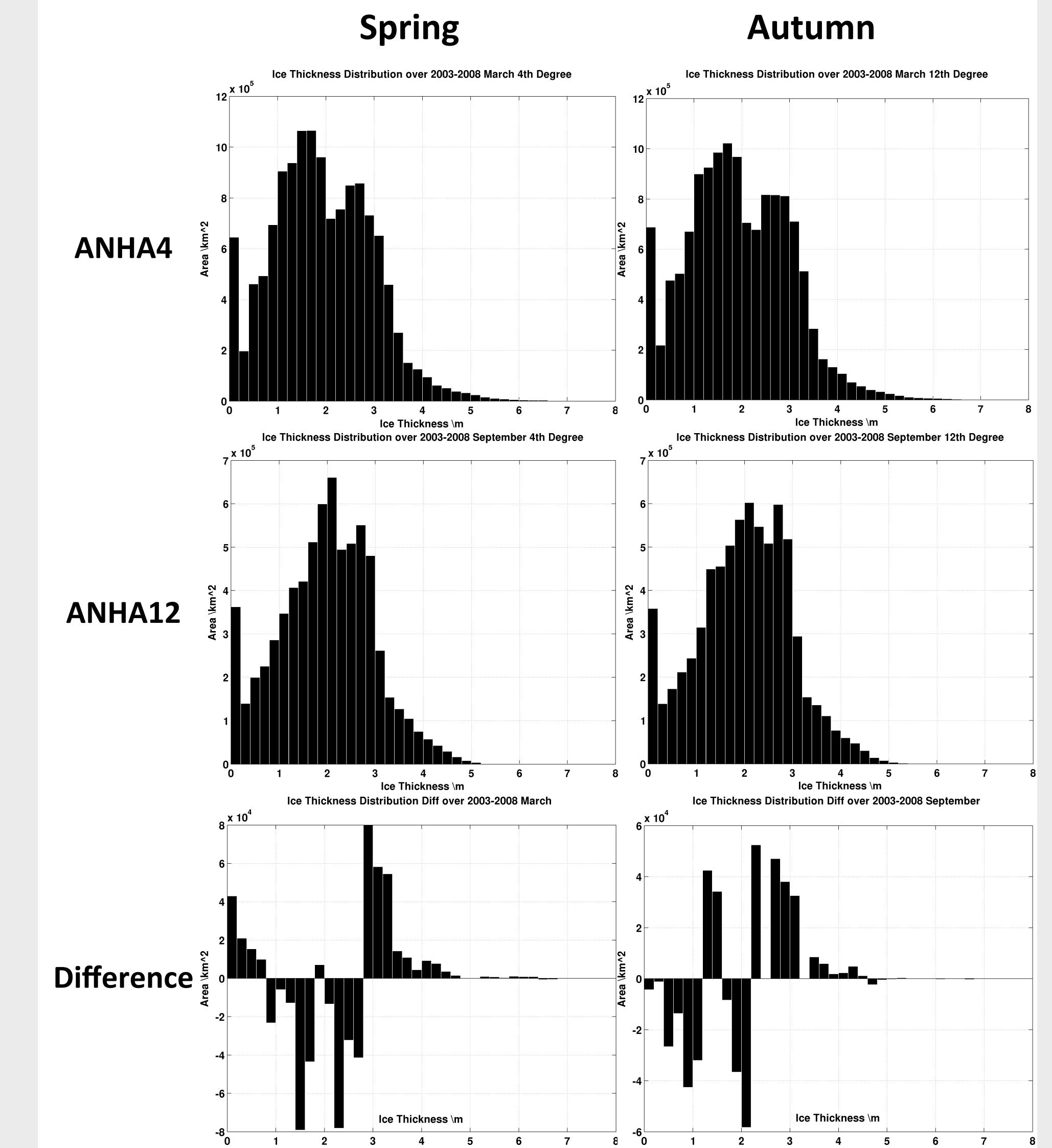
GENERAL ANALYSIS



OBSERVATION COMPARISON



THICKNESS DISTRIBUTION



SUMMARY & FURTHER STUDY

- ANHA4 and ANHA12 have roughly same trends
- Models produce similar results with observation in certain areas and follow similar pattern
- ANHA12 estimates more thick ice(>~3m) and less thin ice(1m-3m) compared to ANHA4

Next, We are going to figure out the reason why Arctic sea ice change in certain area from both dynamic and thermodynamic perspective. It is a challenge but interesting topic for further study.

REFERENCE