

# Numerical modeling on landfast ice in Arctic region

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Fig.1 Comparison for two form factors

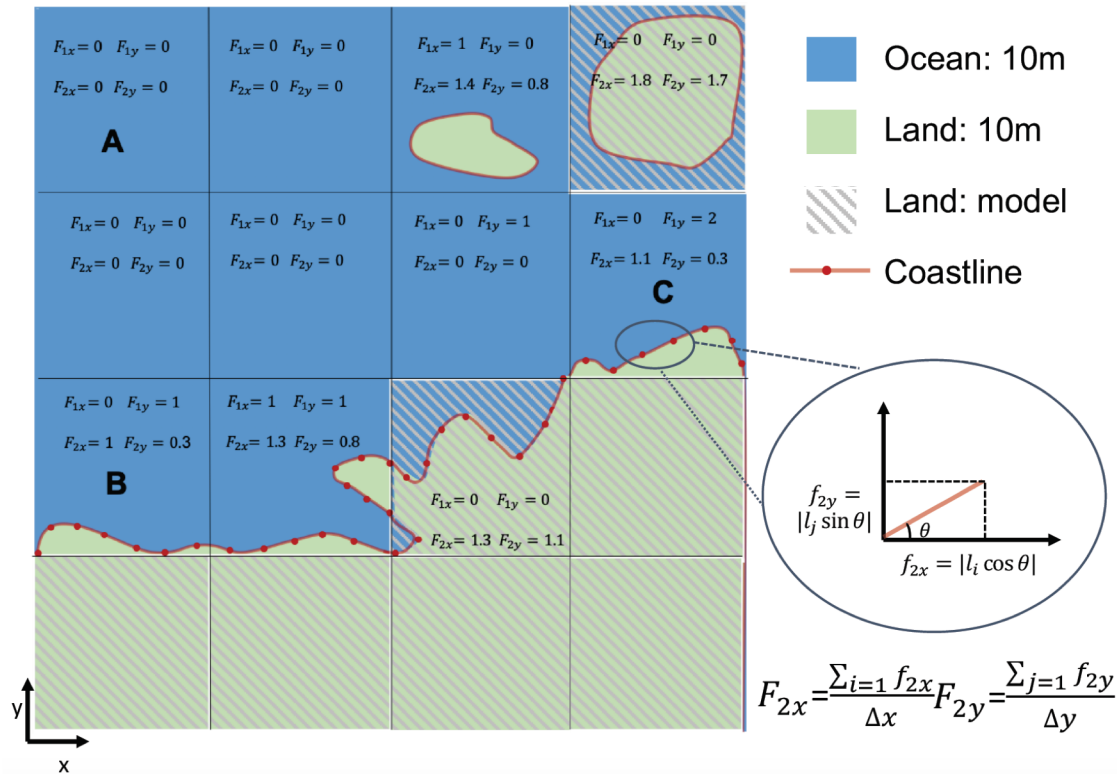


Fig.2 Landfast ice frequency in the Kara Sea

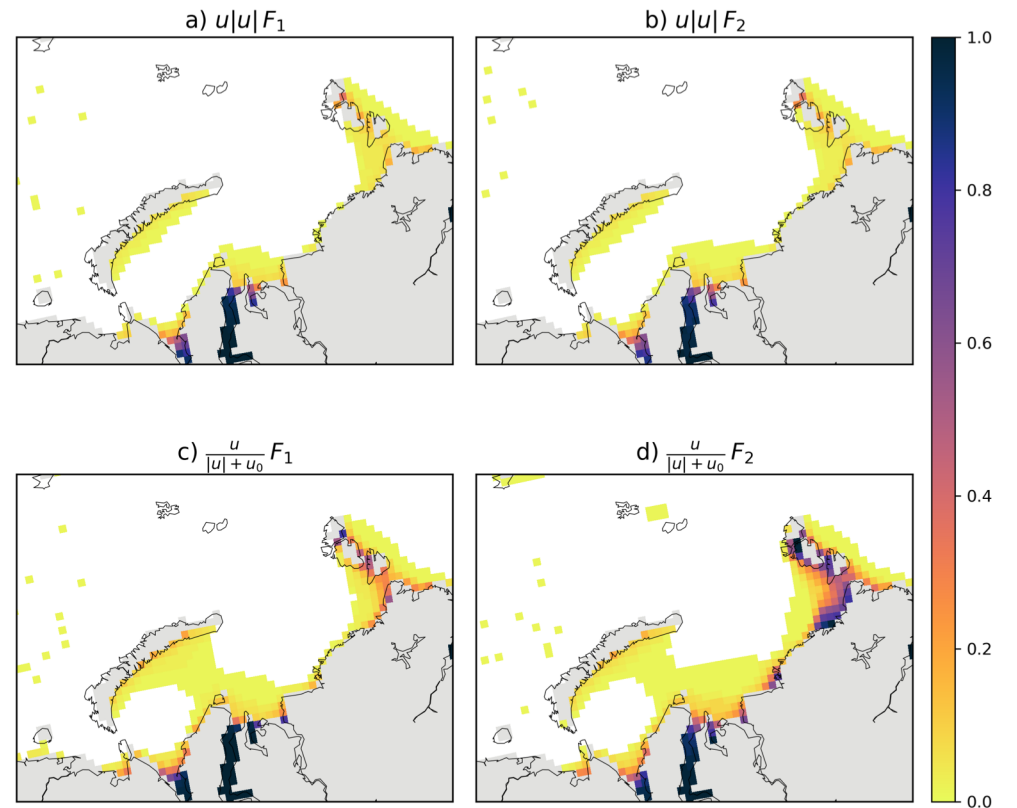


Fig.3 Landfast ice frequency

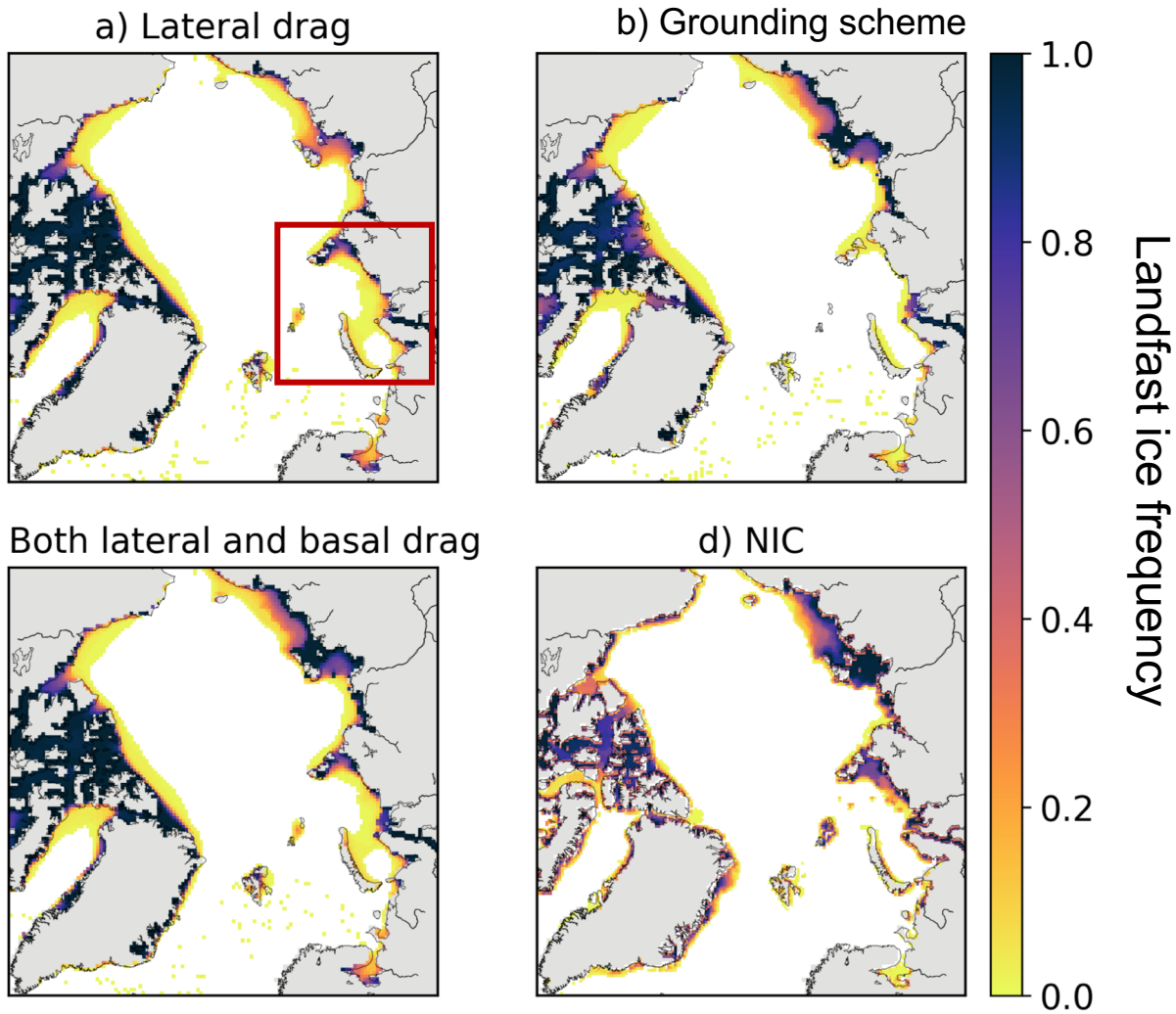


Fig.4 Landfast ice extent in the Arctic regions

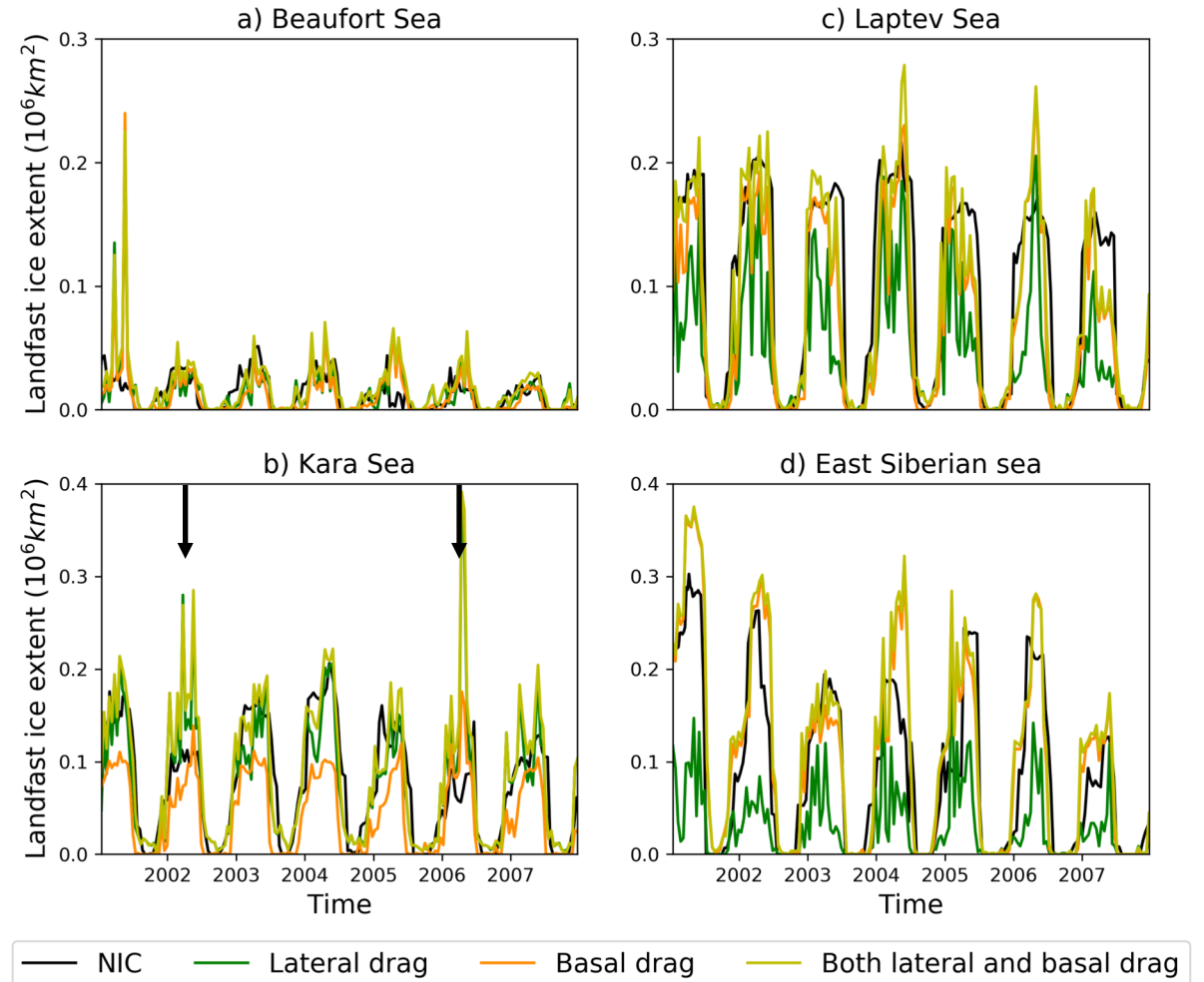


Fig.5 Wind velocity and sea ice thickness

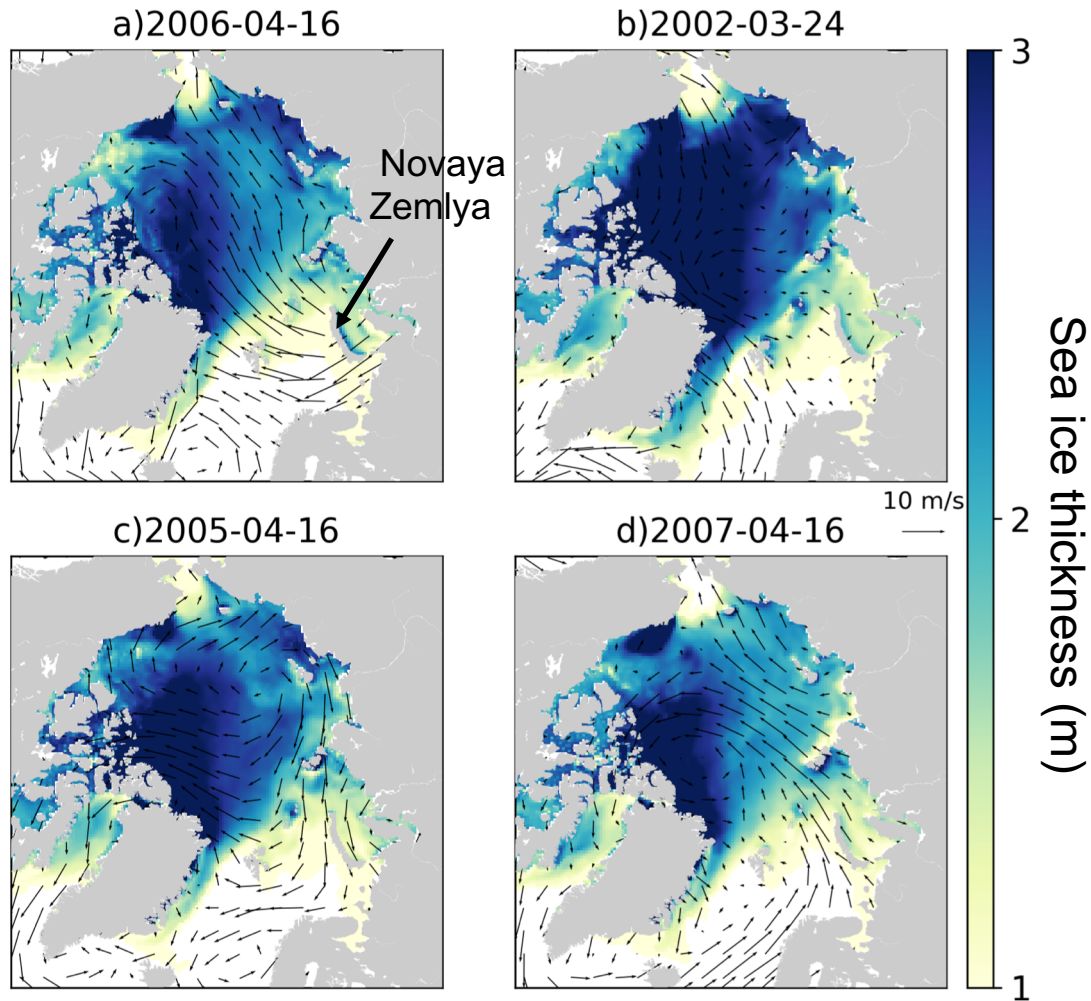
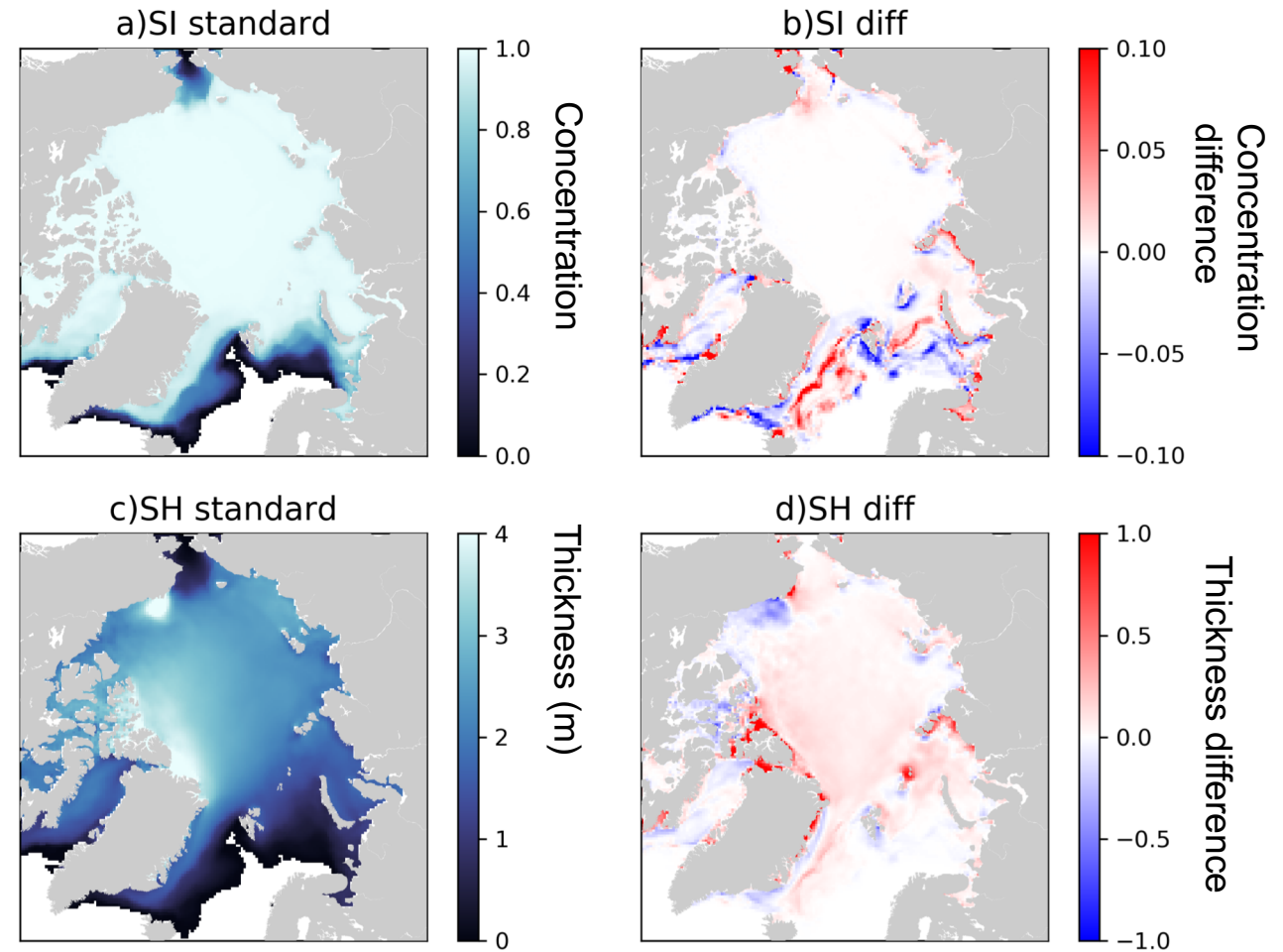


Fig.6 Sea ice concentration and thickness



# Conclusion

- ❖ Lateral drag parametrization improves landfast ice simulation in the deep regions.
- ❖ Lateral drag parametrization and grounding scheme work together to simulate landfast ice in the Arctic region better.
- ❖ Wind direction influences the landfast ice simulation in the Western Kara Sea.