information correcting the inaccuracy. Instead, meteorologists must wait until the six-hour period has elapsed before the existing weather forecasting system forecasts weather conditions based on the accurate weather conditions.

[0009] Accordingly, there is a need for a mesoscale modeling system and method that enables meteorologists to adjust forecasts to account for known biases of weather forecasting models and outputs high-resolution images consistent with the adjusted forecasts. There is also a need for a mesoscale modeling system and method that uses a weather forecasting model to forecast future weather events based on one or more adjustments to one or multiple models provided by the meteorologists.

SUMMARY

[0010] In order to overcome these and other disadvantages in the related art, there is provided a mesoscale modeling system and method that enables meteorologists to adjust forecasts to account for known biases of weather forecasting models and outputs high-resolution images consistent with the adjusted forecasts. The mesoscale modeling system and method may also use a weather forecasting model to forecast future weather events based on one or more adjustments provided by the meteorologists.

[0010A] According to a first aspect, there is provided a computer implemented-method, including: determining forecasted weather conditions; outputting the forecasted weather conditions via a graphical user interface, the output of the graphical user interface having a resolution such that a mesoscale weather system can be depicted in a predicted location comprising a number of cells representing a plurality of geographic areas, each of the cells including information indicative of a predicted intensity of the mesoscale weather system; and providing functionality via the graphical user interface for a user to adjust the forecasted weather conditions by: selecting an additional mesoscale weather system; and selecting a location of the additional mesoscale weather system; and adding the selected mesoscale weather system in the selected location while retaining the resolution of the output of the graphical user interface.

[0010B] According to a second aspect, there is provided a mesoscale modeling system, comprising: a database that stores forecasted weather conditions; a graphical user interface that: outputs the forecasted weather conditions in a resolution such that a mesoscale weather system can be depicted in a predicted location comprising a number of cells representing a plurality of geographic areas, each of the cells including information indicative of a predicted intensity of the mesoscale weather system; and provides functionality for a user to select an additional mesoscale weather system and select a location of the additional mesoscale weather system; and an analysis unit that adjusts the forecasted weather conditions by adding the additional mesoscale weather system in the selected location based on input from a user via the graphical user interface while retaining the resolution of the output of the graphical user interface.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Aspects of exemplary embodiments may be better understood with reference to the accompanying drawings. The components in the drawings are not necessarily to scale, emphasis instead being placed upon illustrating the principles of exemplary embodiments.

[0012] FIG. 1 is a drawing illustrating a graphical user interface output by a mesoscale modeling system according to an exemplary embodiment of the present invention;

[0013] FIG. 2 is a drawing illustrating an overview of the architecture of the mesoscale modeling system according to an exemplary embodiment of the present invention;

What is claimed is:

1. A computer implemented-method, comprising:

determining forecasted weather conditions;

outputting the forecasted weather conditions via a graphical user interface, the output of the graphical user interface having a resolution such that a mesoscale weather system can be depicted in a predicted location comprising a number of cells representing a plurality of geographic areas, each of the cells including information indicative of a predicted intensity of the mesoscale weather system; and

providing functionality via the graphical user interface for a user to adjust the forecasted weather conditions by:

selecting an additional mesoscale weather system; and

selecting a location of the additional mesoscale weather system; and

adding the selected mesoscale weather system in the selected location while retaining the resolution of the output of the graphical user interface.

2. The method of Claim 1, wherein the functionality for the user to adjust the forecasted weather conditions further comprises functionality for the user to adjust the predicted location of the mesoscale weather system.

3. The method of Claim 1, wherein the functionality for the user to adjust the forecasted weather conditions further comprises functionality for the user to adjust the predicted intensity of the mesoscale weather system.

4. The method of Claim 3, wherein the predicted intensity of the mesoscale weather system comprises amounts of rain or snow predicted to fall in each of the plurality of geographic areas.

5. The method of Claim 1, wherein the functionality for the user to adjust the forecasted weather conditions comprises functionality for the user to adjust a predicted duration of the mesoscale weather system.

6. The method of Claim 1, wherein the functionality for the user to adjust the forecasted weather conditions comprises functionality for the user to adjust the forecasted weather conditions by averaging the output of two or more weather forecasting models.

7. The method of Claim 6, wherein averaging the output of two or more weather forecasting models comprises determining the predicted intensity of the mesoscale weather system by averaging the intensities predicted by the two or more weather forecasting models.

8. The method of Claim 6, wherein averaging the output of two or more weather forecasting models comprises determining the predicted location of the mesoscale weather system by averaging locations predicted by the two or more weather forecasting models.

9. The method of Claim 1, wherein determining forecasted weather conditions comprises receiving forecasted weather conditions determined by a third party weather forecasting model.

10. The method of Claim 1, wherein determining forecasted weather conditions comprises receiving current weather conditions and using a weather forecasting model to determine the forecasted weather conditions based on the current weather conditions.

11. The method of Claim 11, further comprising:

providing functionality to use the weather forecasting model to determine forecasted weather conditions based on the input from the user.

12. A mesoscale modeling system, comprising:

a database that stores forecasted weather conditions;

a graphical user interface that:

outputs the forecasted weather conditions in a resolution such that a mesoscale weather system can be depicted in a predicted location comprising a number of cells representing

a plurality of geographic areas, each of the cells including information indicative of a predicted intensity of the mesoscale weather system; and

provides functionality for a user to select an additional mesoscale weather system and select a location of the additional mesoscale weather system; and

an analysis unit that adjusts the forecasted weather conditions by adding the additional mesoscale weather system in the selected location based on input from a user via the graphical user interface while retaining the resolution of the output of the graphical user interface.

13. The system of Claim 12, wherein the system provides functionality for the user to further adjust the forecasted weather conditions by adjusting the predicted location of the mesoscale weather system.

14. The system of Claim 12, wherein the system provides functionality for the user to further adjust the forecasted weather conditions by adjusting the predicted intensity of the mesoscale weather system.

15. The system of Claim 14, wherein the predicted intensity of the mesoscale weather system comprises amounts of rain or snow predicted to fall in each of the plurality of geographic areas.

16. The system of Claim 12, wherein the system provides functionality for the user to further adjust the forecasted weather conditions by adjusting a duration of the mesoscale weather system.

17. The system of Claim 12, the system provides functionality for the user to further adjust the forecasted weather conditions by averaging the output of two or more weather forecasting models.

18. The system of Claim 17, wherein averaging the output of two or more weather forecasting models comprises determining the predicted intensity of the mesoscale weather system by averaging the intensities predicted by the two or more weather forecasting models.

19. The system of Claim 17, wherein averaging the output of two or more weather forecasting models comprises determining the predicted location of the mesoscale weather system by averaging locations predicted by the two or more weather forecasting models.

20. The system of Claim 13, wherein the forecasted weather conditions are determined by a third party weather forecasting model.

21. The system of Claim 12, wherein the forecasted weather conditions are determined by a weather forecasting model based on current weather conditions.

22. The system of Claim 21, wherein the system provides functionality for the user to use the weather forecasting model to determine future forecasted weather conditions based on the input from the user.