



A Vision of the Future: Enabling Earth System Prediction

TODAY

Goals for 2010

Weather

3-Day forecast at 93%*
7 Day forecast at 62%*
3 day rainfall forecast not achievable
Hurricane landfall +/-400Km at 2-3 days
Air quality day by day

5-Day forecast at >90%*
7-10 Day forecast at 75%*
3 day rainfall forecast routine
Hurricane landfall +/-100Km at 2-3 days
Air quality forecast at 2 days

Climate

6-12 month seasonal prediction experimental;
achieved an understanding of El Nino
mechanics
Decadal climate prediction with coarse
models and significant uncertainties in
forcing and response factors

6-12 month seasonal prediction routine;
12-24 months experimental
10 year climate forecasts experimental;
moderate to high confidence in forcing &
response factors

Natural Hazards

Demonstrate centimeter-level measurement
of land deformation
Accurate characterization of long-term
tectonic motions, but no short-term
earthquake forecast capability
Accurate characterization of volcanic activity,
but no long-term prediction accuracy

Continuous monitoring of surface
deformation in vulnerable regions with
millimeter accuracy
Improved temporal dimension of
earthquake & volcanic eruption forecasts
Improve post-eruption hazard assessment

* Accuracy refers to sea level pressure forecasts over Northern Hemisphere during winter.