# TOWARDS SHADOWING IN OPERATIONAL WEATHER MODELS

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Shadowing trajectories can play an important role in assessing the reliability of forecasting models, and providing state estimates for ensemble forecasts. Here we show proof-of-technique results using the Navy Operational Global Atmospheric Prediction System (NOGAPS), which is an operational weather forecasting model. Using the T79L30 model and 3DVAR assimilated analyses, we show that a simple gradient descent shadowing algorithm, using only a dry adjoint, can reveal useful information about model and analysis error, and provide better analyses for forecasting and verification.