New Technology in FV3

Official FV3 GitHub site with 201912, 2021.01 and 2021.02 public releases

Multiple and telescopic nests (global and regional domain) in FV3, FMS, and FMS-nctools
Mouallem et al., in prep.

Vertical nesting capability added
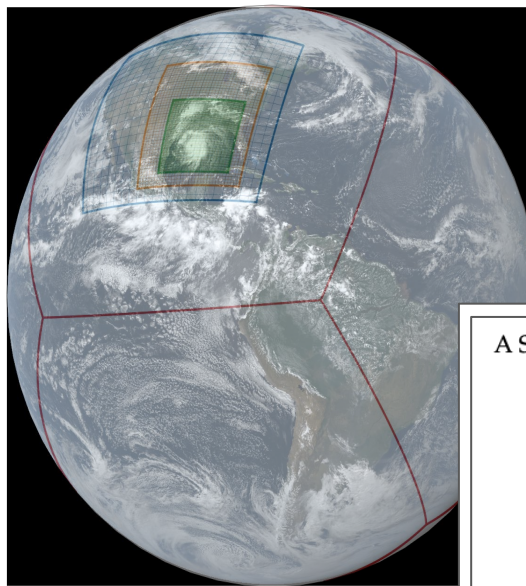
Docker container for SHiELD
Cheng et al., to be submitted to GMD
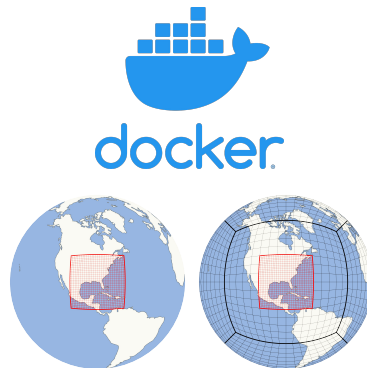
FV3 Scientific Documentation now available
https://www.gfdl.noaa.gov/fv3/fv3-documentation-and-references/

Participation in NOAA GPU Hackathon and support for Vulcan/UW collaboration on GT4py
See 25 March 2021 UFS Webinar

Plot courtesy Joseph Mouallem

Fork FV3 on GitHub
github.com/NOAA-GFDL/GFDL_atmos_cubed_sphere

A Scientific Description of the GFDL
Finite-Volume Cubed-Sphere
Dynamical Core

Lucas Harris
Xi Chen
William Putman
Linjiong Zhou
Jan-Huey Chen

14 June 2021
Revision v1.0a 16 June 2021

GFDL Weather and Climate Dynamics Division
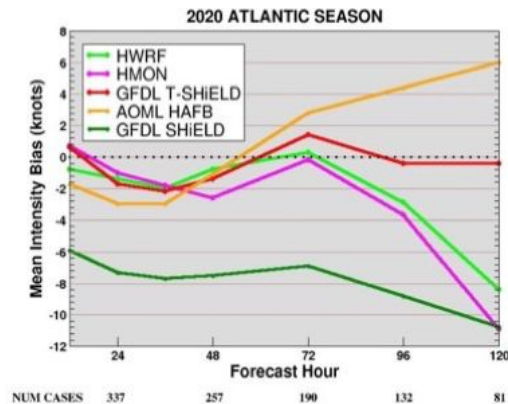Technical Memorandum GFDL2021001
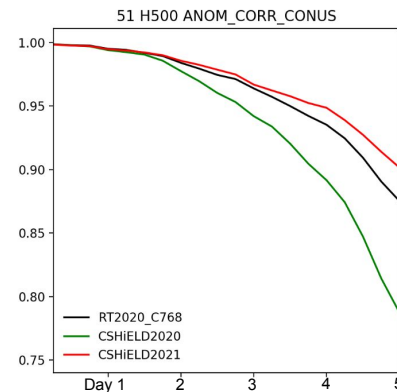
Improved FV3-based Predictions

Positive-definite tracer advection scheme greatly improves TC structure and intensity
Gao et al. (accepted to JAS)

Regular SHiELD, C-SHiELD and T-SHiELD updates; participation in HWT and hurricane comparisons
Harris et al. (2020, JAMES)
Hazelton et al. (submitted to WAF)
and others

Updates to In-line GFDL MP, cloud-radiation interactions, GFS TKE-EDMF, mixed-layer ocean, and more.
Zhou et al (in prep.)
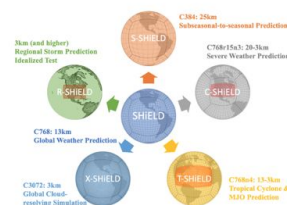Additional in-line physics in progress

Plot courtesy Morris Bender

Plot courtesy Alex Kaltenbaugh

SHiELD Portal
www.gfdl.noaa.gov/shield

SHiELD Forecasts
shield.gfdl.noaa.gov