New Horizons Flyby Modeling

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NASA/GSFC

CCMC Workshop

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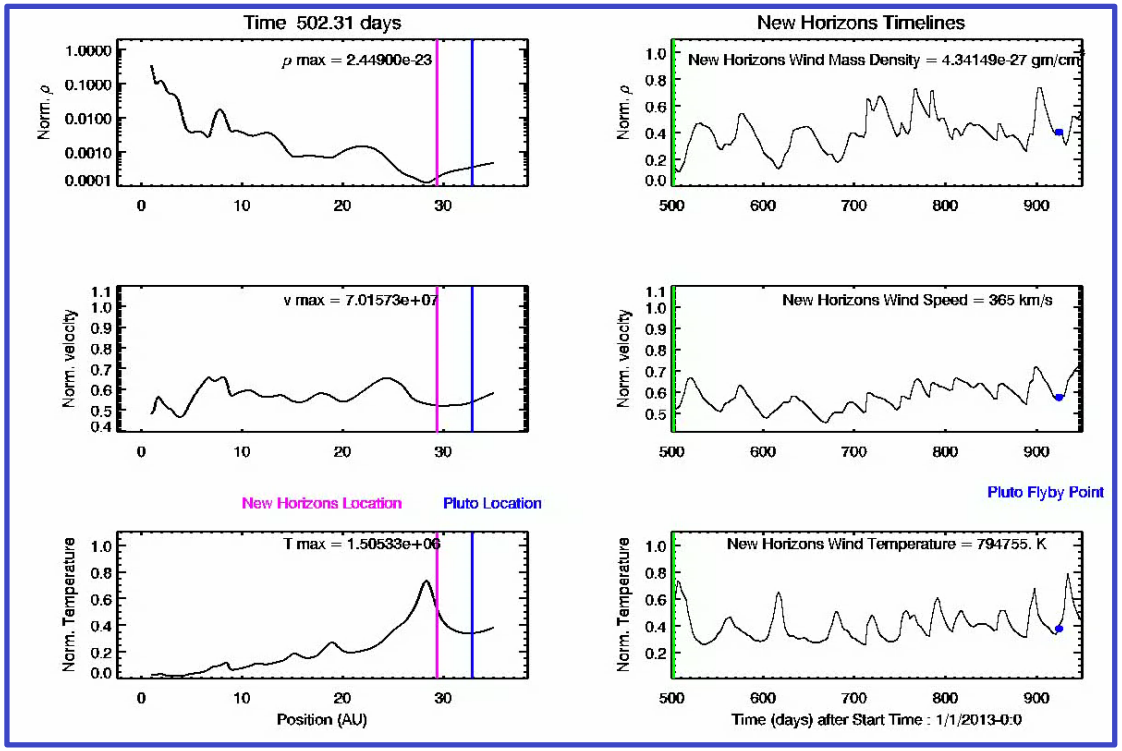
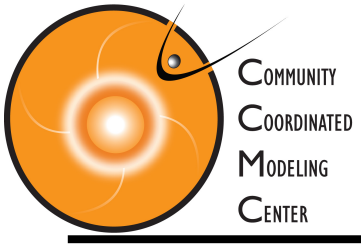
New Horizons Flyby Model Support

Example of CCMC role as facilitator of community modeling project

- Request from Jim Green to provide some modeling context for the flyby (about 90 days notice)
  - ENLIL ?
  - Fall back – simple 1D gasdynamic model
  - 'Dance first, think later. It's the natural order.' – Samuel Beckett
- Solicited the Outer Heliosphere modeling community's help
- Created web pages to host contributed model results



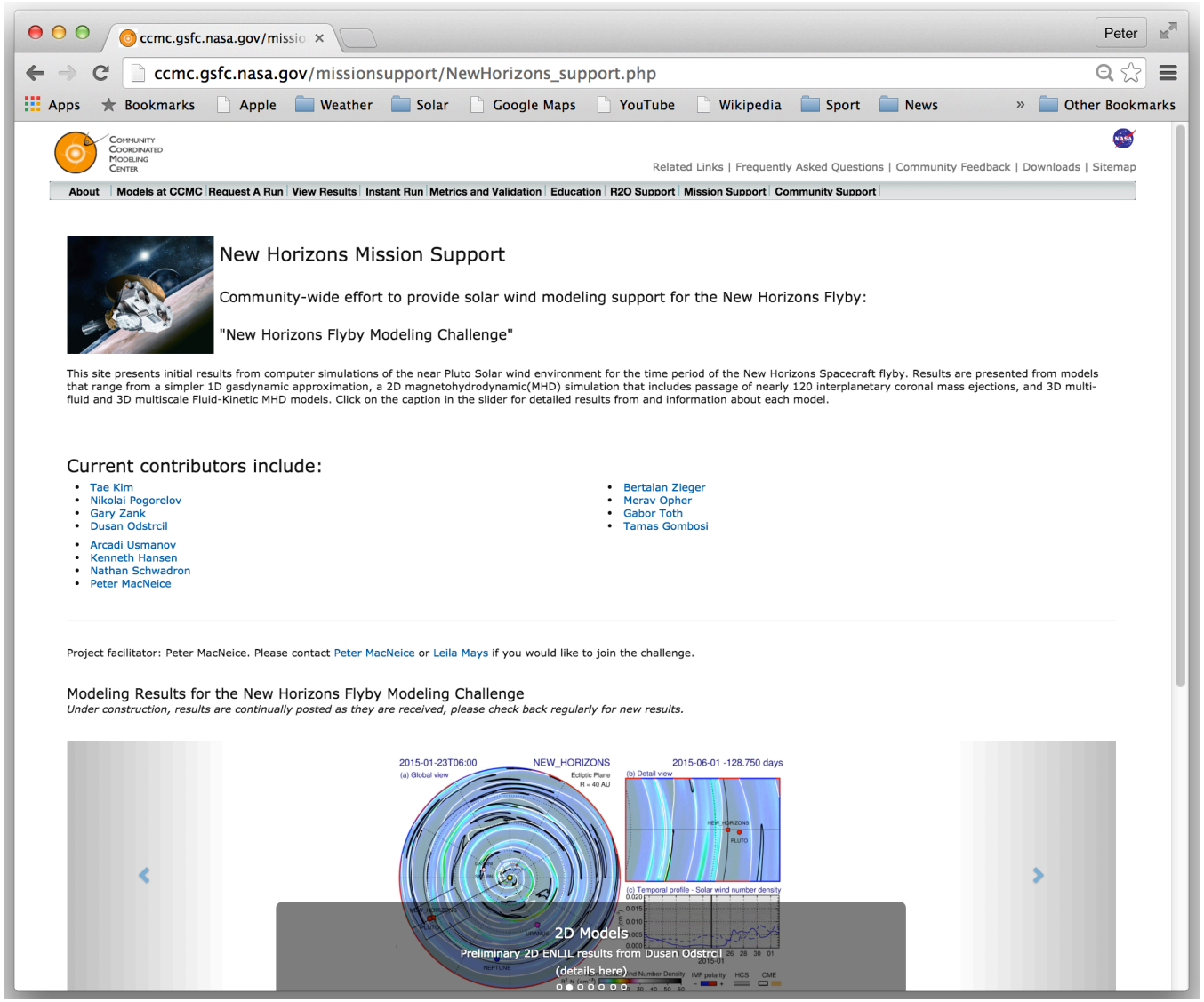


New Horizons Flyby Model Support

Model	Authors	Description
MS-FLUKSS	T.Kim, N.Pogorelov, G.Zank	3D MHD-plasma/kinetic-neutral
ENLIL-2D	D.Odstrcil	2D MHD with CMEs
ENLIL-3D	D.Odstrcil	3D MHD with CMEs
USMANOV	A.Usmanov	3 fluid 3D MHD
mSWIM	K.Hansen	1.5D MHD
SWMF-OH	B.Zieger, M.Opher, G.Toth, T.Gombosi	2.5D multifluid MHD
Cor-1D	P.MacNeice, N.Schwadron	1D Gasdynamics

New Horizons Flyby Model Support

ccmc.gsfc.nasa.gov/missionsupport/NewHorizons_support.ph



COMMUNITY
COORDINATED
MODELING
CENTER

New Horizons Flyby Model Support

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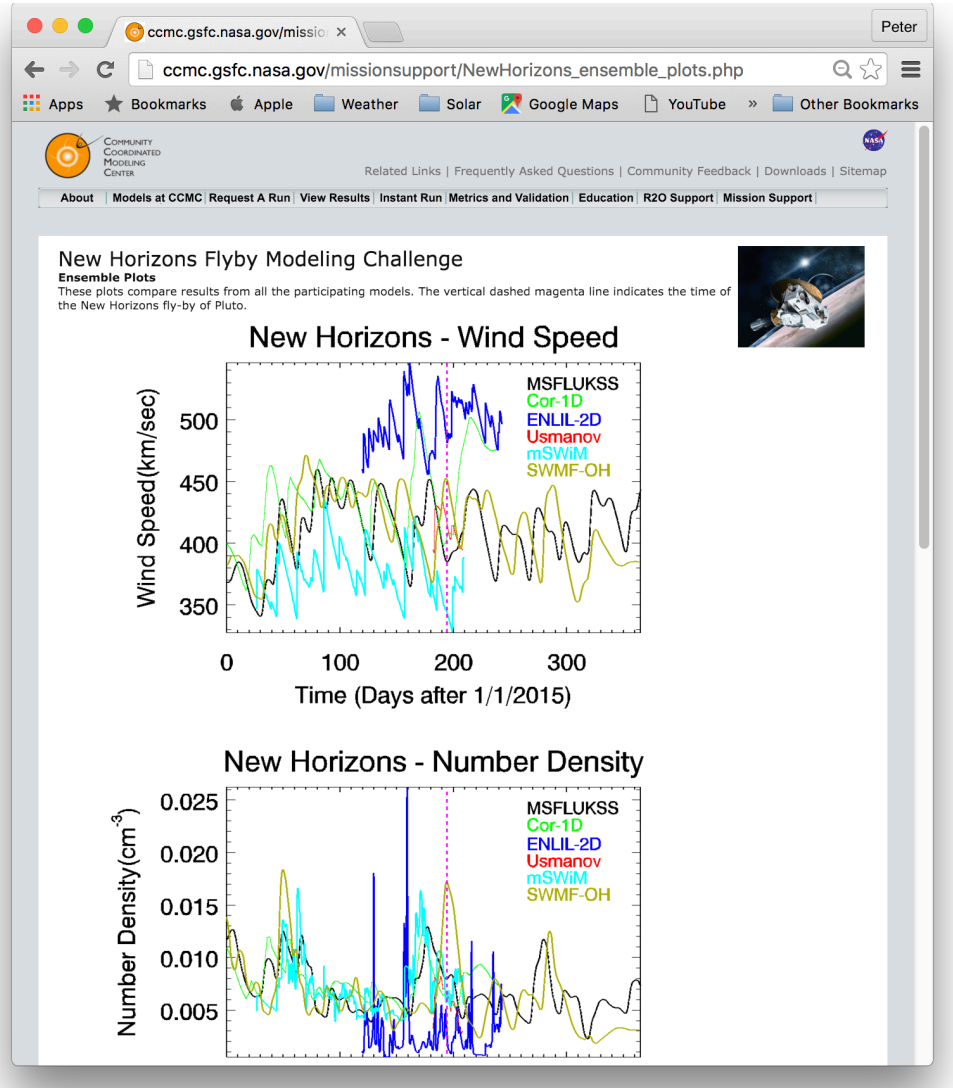
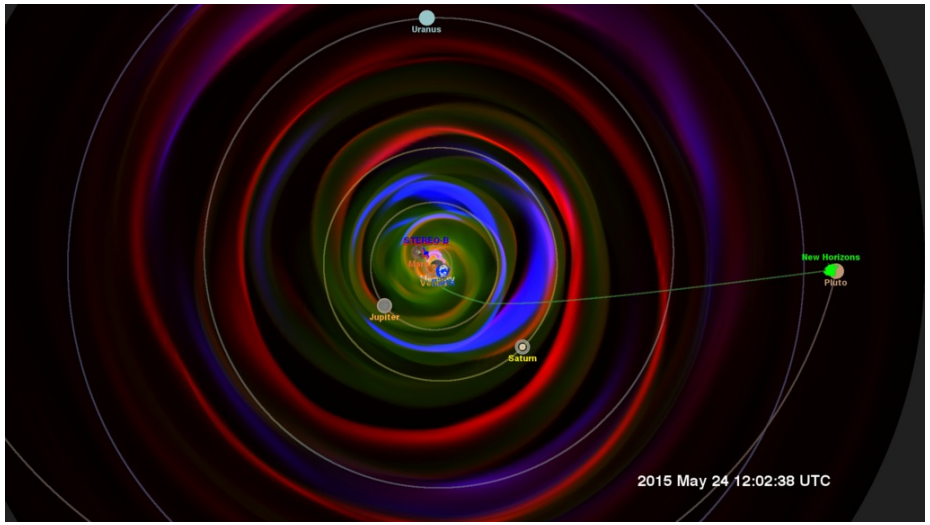


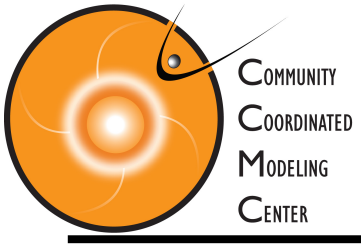
Will it lead to collaborations between modelers and the New Horizons SWAP team ?

New Horizons Flyby Model Support Visualization

http://ccmc.gsfc.nasa.gov/missionsupport/NewHorizons_support.ph

- Fly thru visualizations
  - GSFC Visualization studio – Bridgeman
  - Linkoping Univ. in collaboration with the Hayden Planetarium- Bok et al





Reflections

- Showcases the CCMC's rapid response capabilities
- 'Community Coordinated' means more that model hosting for Runs-On-Request
- Is the Outer Heliosphere a sensible growth area for the CCMC model inventory?