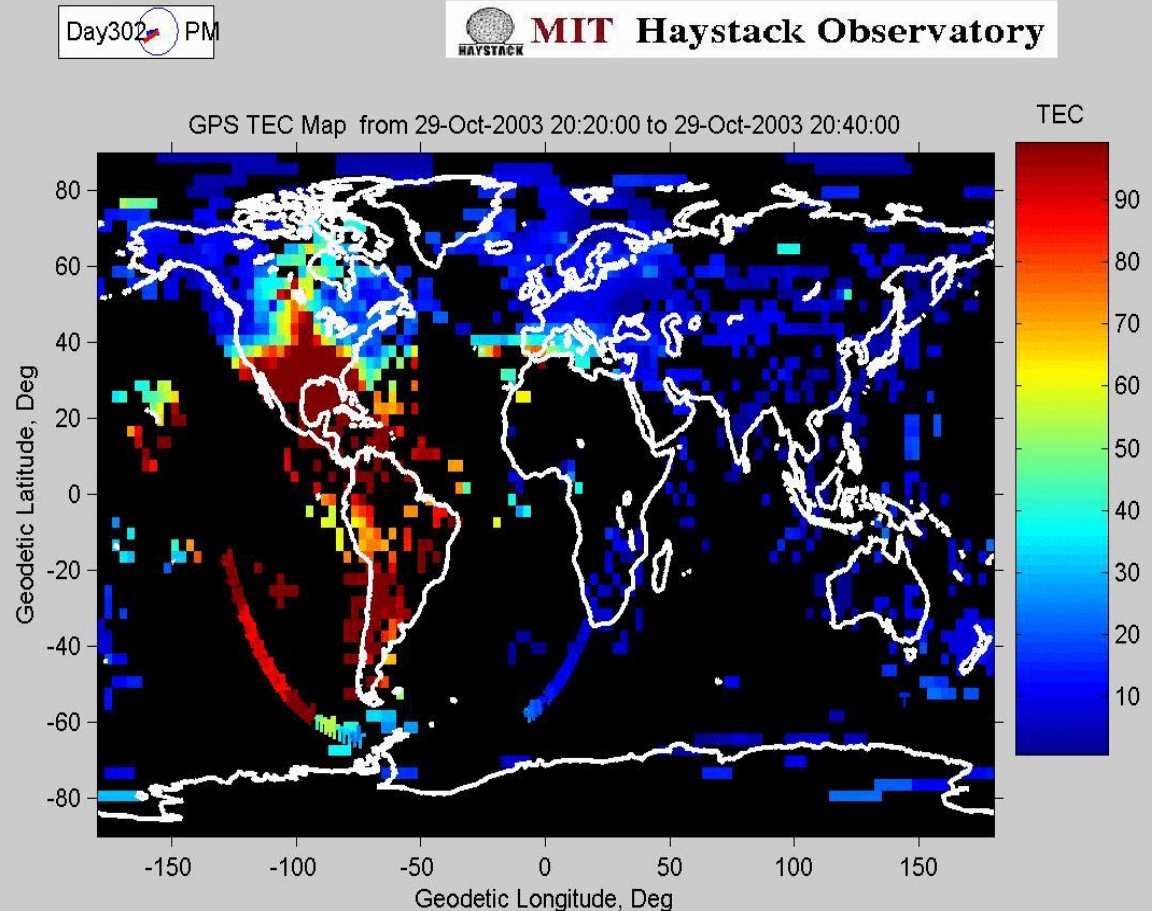


Wide Area Distribution of 'Raw' Information

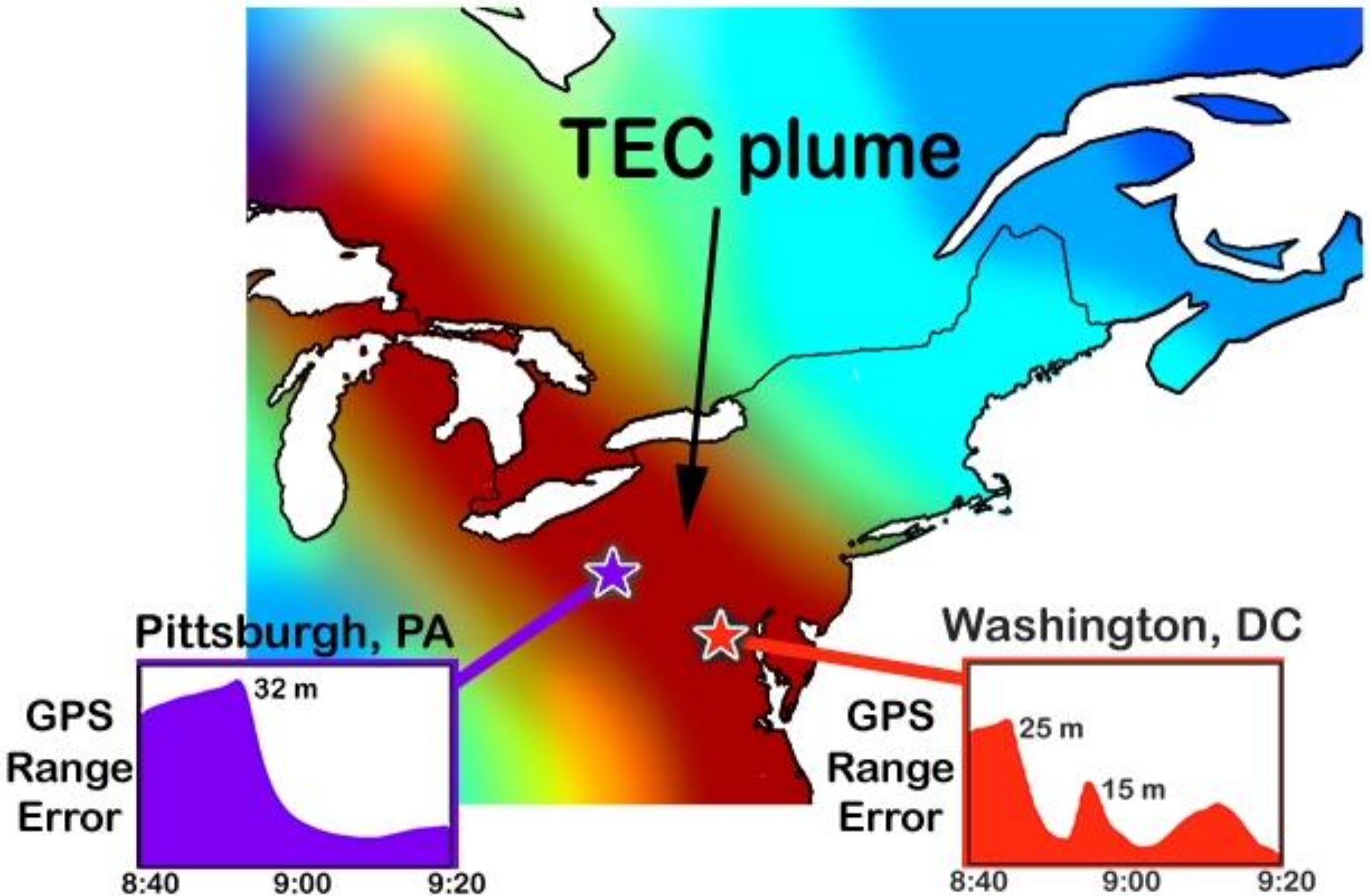
Distributed networks of sensors yield global physics unattainable with single-point measurements

Example :
Global GPS-derived ionospheric mapping during geomagnetic disturbances

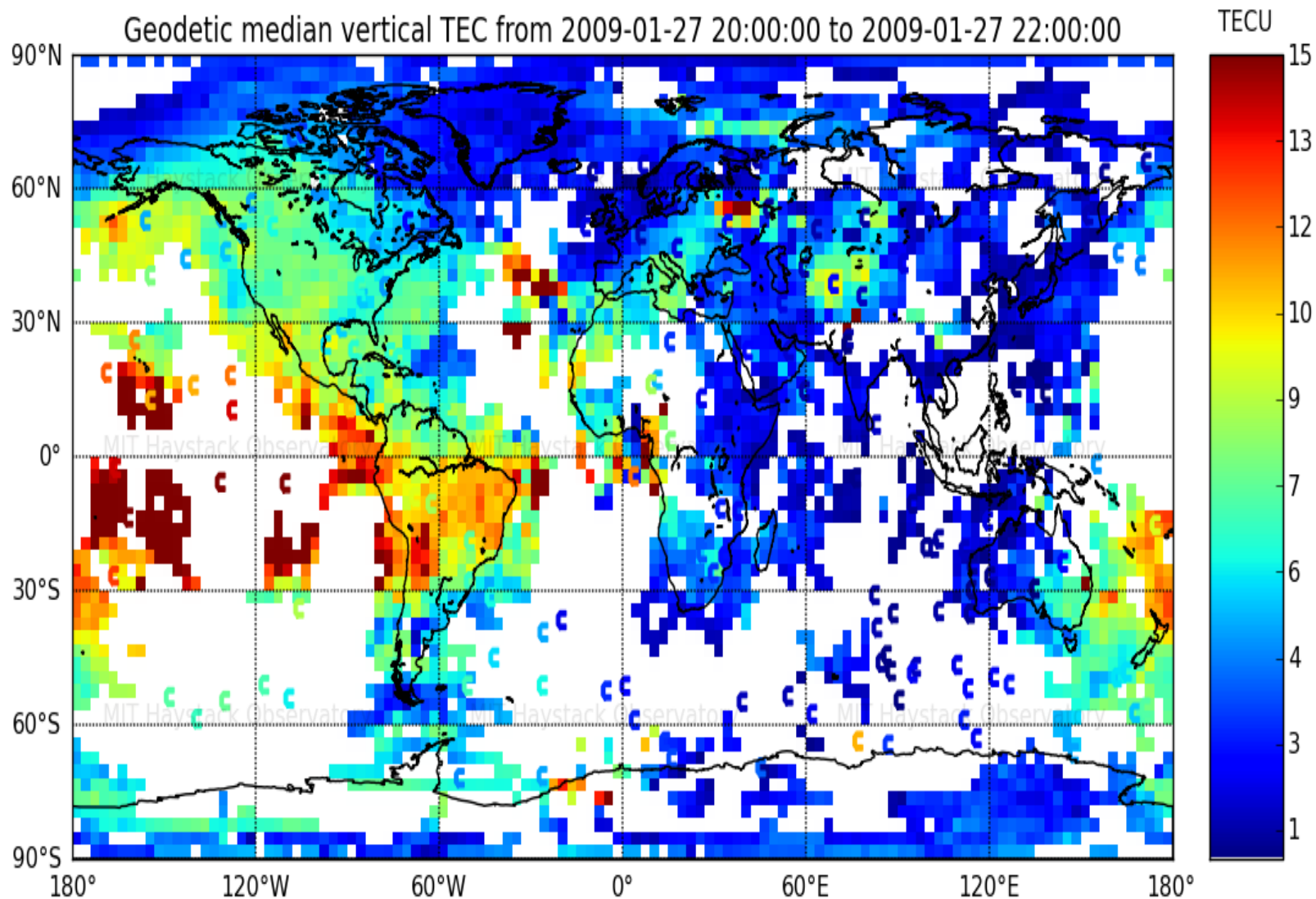


[Coster et al, 2003]

November 20, 2003



Geodetic median vertical TEC from 2009-01-27 20:00:00 to 2009-01-27 22:00:00



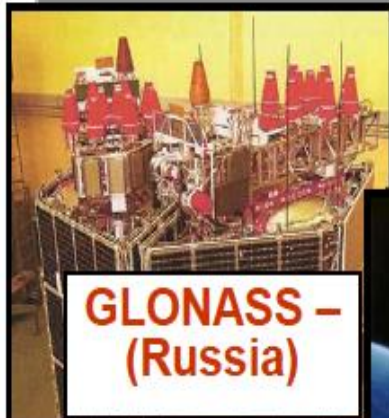
Great News!

(Bradford W. Parkinson, 9/29/2010 ION)

New Satellite Systems and Signals on the way
Should Enable improved:

- Accuracy
- Availability (and improved Interference rejection)
- Integrity
- Continuity

PNT set to Explode with Opportunities



**GLONASS –
(Russia)**

- Next generation 4 new Civil signals at two new frequencies



**GPS
(USA)**

- Only Current Operational Civil Signal
- Next generation 4 new signals at two new frequencies



**Galileo
(European)**

- Next generation 4 new Civil signals at two new frequencies



**Compass
(Beidou China)**



**QZSS
(Japan)**

The Future

- Multiple instruments combined, real-time global access, virtual observatories



Future:

NOAA Space Weather Prediction Center
control room