Proposed
Ocean Surface Vector Wind Constellation

EUMETSAT, ISRO, NOAA, ESA, SOA…

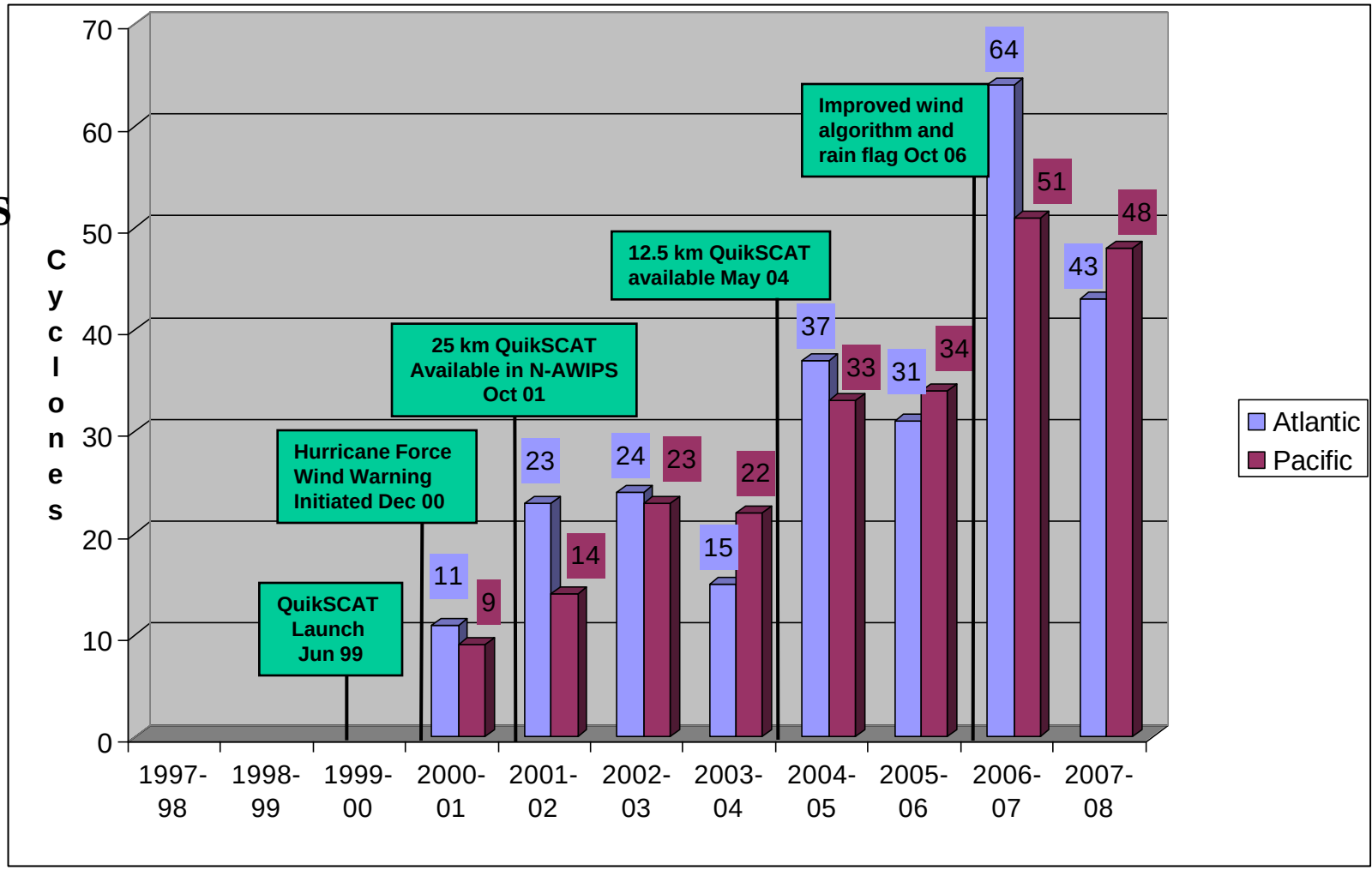
APL's M/V APL China, as it arrived in Seattle 1 Nov 1998 in the wake of Typhoon Babs. APL China lost 406 containers, with over 1,000 damaged. Similar damages were sustained by Maersk, Evergreen and other lines in Taiwan waters. Sources at APL estimated that losses were ~hundreds of millions of U.S. dollars for all vessels.

Extratropical Cyclones with Hurricane Force Winds Detected using QuikSCAT

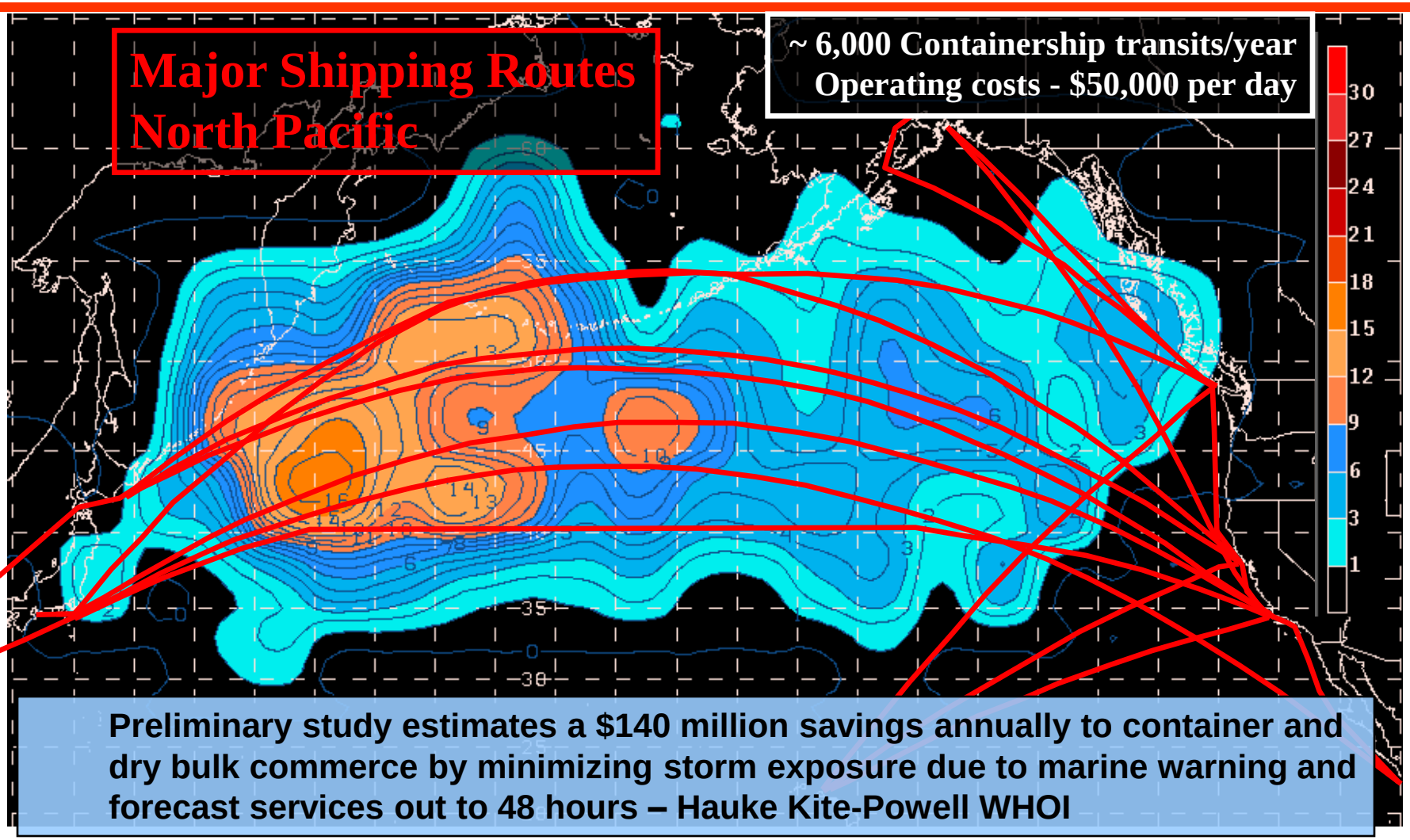
WARNING CATEGORIES

Pre-Q'SCAT
GALE 34-47 kt
STORM ≥48 kt

Q'SCAT
GALE 34-47 kt
STORM 48 -63 kt
HUR'C'N ≥ 64 kt

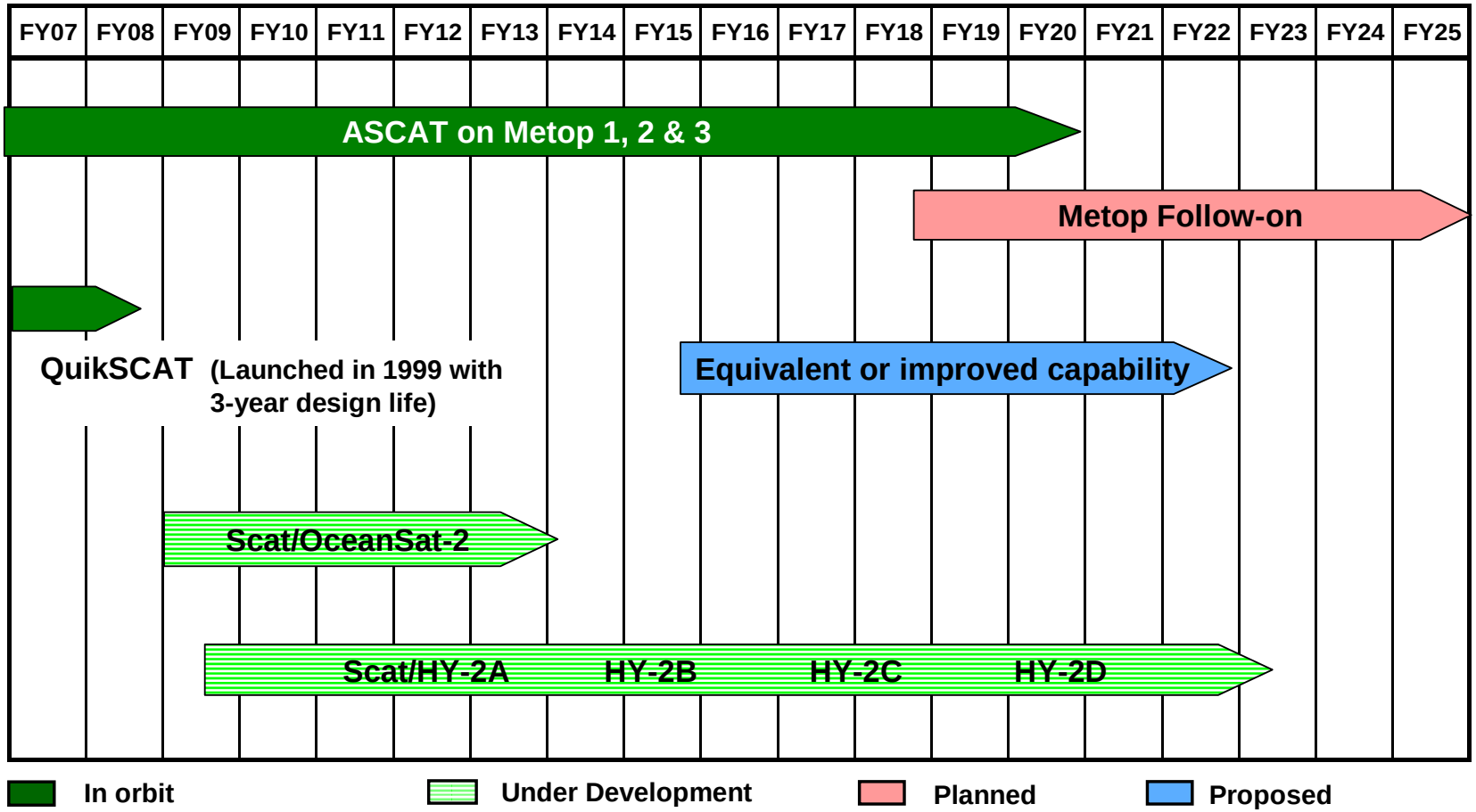


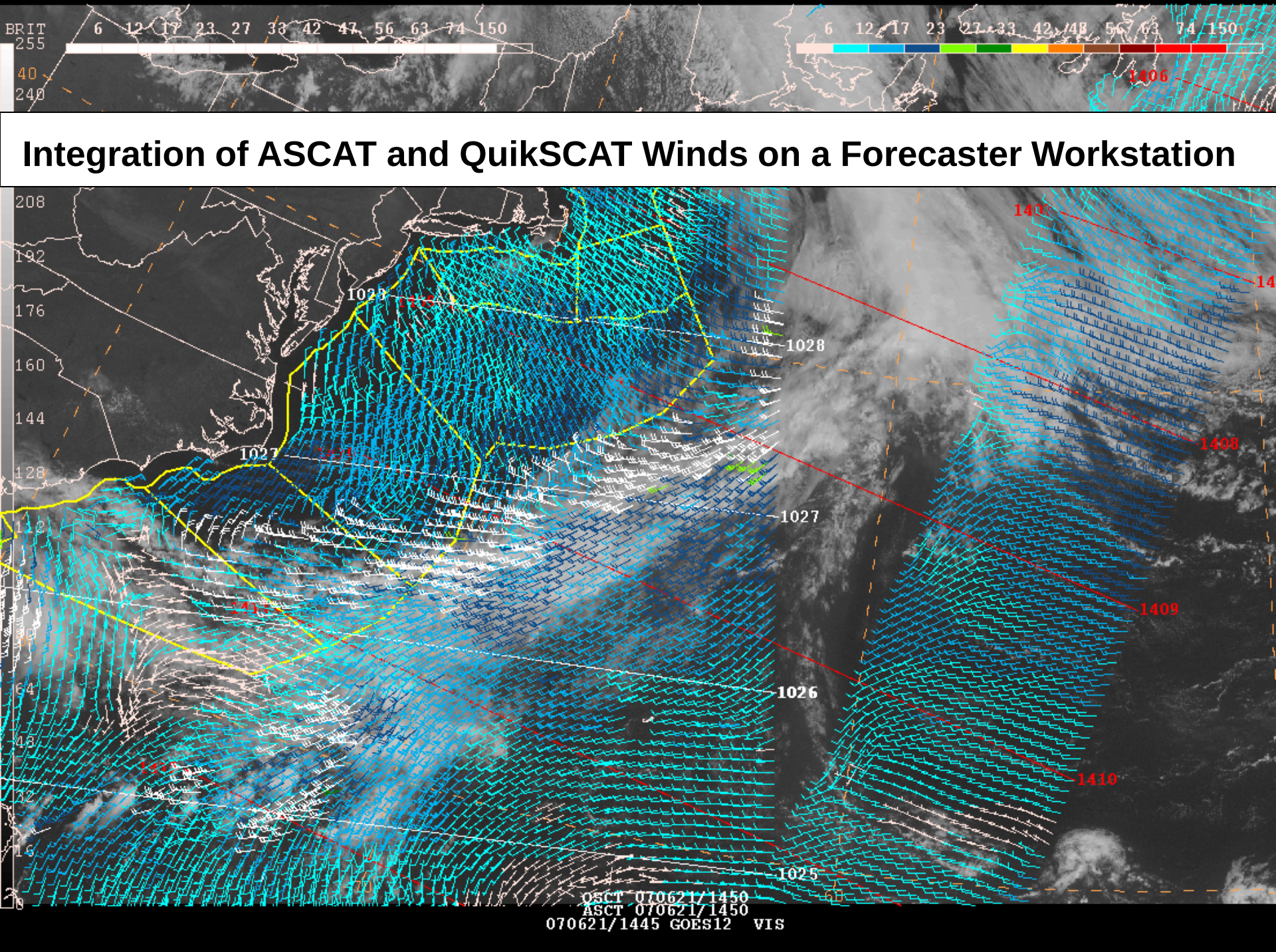
Cumulative Distribution of Extratropical Cyclones at Hurricane Force Intensity 2000-07



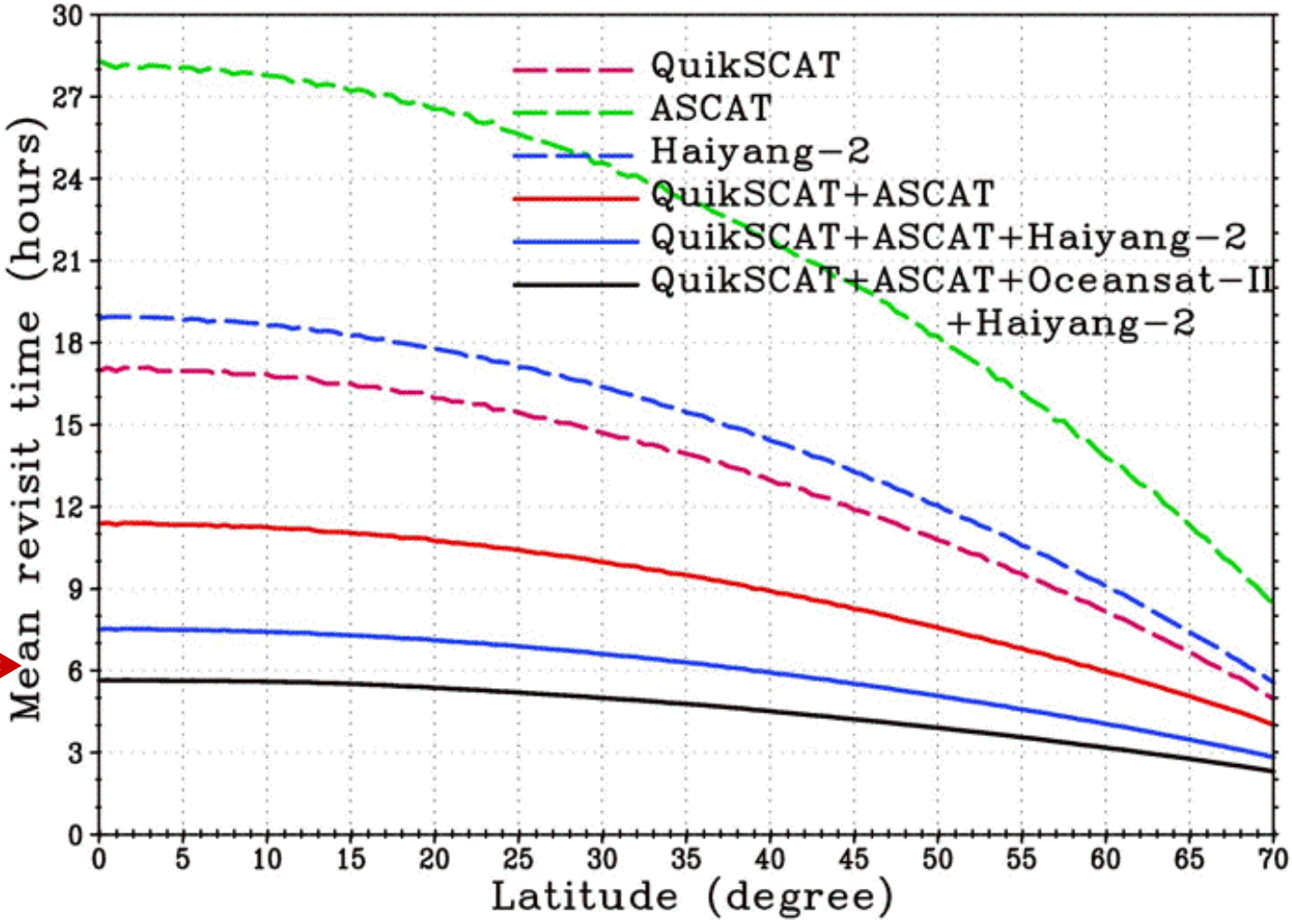
Preliminary study estimates a $140 million savings annually to container and dry bulk commerce by minimizing storm exposure due to marine warning and forecast services out to 48 hours – Hauke Kite-Powell WHOI

OSVW Satellite Missions
Present and Proposed




BRIT
6 12 17 23 27 33 42 47 56 63 74 150
255
40
240
6 12 17 23 27 33 42 48 56 63 74 150
1406
Integration of ASCAT and QuikSCAT Winds on a Forecaster Workstation
208
192
176
160
144
128
112
64
48
32
16
1029
1028
1027
1027
1026
1025
1407
1408
1409
1410
OSCT 070621/1450
ASCT 070621/1450
070621/1445 GOES12 VIS

Timely sharing of data enables a significant reduction in revisit time



6-hour goal

Liu et al., 2007, *Int. J. of Remote Sensing*

Ocean Surface Vector Wind Constellation

- ***Goal***
  - *Improve marine warnings and forecasts through the operational use of observations of OSVW from satellite scatterometry (and significant wave height from the OST Constellation)*
  - *Characterize the OSVW field for use in climate-quality data records*
  - *Facilitate research related to the influence of wind forcing on the circulation of the oceans*
- ***Benefits***
  - *Promote the development and use of standard products*
  - *Provide them within 3 hours of collection via the Global Telecommunications System for operational use*
  - *Collaborate in operational and research use of OSVW products*
  - *Consider harmonization of orbits of scatterometer-equipped satellites to optimize coverage in space and time*

Ocean Surface Vector Wind Constellation

- ***Approach***
  - *Maintain continuing coverage with at least two scatterometers to provide 12-hr revisit time (3 scatterometers provide 6-hr revisit)*
  - *Extend the capability of scatterometry to finer spatial resolution and to distinguish wind and rain, especially at high wind speeds*

Requested SIT and CEOS Support

- *Encourage establishment of an operational framework for collection, distribution and use of OSVW*
  - *Endorse OSVW Constellation*
  - *Coordinate with CGMS*
- *Engage key officials of the State Oceanic Administration to collaborate in scatterometry*
- *Facilitate development of an extended capability for observing OSVW*