PY09A: GNSS-Derived Troposphere Delays

Introduction

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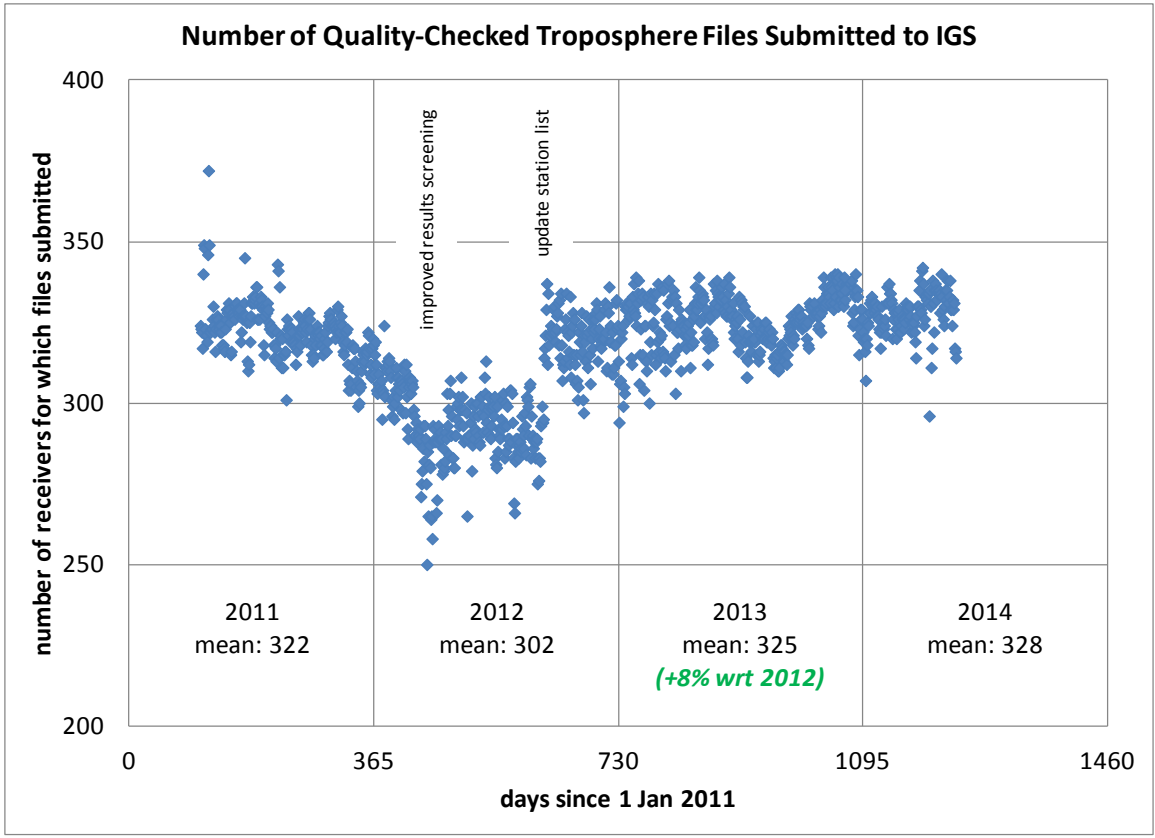
Christine Hackman, IGS Troposphere WG Chair
US Naval Observatory, Washington DC USA
christine.hackman@usno.navy.mil

Purpose: provide context to talks

- Summarize two major efforts
  - IGS Final Troposphere Estimates
  - IGS Troposphere Working Group
- Explain how today's talks fit in

IGS Final Troposphere Estimates

- Zenith delay + gradients every 5 min, every IGS station
- PPP, IGS final products
- @USNO since 4/2011
- Dr. Sharyl Byram
- 10.3 M downloads in 2013; 325 stations/d
- Always improving



ftp://cddis.gsfc.nasa.gov/gps/products/troposphere/zpd

IGS Troposphere Working Group

- Goal: improve accuracy, usability of GNSS-derived troposphere estimates
- Uses:
  - Climate change (decades-long water-vapor record at several hundred sites)
  - Meteorology (NRT estimates)
- But, how accurate are we now?
- 2012-4: set up automated on-going comparisons of troposphere estimates from independent techniques (GNSS, VLBI, models, radiosondes…)

Today's talks

- Dousa et al.: status report on troposphere-comparison database/website
- Wang et al.: use of GNSS troposphere estimates (converted to PWV), radiosonde and microwave sat data to study long-term trends in atmospheric water content
- Guerova et al.: GNSS4SWEC: using GNSS tropo estimates for severe-weather monitoring

Thank you!