



GROUP ON
EARTH OBSERVATIONS

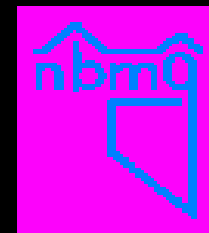
Surface Displacements and Hydrology: Status of GPS Observations

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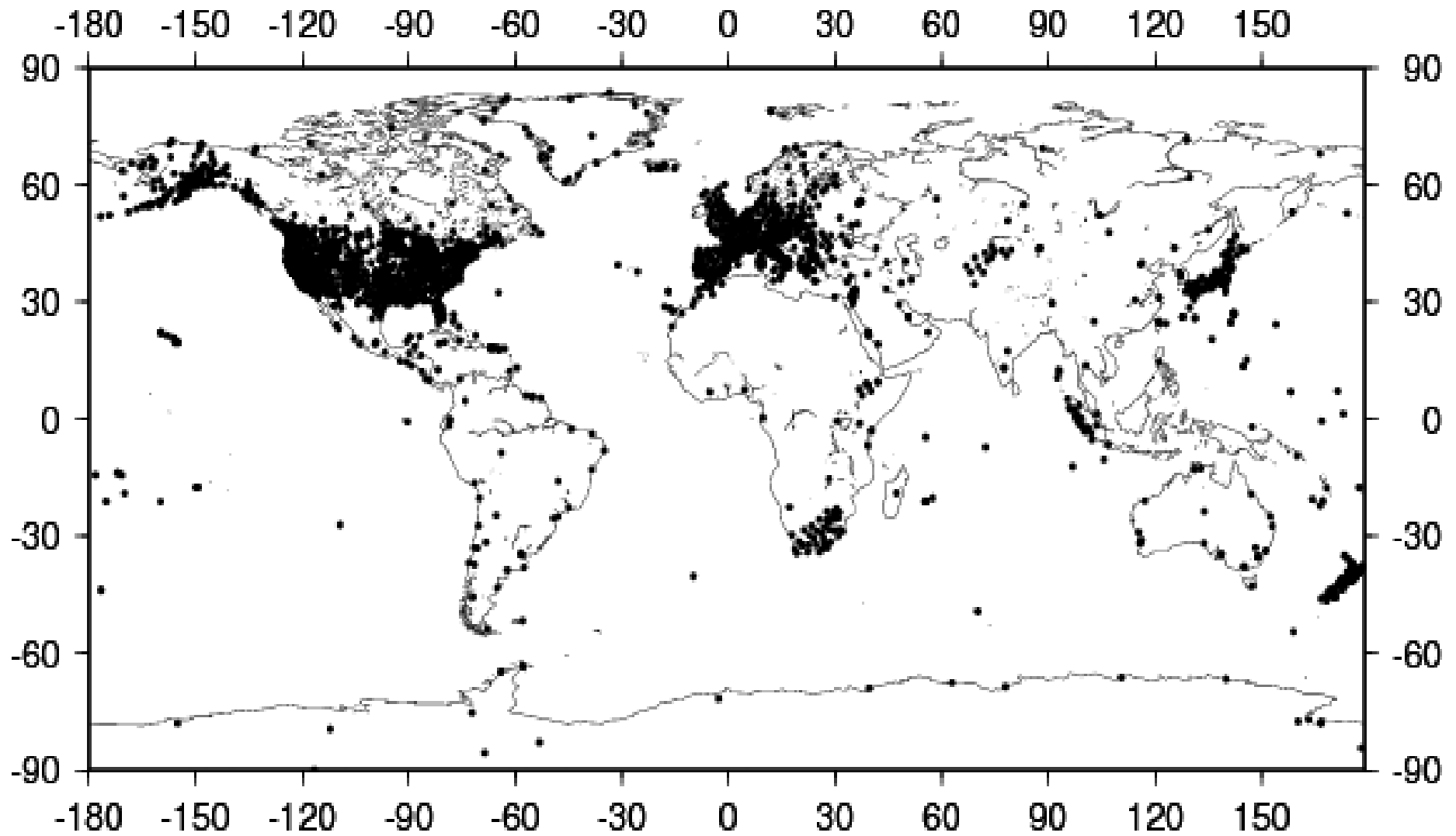


University of Nevada, Reno
Statewide • Worldwide



Continuous GPS Observations

GPS site locations, ~4,000 sites

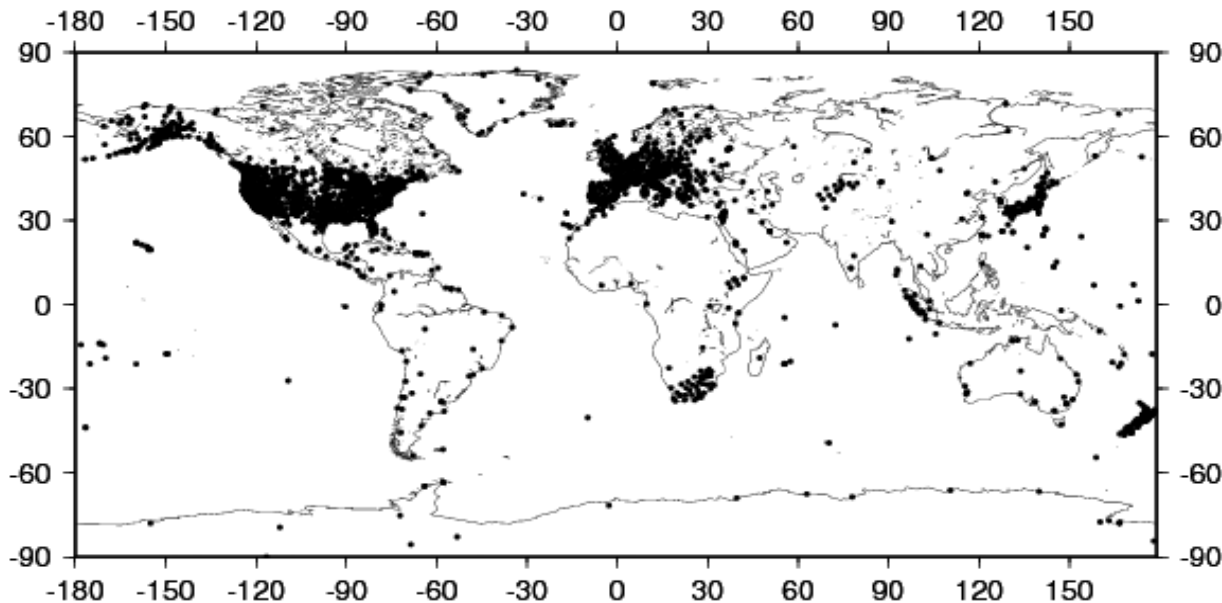


Blewitt and Kreemer, 2008

Time Series of Surface Displacements

- Quality control of GPS RINEX data;
- AMBIZAP (Blewitt, 2008) allows easy to reprocessing with additional models;
- Consistently analyses set of time series of daily coordinate estimates;
- Stable reference frame (many studies);
- Improved models of atmospheric loading;
- Best available data set of GPS-determined surface displacements

GPS site locations, ~4,000 sites



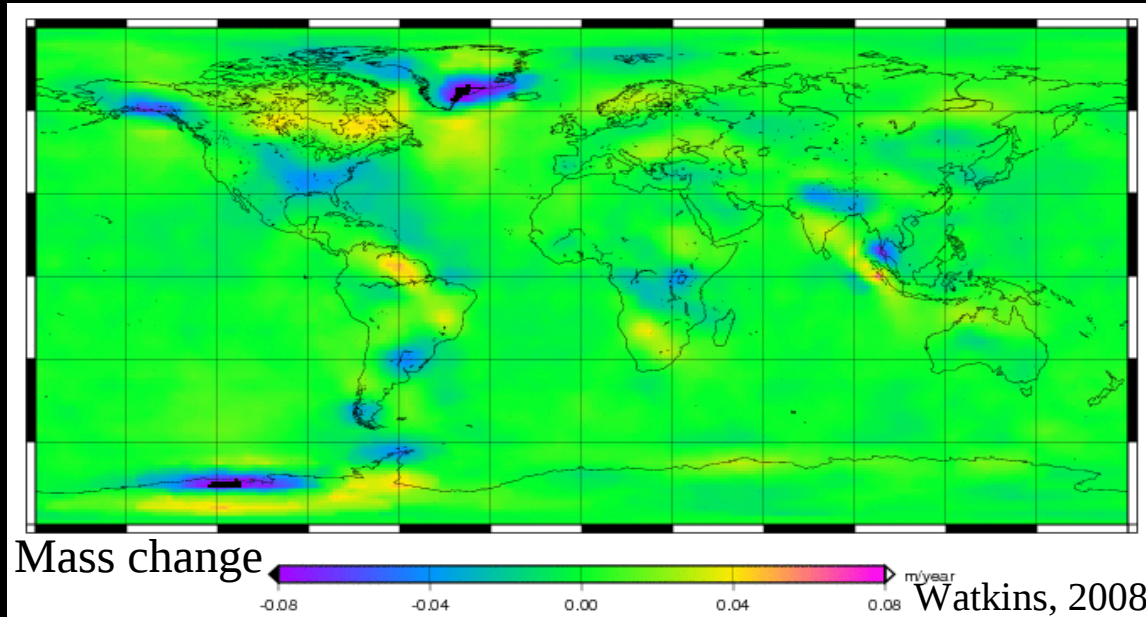
Blewitt and Kreemer, 2008

Validation of response functions, mass change models, ice sheet dynamics models:

Increased observations (surface displacements, gravity, mass balance) in areas with large mass changes, in particular:

- Greenland;
- Svalbard;
- Antarctica and southern America .

Comparison with Gravity

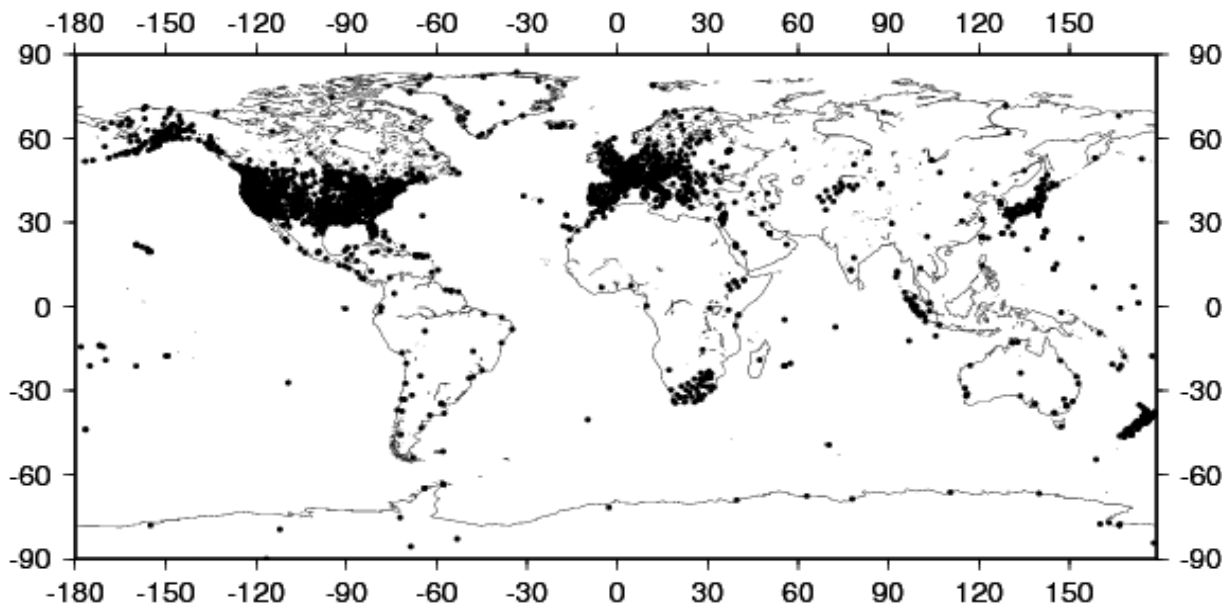


Spatial gaps hamper integration of gravity and displacements

Work on regional scales:

- Europe and U.S, potentially South Africa

GPS site locations, ~4,000 sites



Blewitt and Kreemer, 2008

Requires careful filtering to ensure that all datasets have same information contents