

# Available Satellite Sea Level Anomaly Imagery

Mati Kahru

WimSoft, <http://www.wimsoft.com>

Email: [wim@wimsoft.com](mailto:wim@wimsoft.com)

also at

Scripps Institution of Oceanography

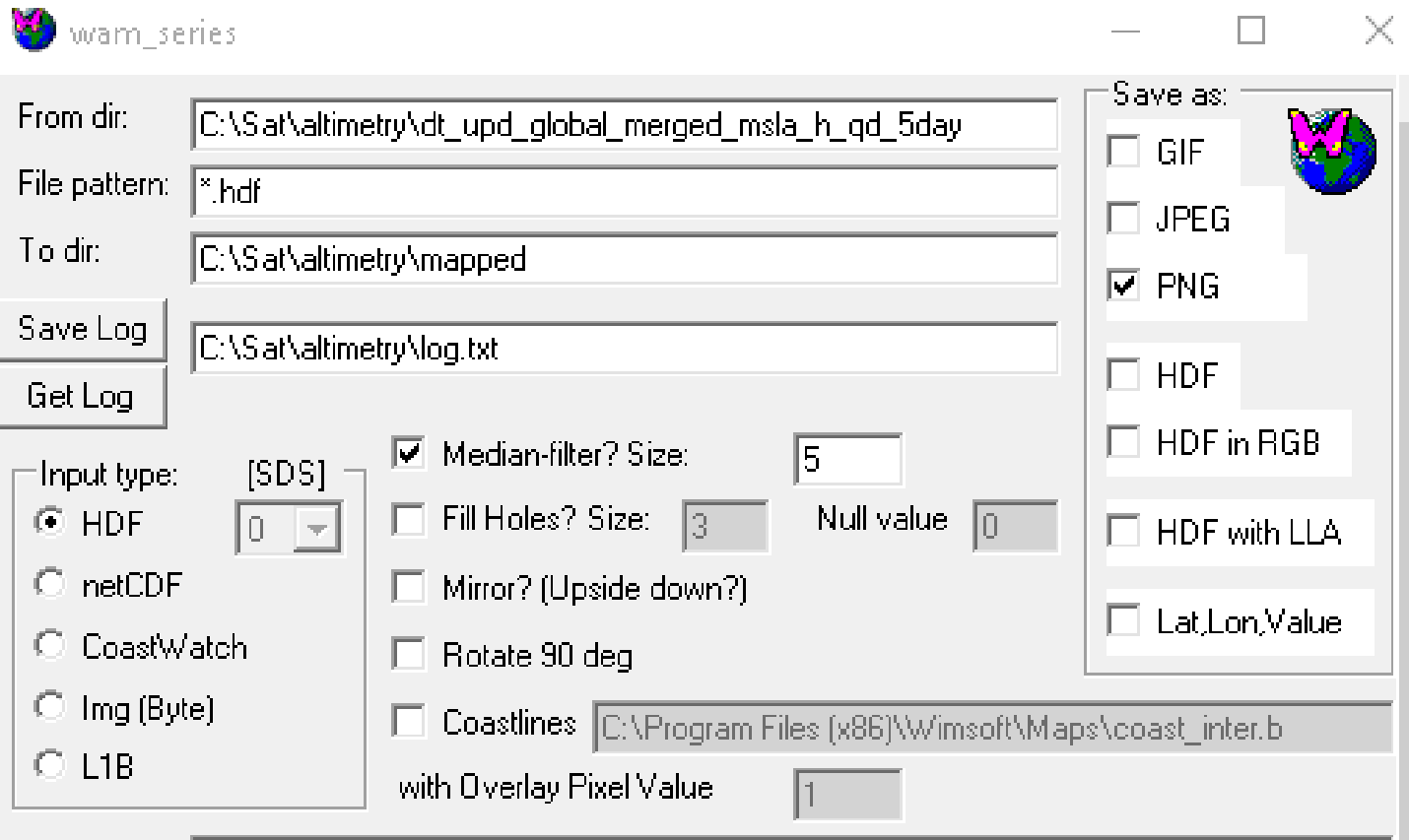
UCSD, La Jolla, CA 92093-0218, USA

[mkahru@ucsd.edu](mailto:mkahru@ucsd.edu)

## Satellite imagery of the ocean using different sources

- **Sea Surface Height (SSH)** or **Sea Level Anomaly (SLA)** are especially suitable for making image loops as they are not blocked by cloud cover
- Multiple sources of Sea Surface Height or Sea Level Anomaly (SLA) data; the best is probably:
  - */global/delayed-time/grids/msla/all-sat-merged/h*
- Daily maps of SLA merged from TOPEX/POSEIDON, Jason and ERS-1/2 created by SSALTO/DUACS and distributed by AVISO; starting from 1992;
- Data at <ftp.avisioceanobs.com> but need personal login
- Delayed data in */global/delayed-time/grids/msla/all-sat-merged/h*
- NRT data in */global/near-real-time/grids/msla/all-sat-merged/h*
- All 2014 DT files composited into 5-day composites are in *\Sat\altimetry\dt\_upd\_global\_merged\_msla\_h\_qd\_5day*

- We will use the 5-day MSLA composites in *|Sat\altimetry\dt\_upd\_global\_merged\_msla\_h\_qd\_5day* and remap to a linear 4-km map of the Western Pacific (*wpac4km.hdf*), convert the float32 pixel to scaled byte (in cm) with  $\text{slope}=1$ ,  $\text{intercept}=-100$ , perform median filtering, overlay the mask – all this with a single click using *wam\_series*



← top

# bottom

Overlay

Load Palette

Annotate: X=  Y=   LatLon not XY

Cut subimage?

Statistics, Valid Min, Max:

Convert to byte?

Convert byte 0 to 255  Color Stretch

Remap to

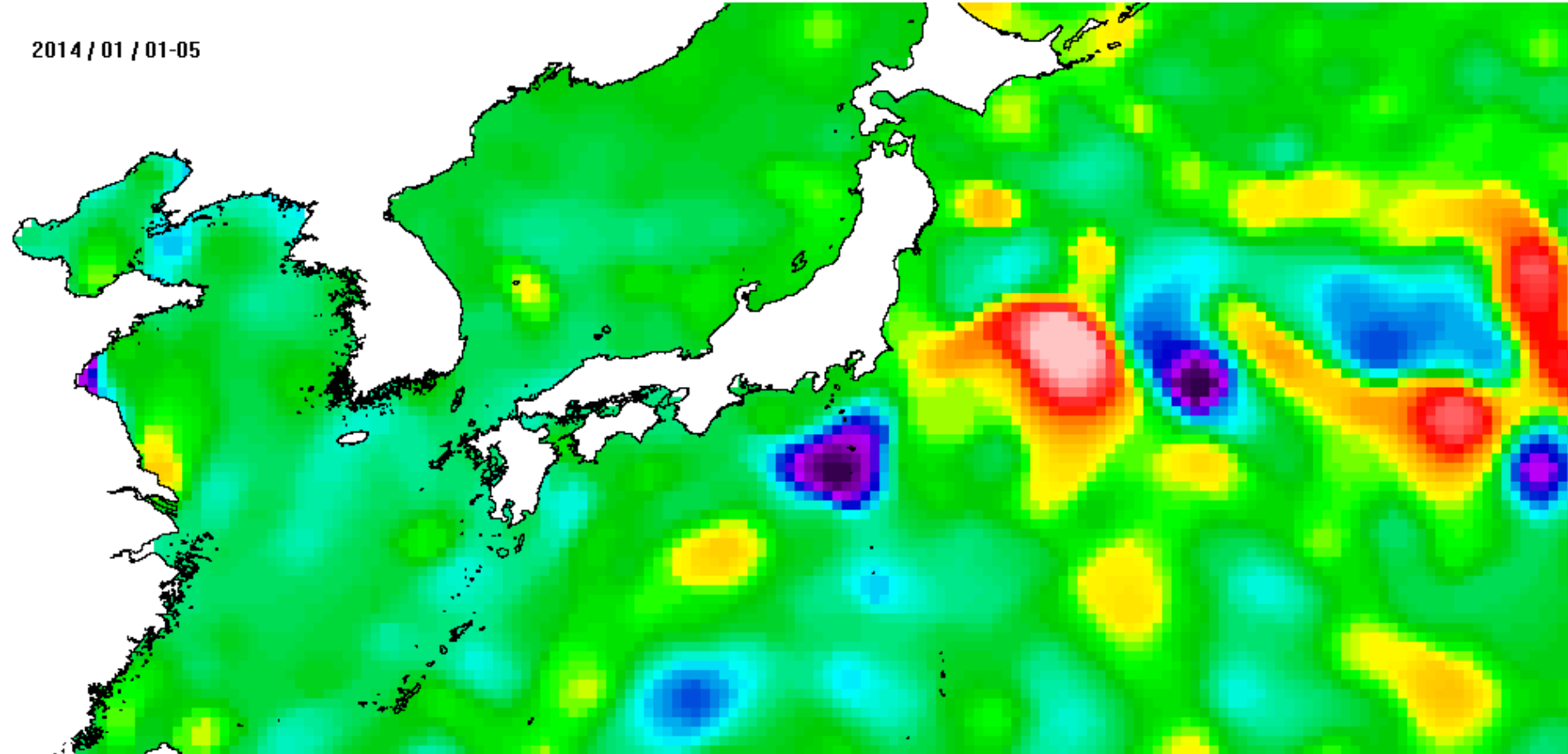
Forward Mapping  Forward w. Fill Gaps  Inverse Mapping

```
.Remapping..Converting to Linear scaling.d20143512014355_sla_comp.hdf  
.Remapping..Converting to Linear scaling.d20143562014360_sla_comp.hdf  
.Remapping..Converting to Linear scaling.d20143612014361_sla_comp.hdf  
.Remapping..Converting to Linear scaling.=== Done! ===  
|
```

# Sea Level Anomalies in Western Pacific, 2014

- 5-day maps of Mean Sea Level Anomaly (MSLA) Anticyclonic eddies (positive SLA, sea level domes upwards, downwelling)
- Cyclonic eddies (negative SLA, sea level dips downward, upwelling)

2014 / 01 / 01-05



# Sea Level Anomalies in Eastern Central Pacific

- Weekly maps of Sea Level Anomaly (SLA) merged from TOPEX/POSEIDON, Jason and ERS-1/2 created by SSALTO/DUACS and distributed by AVISO; Data from:
  - <ftp://ftpsedr.cls.fr/pub/oceano/AVISO/SSH/duacs/global/dt/upd/msla/merged/h//>
- Anticyclonic eddies (positive SLA, sea level domes upwards, downwelling)
- Cyclonic eddies (negative SLA, sea level dips downward, upwelling)

