



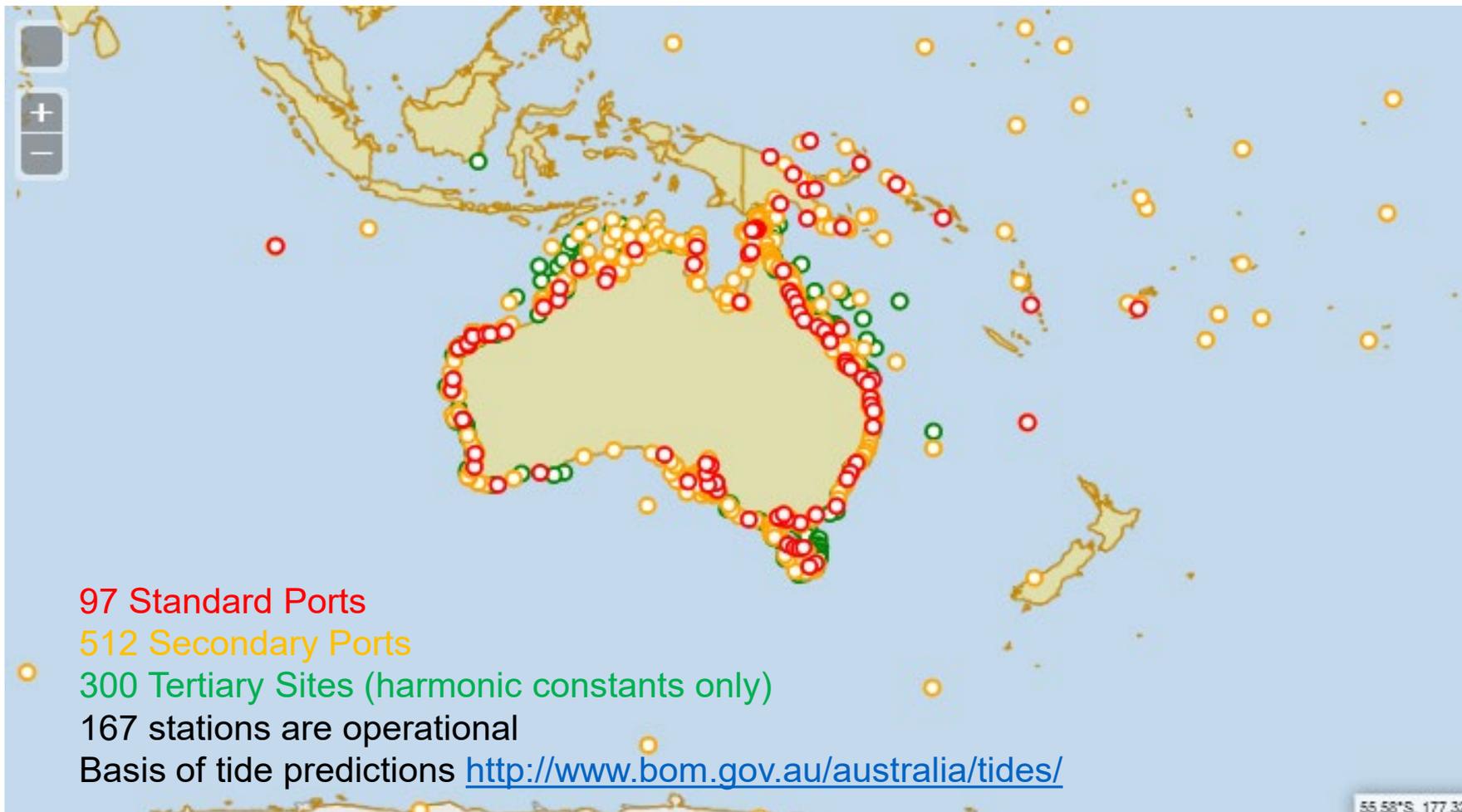
The Bureau
of Meteorology

Australia National Report GLOSS GE XVII

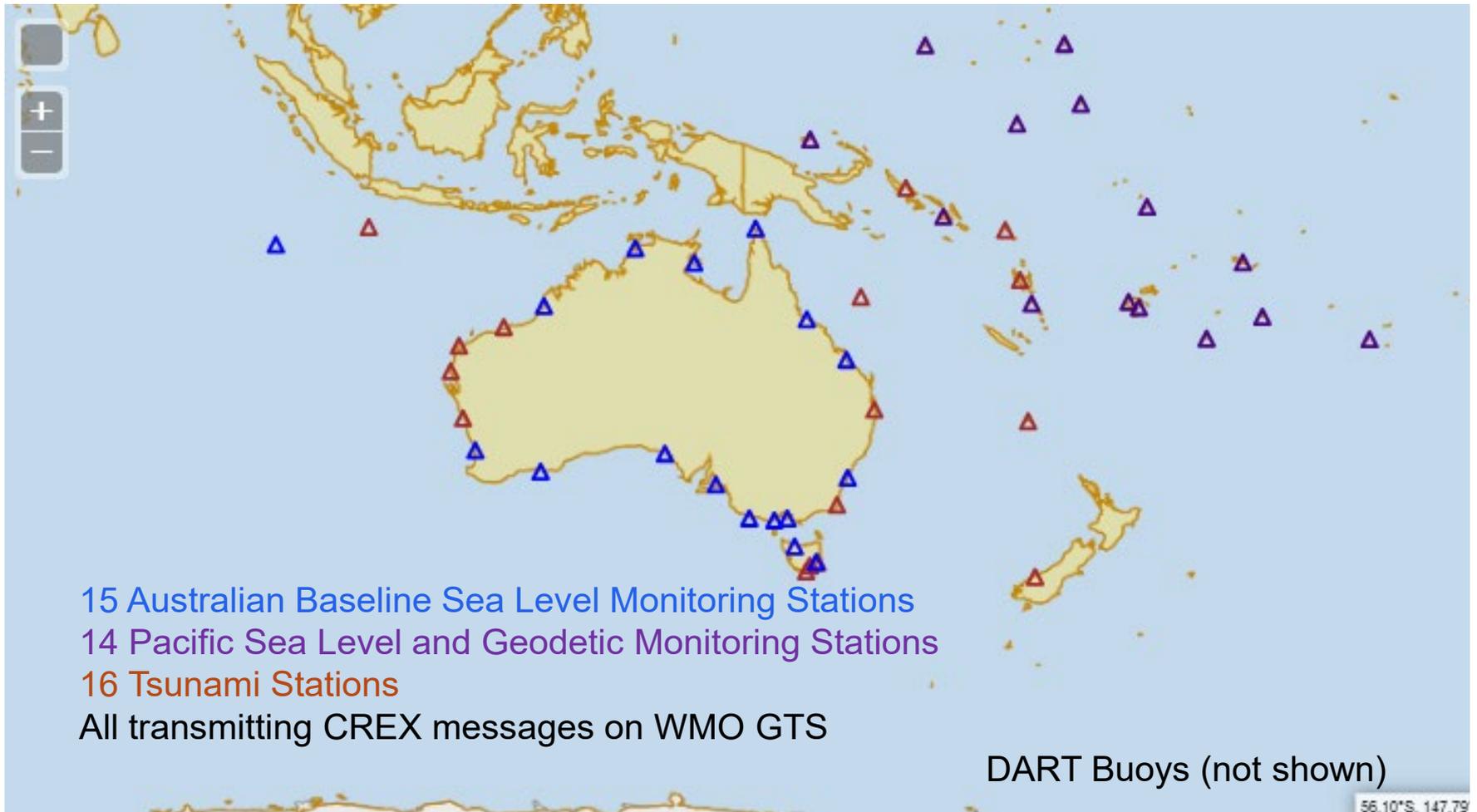
17th Session of the Group of Experts on the Global
Sea Level Observing System (GLOSS) 7-11Nov2022

James Chittleborough, Technical Lead - Sea Level

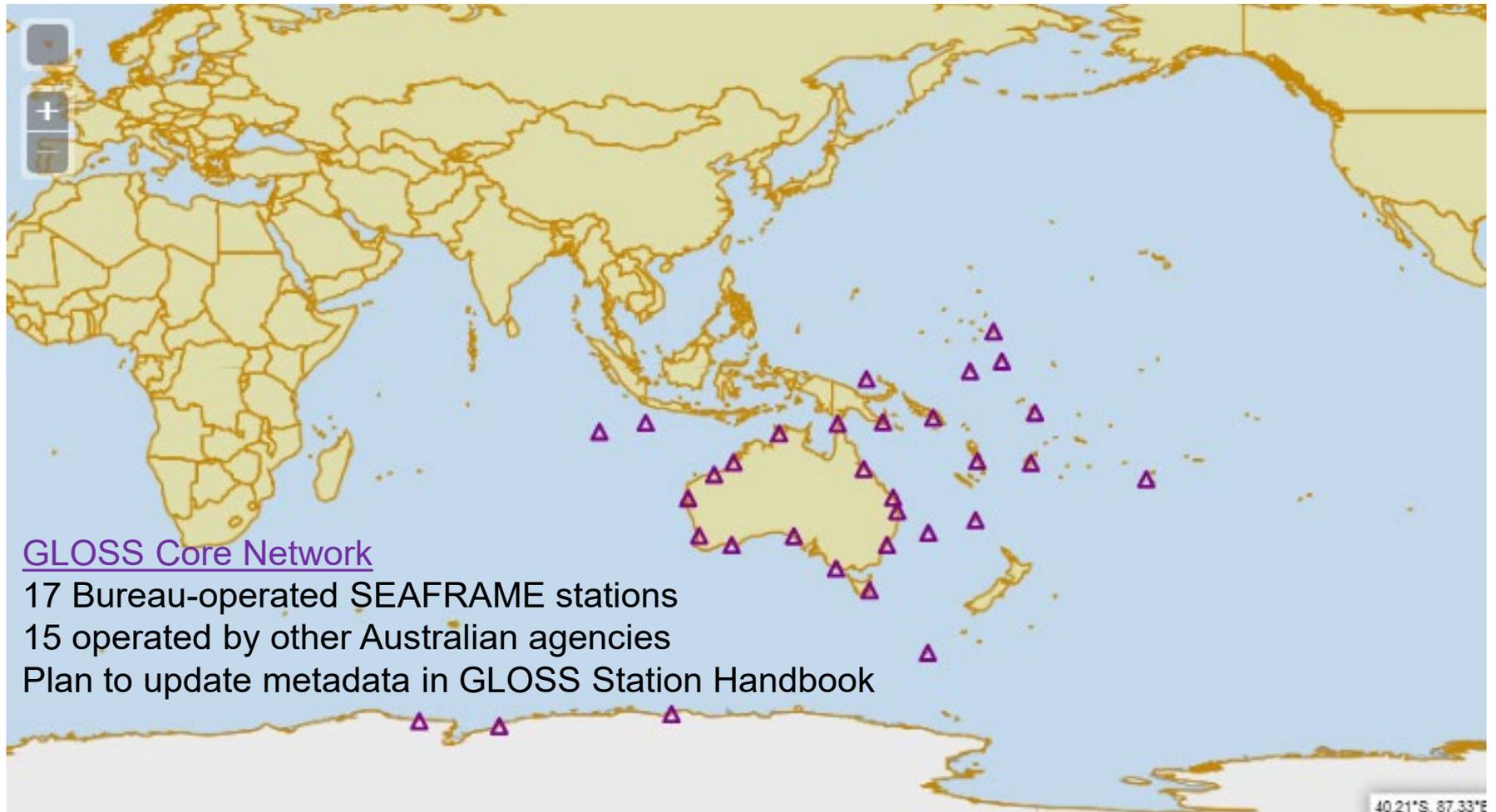
Sea Level Data Holdings – Various Operators



Sea Level Monitoring – Bureau Operated Stations



Sea Level Data – GLOSS Contributions



Sea Level Data

Contributions to GLOSS sea level data centers

- PSMSL (monthlies, updated once a year)
- UHSLC (hourlies, updated once a month)
- GESLA-3 (hourlies, courtesy of Ben Hague, Bureau of Meteorology)
- IOC Sea Level Monitoring Facility (1 minute, updated every 3 minutes)

Research Activities

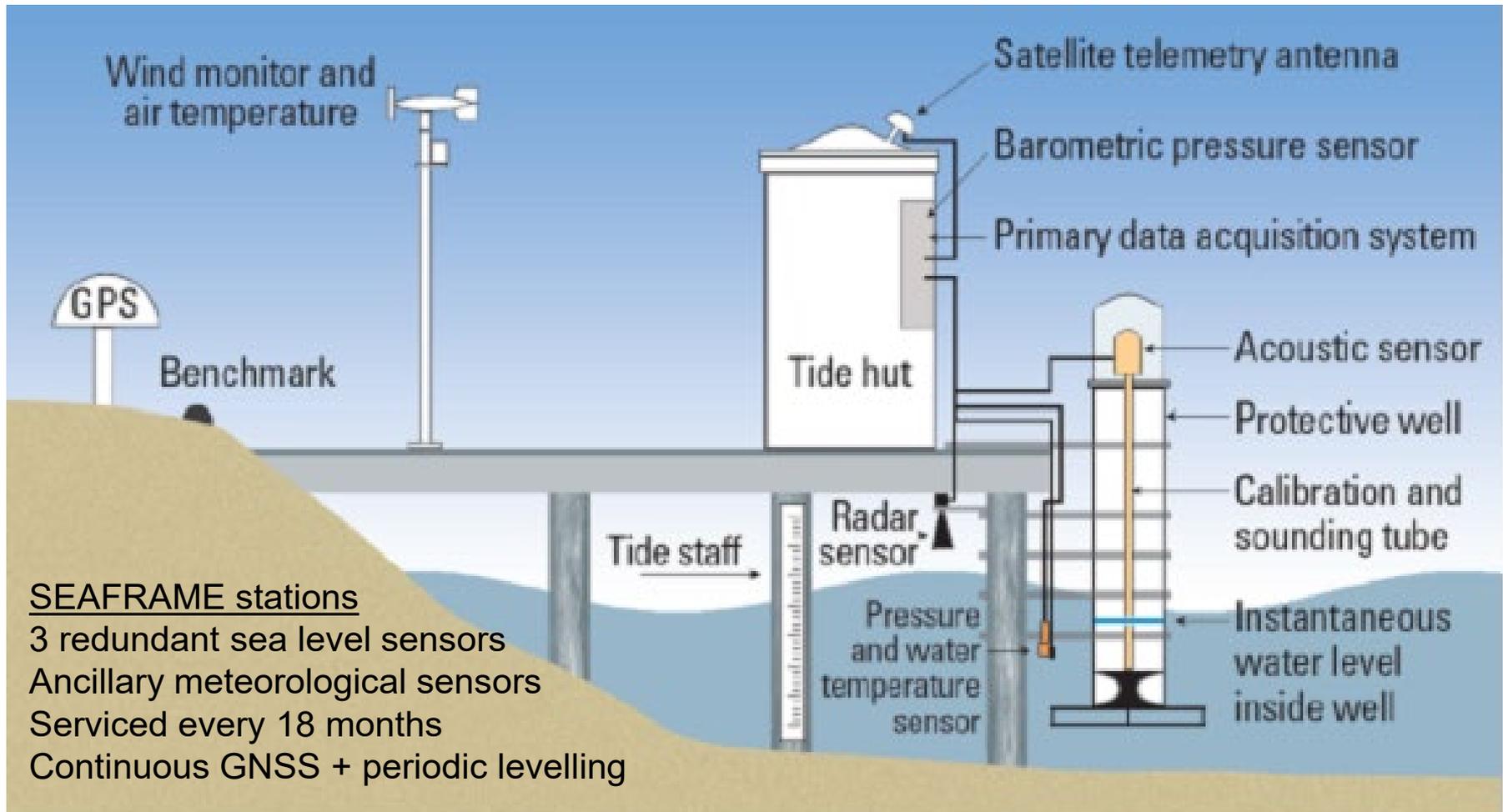
- ANCHORS: A multi-decadal tide gauge dataset to monitor Australian relative sea level changes (Hague et al 2021)

Other

Numerous other operational activities, applications and research involving sea level data across the Bureau (tsunami, storm surge, flood, hydrology, coastal and ocean modelling, climate, sea level extremes, sea level rise, etc)



Sea Level Monitoring – Bureau Operated Stations



Future Plans

Sea level data management

- Update station metadata
- Produce absolute sea level datasets (initiative under Pacific Sea Level and Geodetic Monitoring)
- Transition primary sea level sensor to radar
- Upgrade data management systems and customer access
- Investigate recommendations in IOC Manuals and Guides No. 83: Volume I – Automated QC
- Upgrade tidal analysis and prediction software



Tides and Sea Level Information Systems

- Development
- Support products and services
- Automation and efficiency
- Customer focus

67050 Suva

Station Information Tide Predictions Extreme Tides Tidal Levels Sea Level Data Model Guidance Documents

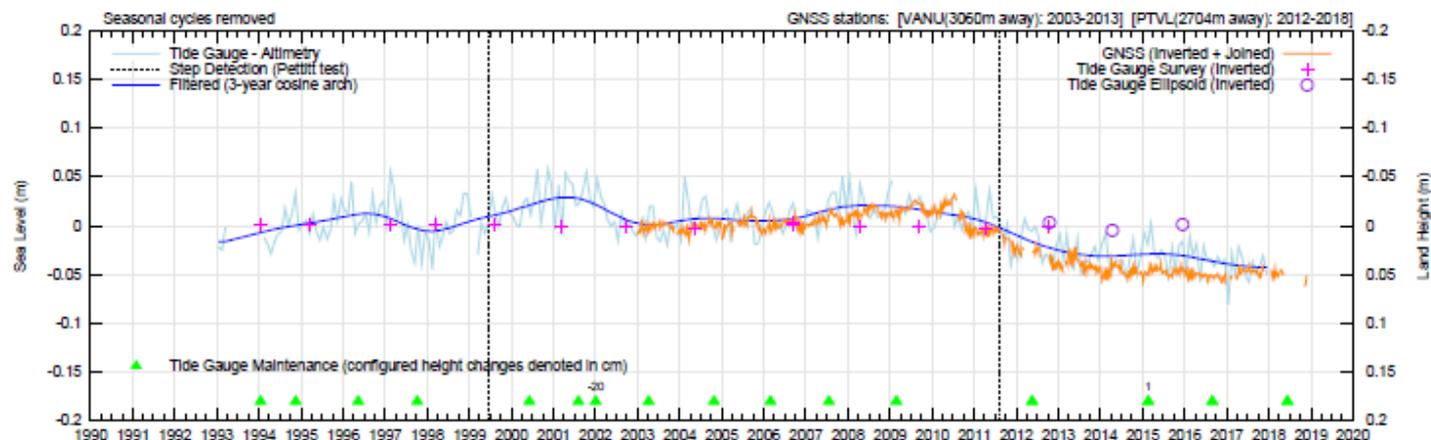
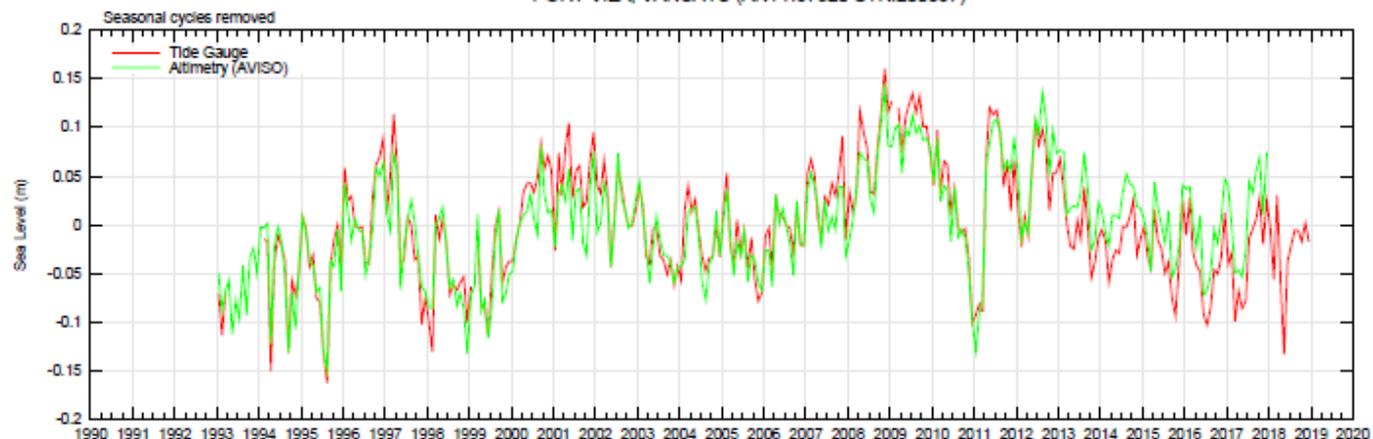
Station Information for Suva

SITE name Suva alt name FIJI ISLANDS, VITI LEVU - SUVA	STATE name code	COUNTRY name Fiji code FJI	ANIT code 67050 alt ref 67050.0 alt code
AAC code INT_TP004	STN number 200863 array 200863	ID abbr sv alt abbr bank suva	CLASSIFICATION type Primary networks PSLM GLOSS oper flag Y gnss array SUVA
OPERATOR tide gauge Bureau of Meteorology stn ref data supplier data channel CMSS data licence	PRODUCT codes IDO59001 hourly_csv IDO50000 monthly_stats tide_calendar rtd	COORDINATES latitude -18.1342 longitude 178.4236 reference system positional uncertainty	TIMEZONE utc offset UTC+12:00 name Pacific/Fiji
ANALYSIS epoch start 1997-01-01T00:00:00Z	PREDICTION DATUM reduced level 0	TIDE GAUGE ZERO reduced level 0	HYDROGRAPHIC BENCHMARK reduced level 3.206



Sea Level Monitoring - Examples

MONTHLY MEAN SEA LEVEL COMPARISON
PORT VILA, VANUATU (ANTT:57320 STN:200857)



Data Sources

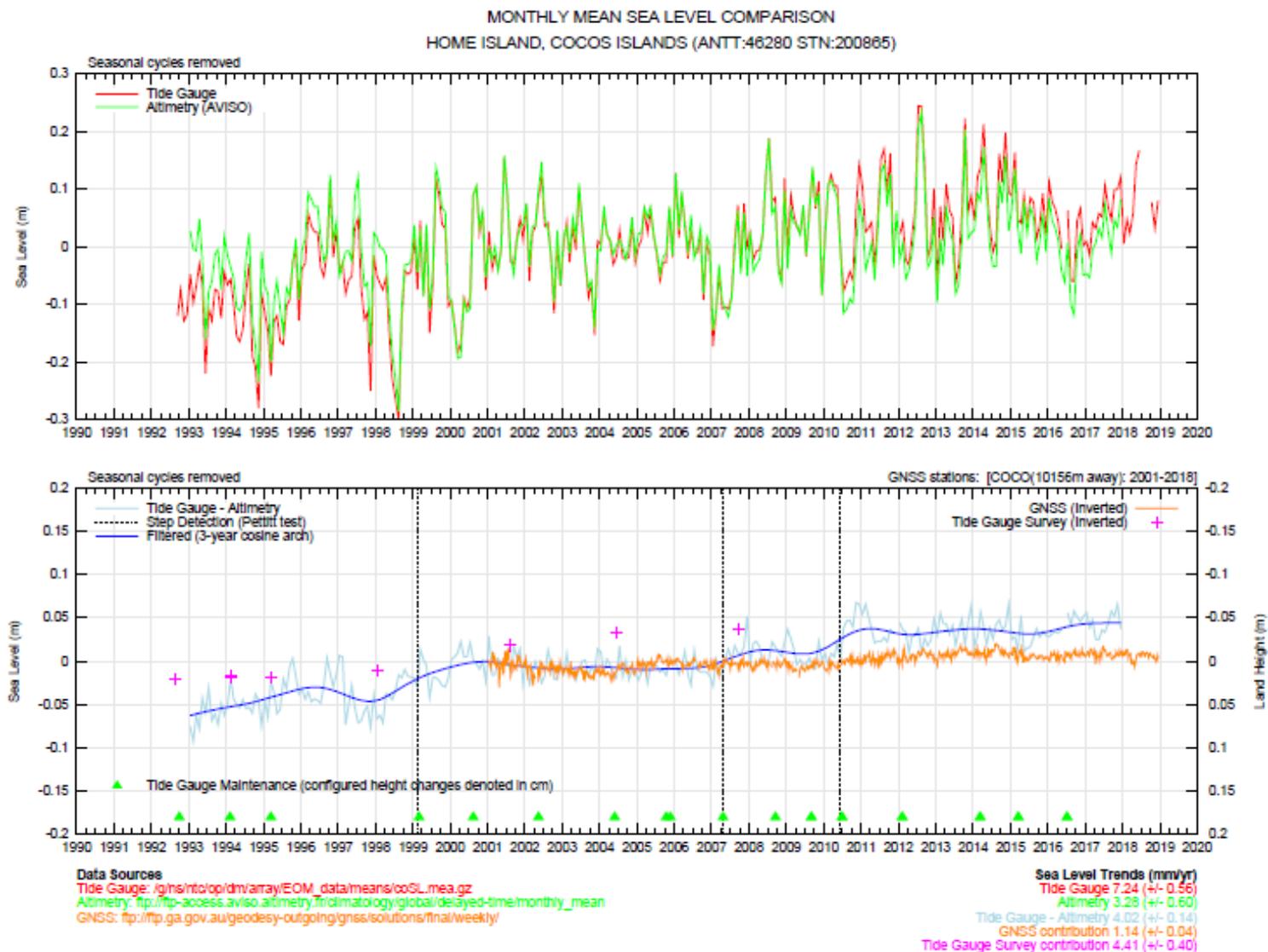
- Tide Gauge: http://hns/mto/op/dm/array/EOM_data/means/vnSL_mea.gz
- Altimetry: [ftp://ftp-access.aviso.altimetry.fr/ctidat/mology/global/delayed-time/monthly_mean](http://ftp-access.aviso.altimetry.fr/ctidat/mology/global/delayed-time/monthly_mean)
- GNSSS: [ftp://ftp.ga.gov.au/geodesy-outgoing/gnss/solutions/final/weekly/](http://ftp.ga.gov.au/geodesy-outgoing/gnss/solutions/final/weekly/)
- Tide Gauge Ellipsoid Height: <http://www.ga.gov.au/scientific-topics/positioning-navigation/geodesy/pacificsealevel>

Sea Level Trends (mm/yr)

- Tide Gauge 0.82 (+/- 0.46)
- Altimetry 3.11 (+/- 0.40)
- Tide Gauge - Altimetry -1.67 (+/- 0.19)
- GNSSS contribution -4.69 (+/- 0.12)
- Tide Gauge Survey contribution -0.14 (+/- 0.06)
- Tide Gauge Ellipsoid contribution -0.55 (+/- 2.57)



Sea Level Monitoring - Examples





The Bureau
of Meteorology

Thank you

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<http://www.bom.gov.au/>