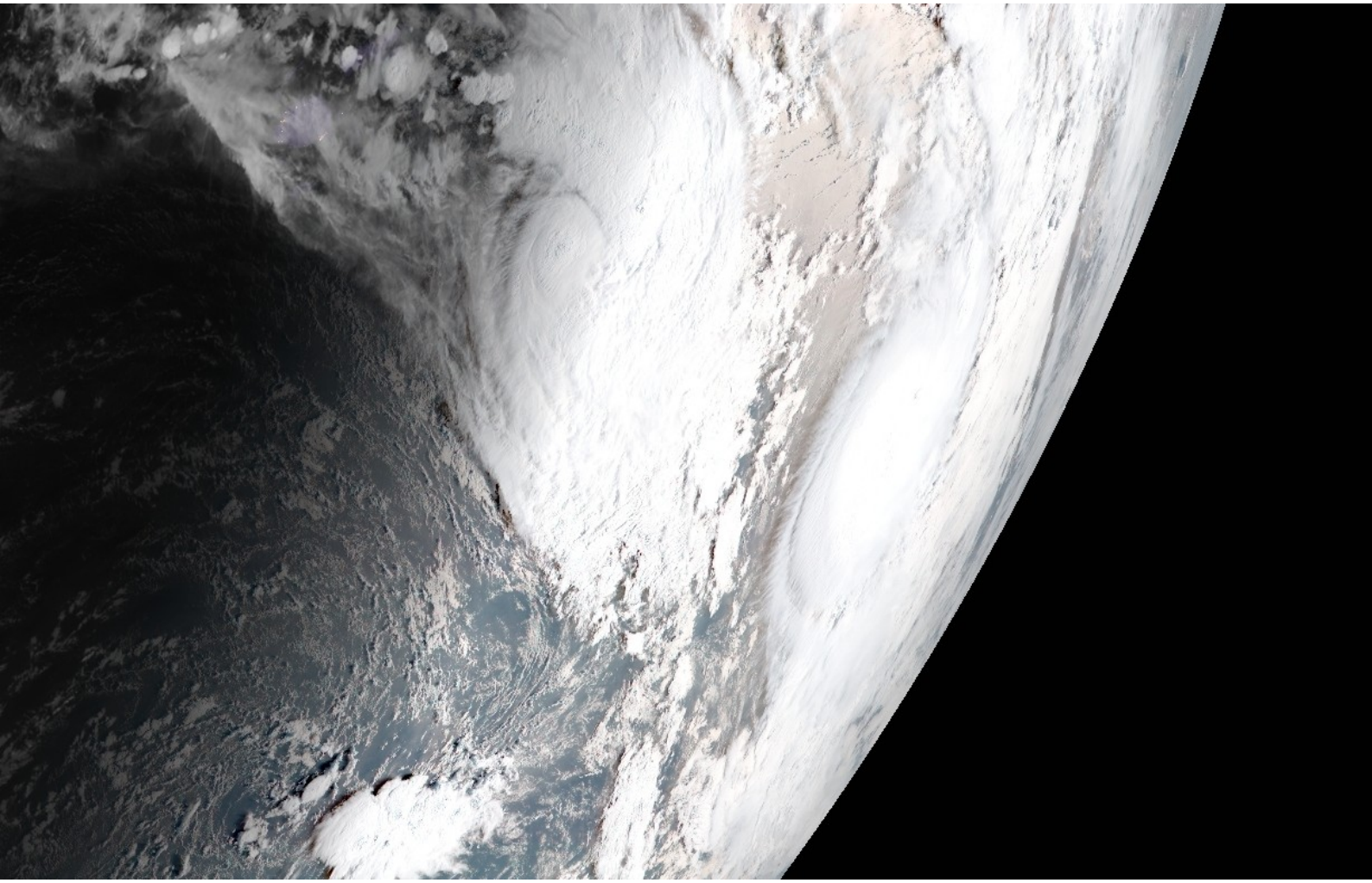
2017

Force Thirteen Cyclone Reports

Cyclone Bart (201705)



Cyclone Bart was a short lived cyclone which didn't affect any land areas in the South Pacific during the second half of February 2017.

Compiled by Nathan Foy at Force Thirteen, March 8, 2017
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Cover photo: Himawari-8 image of Cyclone Bart near peak intensity on February 21st at 18:30 UTC. Bart is the system to the right.

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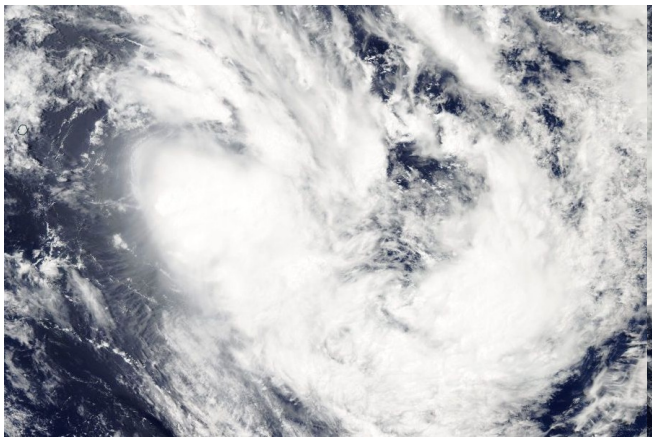
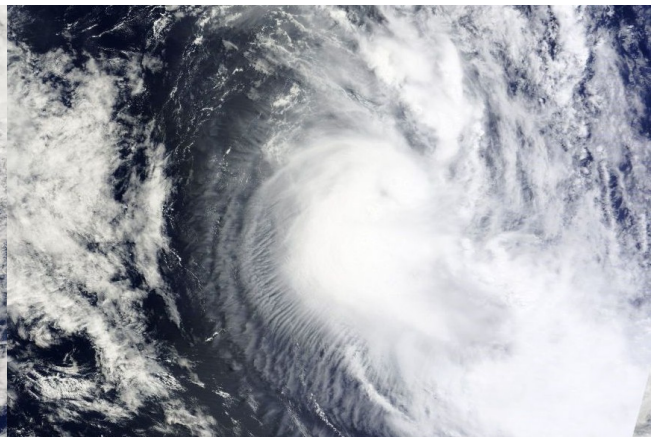
1.1. Synoptic History

On February 19th, an area of thunderstorms passed over Samoa and moved swiftly towards the southeast, passing east of Niue the next day. By the 21st, the system had attained tropical storm force winds, but was still lacking a defined center of circulation, which came about later that day and was named Bart.

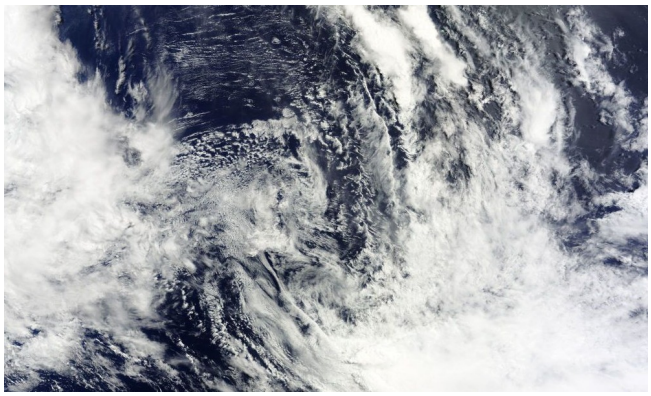
The storm was very short lived, defined by only three bursts of convection, the second of which being the most powerful late on February 21st. Its third and final burst occurred early on the 22nd and was considerably weaker, beyond which time the system disintegrated. Bart's remnants passed close to Rapa, French Polynesia, late on February 22nd.



February 20th



February 21st



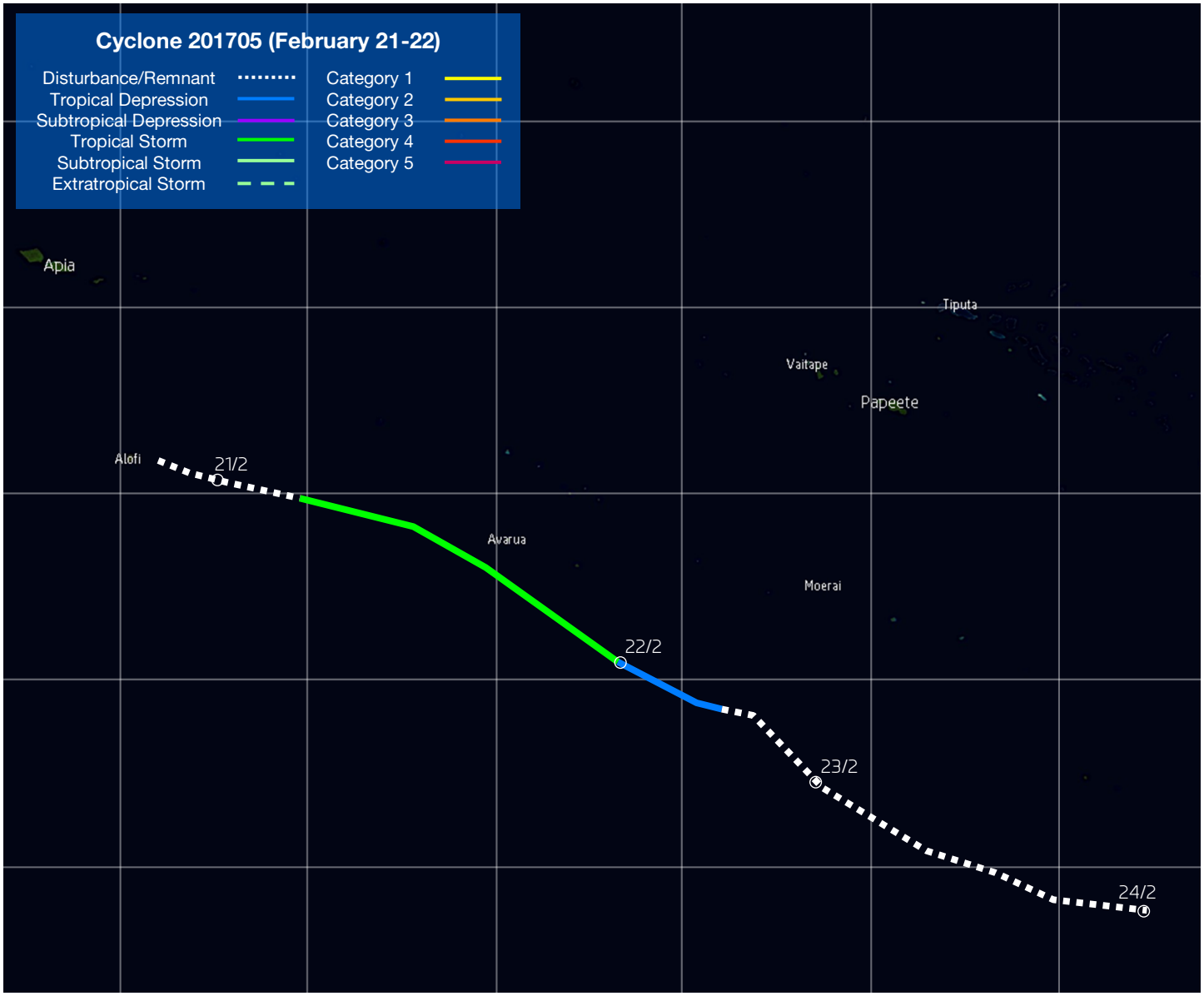
February 22nd

1.2. Best Track

Below is the best track analysis from Force Thirteen, using Force Thirteen's SATOPS—a tool which uses infrared satellite imagery and cloud temperatures to estimate a storm's wind speed and air pressure. SATOPS does not take precedence over surface observations.

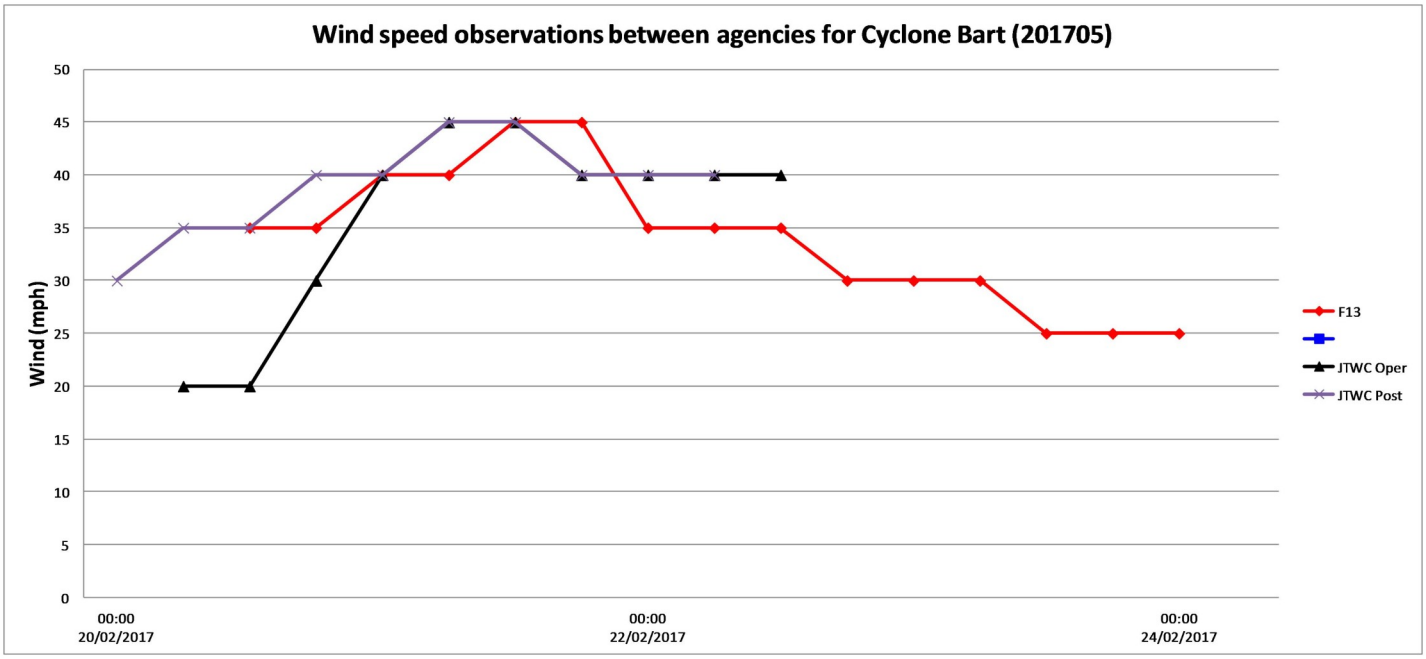
Date (dd/mm/yyyy)	Time	Latitude	Longitude	F13	F13	Stage
20/02/2017	12:00	-19	-169.1	35	1003	Tropical Disturbance
20/02/2017	18:00	-19.4	-168.2	35	1001	Tropical Disturbance
21/02/2017	00:00	-19.7	-167.4	40	999	Tropical Disturbance
21/02/2017	06:00	-20.3	-165.1	40	997	Tropical Storm
21/02/2017	12:00	-20.9	-161.9	45	995	Tropical Storm
21/02/2017	18:00	-22	-160.2	45	995	Tropical Storm
22/02/2017	00:00	-24.6	-156.8	35	998	Tropical Depression
22/02/2017	06:00	-25.7	-154.7	35	1000	Tropical Depression
22/02/2017	12:00	-26.5	-154.3	35	1002	Remnant Low
22/02/2017	18:00	-26.6	-153.8	30	1005	Remnant Low
23/02/2017	00:00	-27.9	-151	30	1005	Remnant Low
23/02/2017	06:00	-29.5	-148.6	30	1004	Remnant Low
23/02/2017	12:00	-30.3	-146.8	25	1005	Remnant Low
23/02/2017	18:00	-31.1	-145.1	25	1004	Remnant Low
24/02/2017	00:00	-31.3	-142.6	25	1005	Remnant Low

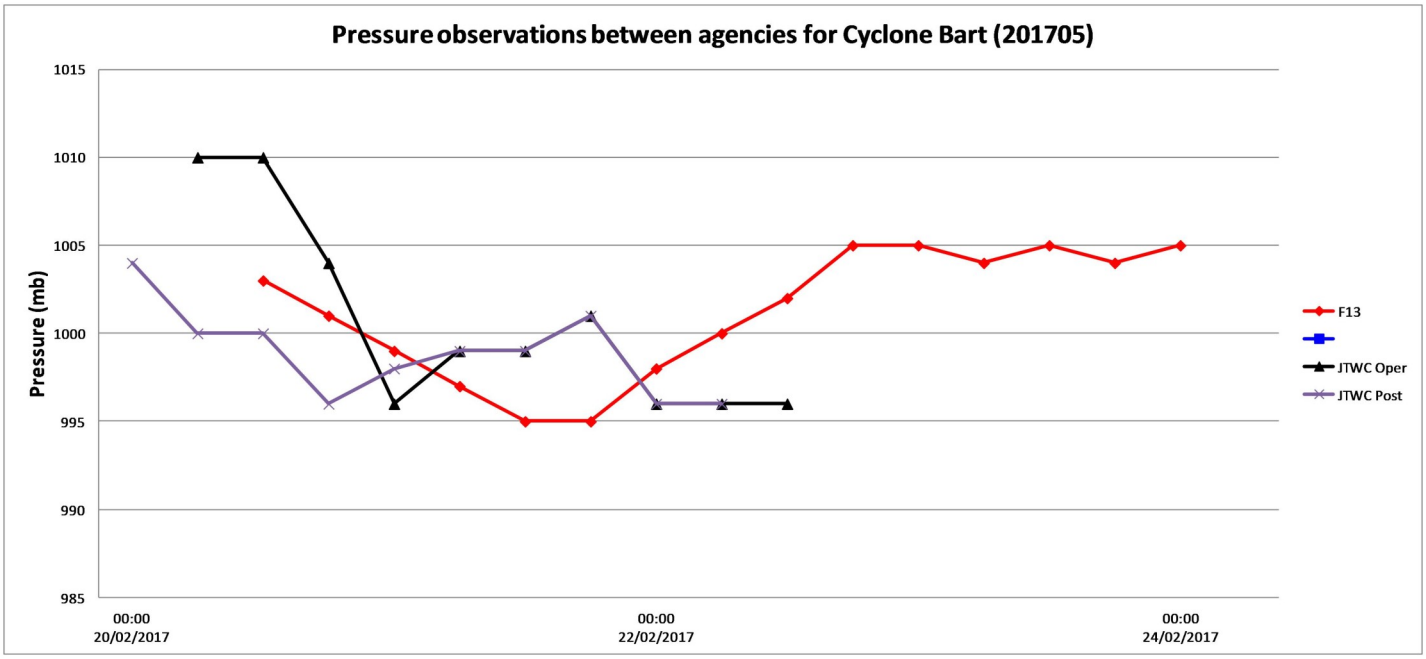
1.3. Track Chart



1.4. Comparison with other agencies

Bart was monitored by the Regional Specialized Meteorological Centre in Nadi, Fiji, and by the U.S. Joint Typhoon Warning Center. Best track data is not yet available from the RSMC Nadi, and so below shows comparisons between the JTWC and Force Thirteen's Best Track.



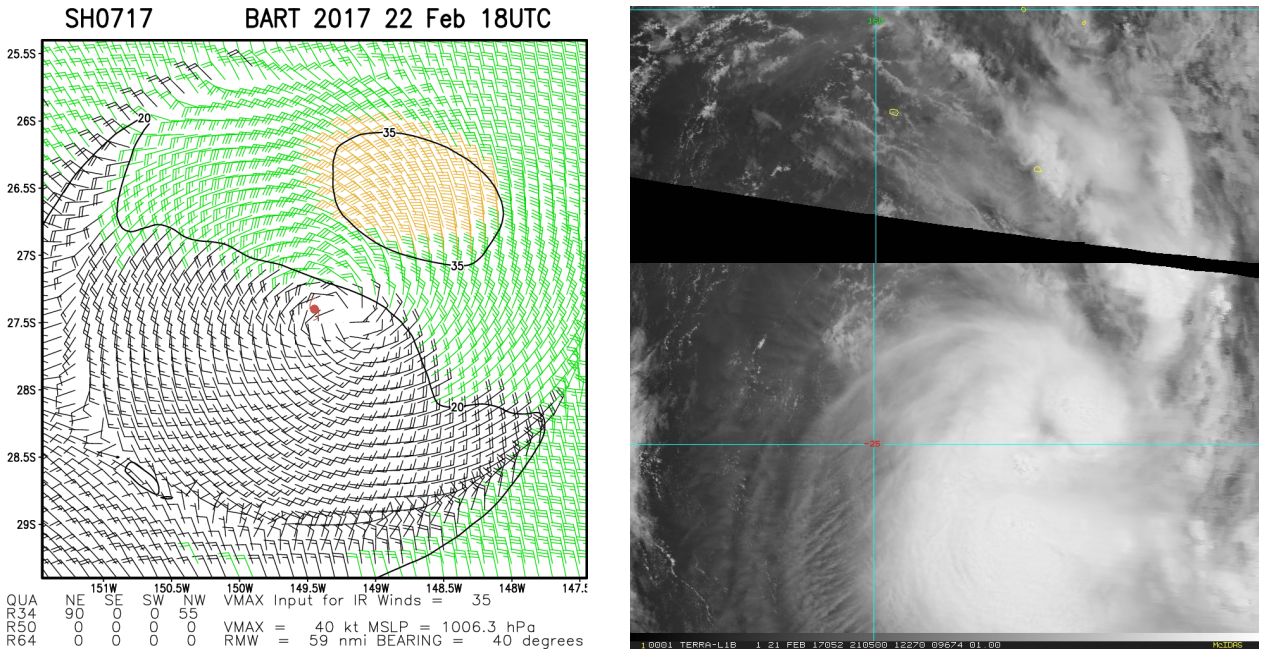


2. Effects on Land

Cyclone Bart passed close to the Cook Islands, though the storm's convection was displaced to the south and the islands were unaffected. Its remnants also came close to Rapa island, French Polynesia.

Ultimately, the storm caused very few issues on land.

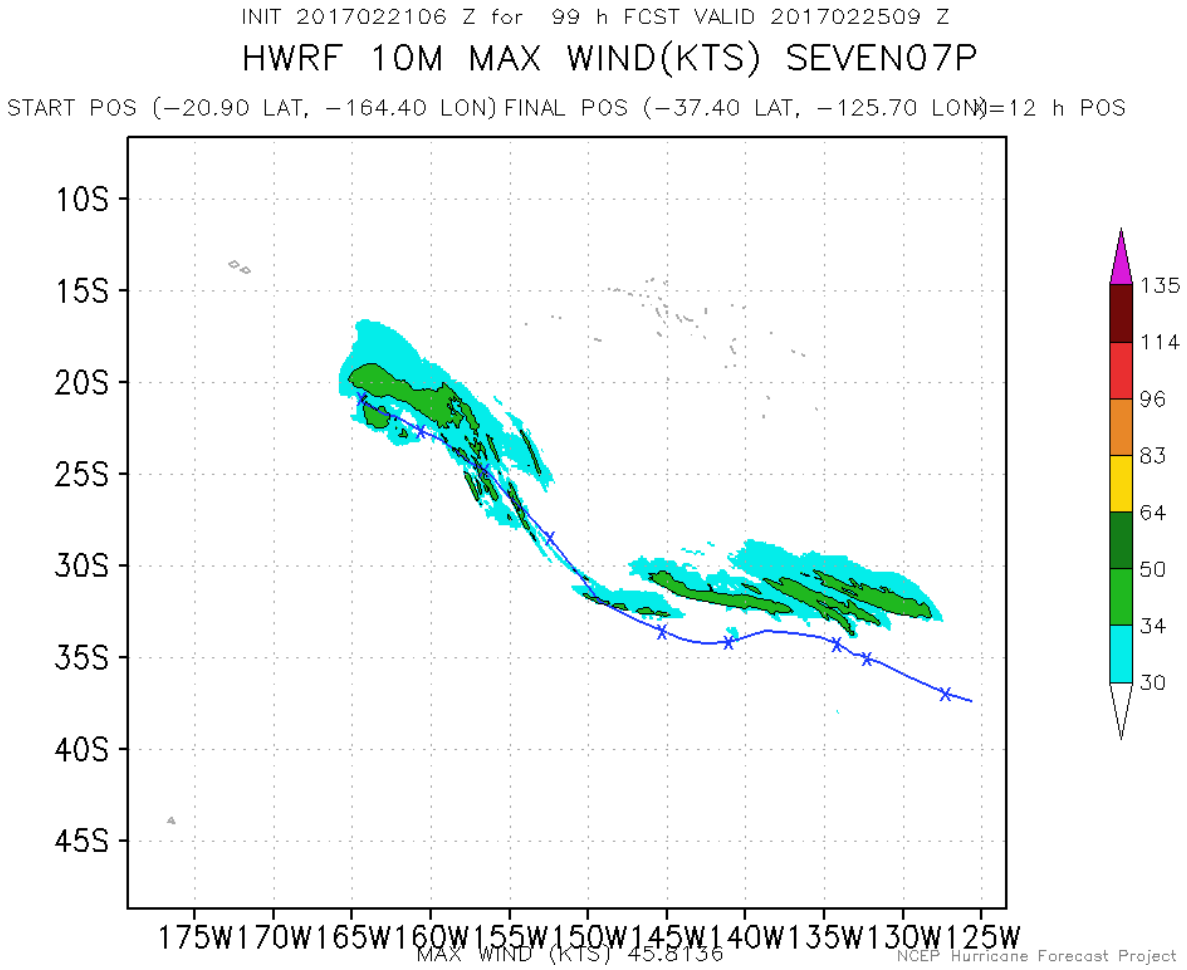
Rainfall totals derived from satellite observations:
Rarotonga 25mm
Rapa 1mm



Satellite estimated winds and visible satellite image of Cyclone Bart near peak intensity.

3. Forecasting Critique

Bart was a fairly easy storm to predict in terms of tracks, and most if not all models predicted intensities reasonably close to the final estimates. Computer models were in tight agreement with track, though they did predict that Bart would move further south and east after turning post-tropical.

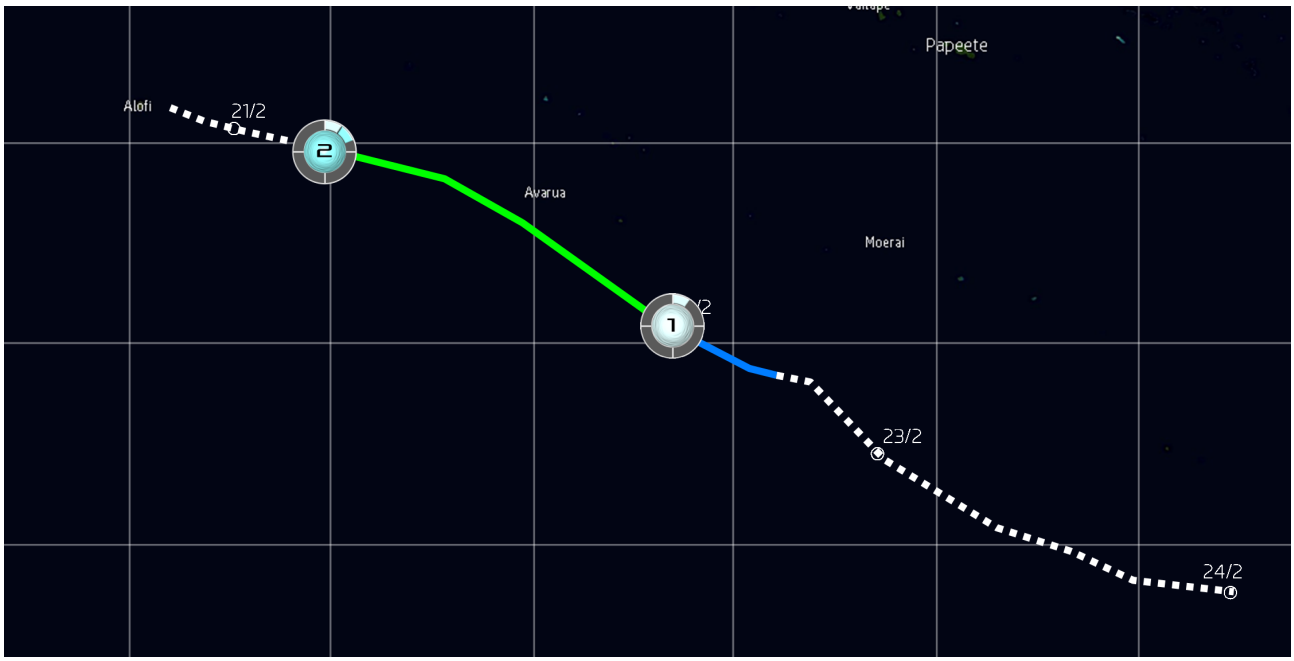


The HWRF model Bart's future track, issued at 06:00 UTC on February 21st.

4. Cyclone Destruction Potential Scale

The Cyclone Destruction Potential Scale (CDPS) is a new way of measuring cyclone impacts in a more meaningful way. For the past 45 years, storms worldwide have been measured using the Saffir-Simpson Hurricane Wind Scale, split into five categories. However, this scale measures wind alone, and does not correlate well with actual impacts on land, measured by monetary damage.
The CDPS measures other factors, such as storm size and forward speed as well as intensity to create a ten tiered scale that encompasses tropical storms as well as hurricanes.

Stage 1—Small or weak storms that are unlikely to cause a significant impact.
Stage 2—Generally disorganised storms that can cause significant damage.
Stage 3—Further organised systems that are likely to cause significant damage.
Stage 4—Somewhat powerful storms that are likely to cause extensive damage.
Stage 5—Powerful storms that are likely to cause devastating damages.
Stage 6—Very powerful storms that are likely to cause catastrophic damage.
Stage 7—Extremely powerful storms that are likely to cause catastrophic damage.
Stage 8—Super storms that are likely to cause incredible damage.
Stage 9—Super storms that may cause total damage.
Stage 10—Super storms that are likely to cause total damage.



Cyclone Bart was the fourth storm to be observed by Force Thirteen using the CDPS—a method which was adopted in January 2017.

Bart was a Stage 2 cyclone at peak.

The Cyclone Destruction Potential Scale was created by Devon Williams in 2016. More information can be found at: https://drive.google.com/file/d/0B7pEWk6yHKggSE1STHg2UFJmbHM/view

5. Force Thirteen's Coverage on Bart

Force Thirteen issued no updates during Cyclone Bart, due to its short existence and no threat to land.

Comments, suggestions and inquiries should be directed to force-13@hotmail.co.uk, or any of Force Thirteen's online platforms.