



President's Corner

This month has been an interesting one (“May you live in interesting times”) for the club, but it seems better that I let certain issues play out in the Membership Meeting coming up Wednesday. So..., your service-to-others President is going off on yet another wild-hair-tear.

Yesterday (Saturday) was the tenth anniversary of the death of the Australian art critic Robert Hughes, who was most widely known for his BBC series “[The Shock of the New](#)” (be advised that I don’t like or approve of everything Hughes said, or everything anyone else says anywhere, but find his commentary very insightful up through Brasilia), the series where I drew the “Le Corbusier” comments in last February’s newsletter. However, I’ve already “done art” many times, but math only once, dimensional analysis ten months ago (and extreme cosmology in May, ‘way too soon to Go There again).

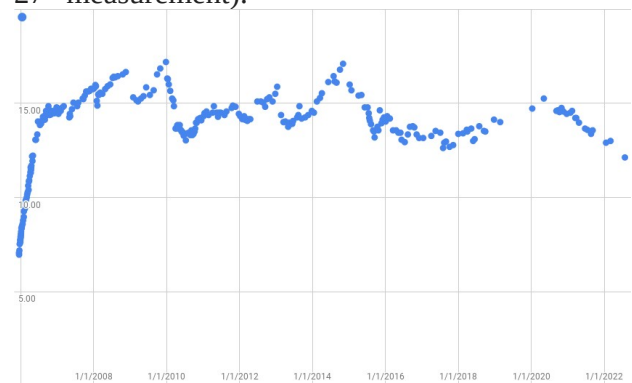
So this month I’m going to explore **regression**, no, not the biological kind (where *e.g.* unused functionality has withered in the absence of any evolutionary advantage, like *blind* cave fish) but rather the statistical, and in the hopes that the seed here planted will yield fruitful personal results. The idea is two-fold, that we want to reduce the “information density” (very roughly, the number of keystrokes needed to create / emulate a dataset – note that this is information theory, thanks [Claude Shannon](#)) of a series (either experimentally measured or calculated), a statement roughly equivalent to wanting to *understand* that dataset, and separately that we want to be able to predict what the values might have been in places where we didn’t perform the measurement; for the latter we regress a set of isolated data-points to a continuously defined function. Making such guesses within the range

of the dataset is referred to as interpolation; making them outside..., is extrapolation.

I’m going to use a concrete example, one that matters tremendously to me, and that you might see efforts invested can yield all the truth that I can handle. My cat is dying, not in the sense that we all are (“That he not busy being born is busy dying”, Bob Dylan), but in a more immediate one. He’s been losing weight for some time, but it took some regression analysis to model the problem, help me reach decisions.

I’m using Google Sheets as combo database & chart; one of its many charting functions is doing a “scatter-plot” with overlaid “trendline” & associated “R²” (if you want, you may study https://en.wikipedia.org/wiki/Coefficient_of_determination for a more in-depth discussion than I’m going to provide here), the latter also known as goodness-of-fit (and ranging from 0 for no-fit to 1 for a perfect one).

So (talk is cheap, Glen...) here’s graphing to illustrate, first a scatter-plot of his weight for our time together (December 14th 2005 to recent July 27th measurement):



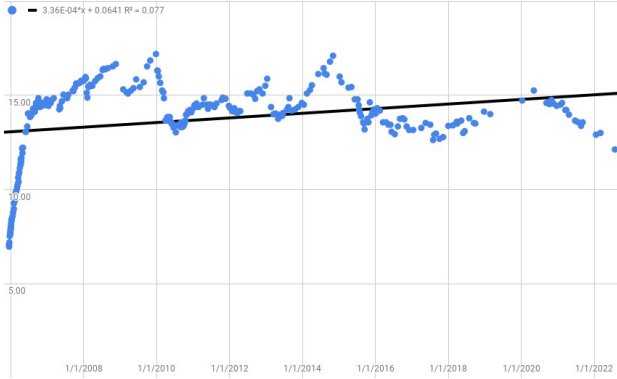
Let’s enable *linear* regression, what’s most often used (and found in scientific & financial calculators seemingly everywhere):



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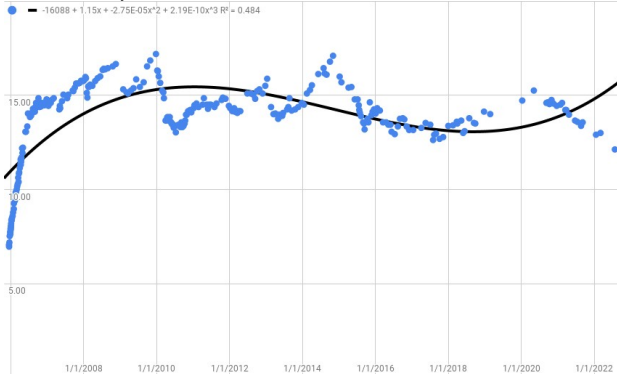
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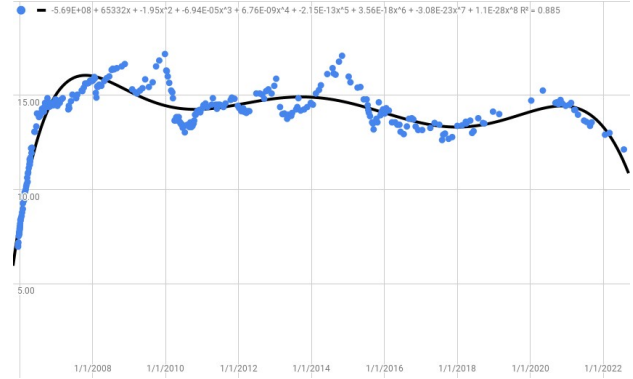
You'll note that the line enables modeling (interpolating) a weight for a date; January 1st of this year should be just slightly over 15_lb – WRONG. This line is a poor fit, and the R^2 of 0.077 reflects just how bad.

I'm a big fan of polynomial regression of degree 3 (aka "cubic spline", as for centuries boat & ship builders used a flexible piece of bamboo for exactly this purpose of minimizing some "cost function"). So let's see how that looks:



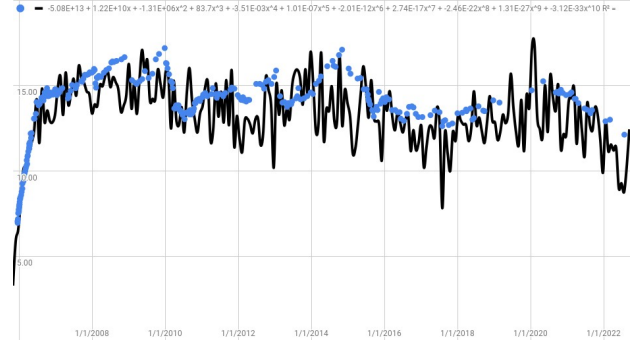
You may see that the R^2 goes up to 0.484 (better than linear, but not a ton better), and the "error" still exists for this year's January 1st prediction.

I'll save us'all a lot of virtual paper here, and cut to the conclusion; I tried all of the polynomials (of degrees 2, 3, 4, 6, 8, & 10) that Google Sheets offers, and got the best R^2 (=0.885) with a polynomial of degree 8:



Notice predictive errors in the peaks around the end of 2009 and the autumn of 2014. This reflects Shannon's approach; the number of characters in the eighth-degree equation is much, much smaller than that in the data-points.

However, let's see what happens with a 10th degree polynomial fit:



Whoa! So what's going on here? It's possible to have a *perfect* fit at each and every data-point with a 288th (one less than the number of data-points...) degree polynomial ("Newton's Method"). However, the high-frequency noise introduced makes such a "model" worthless between points, no meaningful interpolation or extrapolation possible. When we jump from degree 8 ($R^2=0.885$) to 10 ($R^2=0.548$), the model breaks down; the regression analysis no longer yields understanding.

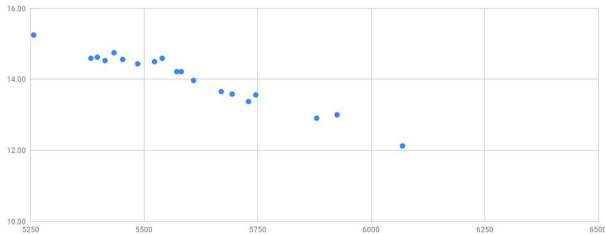


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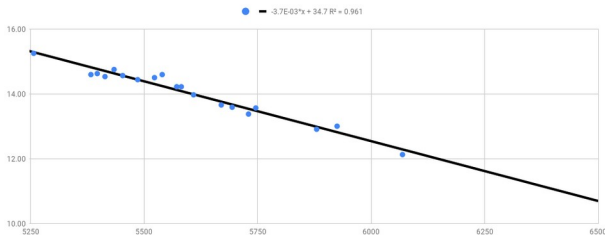
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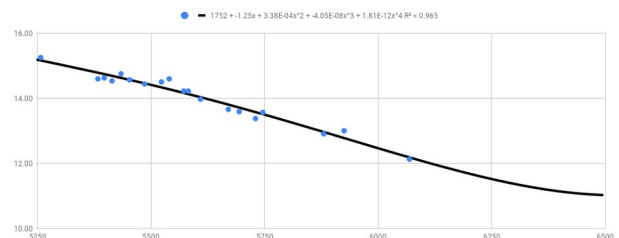
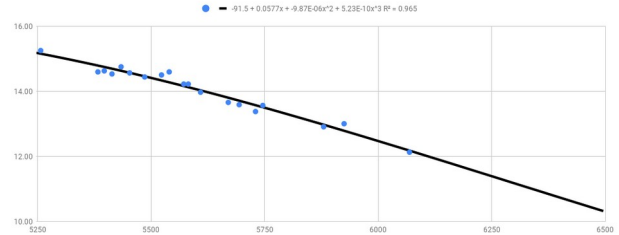
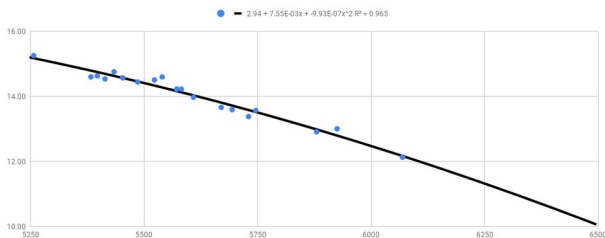
So what about my elderly cat? It was obvious from the original chart that weight has been steadily declining since May 6th, 2020. Note the date scale has been “upgraded” here, with day “0” corresponding to 12/14/2005 (as my scientific calculator didn’t understand date formats, and so I had to simplify somewhere...):



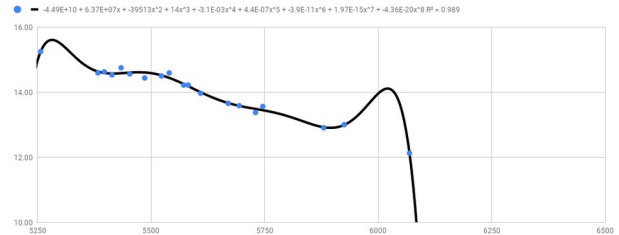
Here’s a linear regression ($R^2=0.961$):



Polynomial regressions of degrees 2 through 4 all yield an $R^2=0.965$, so they aren’t significantly better at interpolation. They do, however, differ in extrapolation (the far right side of the graph, what’s predicted around day 6500 or the beginning of October 2023); keep that in mind we want to *model*, to predict, and this isn’t looking too useful (same high R^2 but different predictions looking out to a year from this coming autumn):



As before, the polynomial of degree 8 yielded the best R^2 of 0.989, and 10 went high-frequency as before, but there’s a problem with this “best”:



The fit may be the best we can get, but those two peaks are clearly nonsense (sometimes it’s not so clear, nonsense that is, but here it’s blatant), and any future extrapolation is nonsense-squared.

Given that the “best” fit is unreliable, and the polynomials don’t add significant utility, *my judgment* is that the simple linear regression is “good enough”, and I’d better be doing end-of-life planning for my beloved not later than summer a year away. It’s just a reminder that regression is yet another tool that requires human interpretation, and not a ruleset to blindly follow.

Glen KJ7KLC



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Board Meeting Minutes

August 3rd, 2022 at 1900
Via Video Conference

Attending:

Board: President Glen KJ7KLC,
Secretary/Treasurer Jeramey KF7PMC,
Directors: Chairman Sheldon N7XEI,
Thomas N7DWU, Bob K6MBY Absent:
VP (Vacant).

Others: Rik WX7RIK, Ralph W6EJE,
Lee N7KC, Al KD7TFK, Clifton Keely,
Ed Bowen N7OZZ

1903 Called to Order by Chairman
Sheldon, N7XEI. A quorum is present.

- Motion to approve June 2022 Minutes as posted on Groups.IO by Bob Sampson K6MBY, 2nd: Tom N7DWU; approved unanimously.
- Jeramey presented treasurer report *{ \$withheld }* CK Balance; Savings *{ \$withheld }*, CD's *{ \$withheld }*, Outstanding check(s) *{ \$withheld }*.

New Business

- Brief recap of preliminary fireworks results.
 - Tabled: Fireworks sales for next year. Need labor and leadership for next year.
 - Other fundraising ideas

- Pancake Breakfast (Grange turned down), BBQ, *etc.*
- Christmas Social

Old Business

- Discussion of in-person events, haven't heard of PAFD allowing in-person meetings. Will discuss options for other places coming Membership meeting – Pending.
- Discussion of new repeater installed at Striped Peak repeater site.

Motion to adjourn by Jeramey Johnson, KF7PMC, 2nd: Bob Sampson K6MBY; approved unanimously.

Member meeting next Wednesday.

Meeting ended 1949.

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Respectfully Submitted,
Jeramey Johnson, KF7PMC
Secretary/Treasurer



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Club Meeting Minutes

Membership Meeting
July 13th, 2022 at 1900
Via Video Conference

Attending (17 total approximately 1917):
Members and Guests: Jeff Foro WA7HDY,
Bob WA7BOB, Lee N7KC, Chuck
WA7EBH, Brent VA7BNB, Carole Woods
KC7CW, Clif Keely, Doug Welcker, Dick
Ke7Z, Ralph W6EJE, Rik WX7RIK, Roger
K7RGR, Rosemary KI7MZH

Board: President Glen Kilpatrick KJ7KLC,
VP Vacant, Treasurer/Secretary Jeramey
Johnson KF7PMC Chairman Sheldon
N7XEI, Directors: Bob Sampson K6MBY
Absent: Thomas Clark N7DWU

At 1900 Called to Order by President Glenn.

Officer Reports

- Approve, amended Minutes for June, M: Sheldon, 2nd: Dick KE7Z, approved by members present.
- President: See Commentary in Newsletter, ongoing looking for Vice President and various positions.
- Treasurer: Deposit(s) and interest since last meeting $\${withheld}$; New Balance $\${withheld}$ (up to today) + outstanding fireworks final deposit; Includes Savings of $\${withheld}$ and 3 CD's.
- COB: Fireworks and Field Day discussion, fireworks sales numbers next month after TNT audit and reconciliation.

Committee Reports

- Social Breakfasts: Last meeting no one showed except Bob (Organizer) going forward please RSVP for Breakfasts.
- Technical: 2M (Striped Peak) drop issue, Technical Committee will work on a recommended solution for the Yaseu repeater.

Old Business

- Field Day Complete, reports submitted.
- Ellis Mountain Repeater: (Bob K6MBY) DNR still in holding pattern for DNR site leases.

New Business/Announcements

- Membership Committee Chair: Lee N7KC
- Brent VA7BNB, WARRA (Victoria, BC) swap meet Sept. 25th
- D.A.R.T. Disaster Drill/Communications Test Seiku and Diamond Point report by Sheldon N7XEI

Technical Program Presentation by Lee (thanks for the impromptu meeting).

Meeting adjourned at 1942, M: Jeramey KF7PMC, 2nd: Sheldon N7XEI

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Respectfully Submitted,
Jeramey Johnson, KF7PMC
Secretary



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DE WB4KGY (Doug Welcker)

[however, any PDF-reformatted approximations / errors belong to your Fearless Editor]



- August 2022 -

SEA-PAC WAVES

The Pacific Northwest's Largest Amateur Radio Convention

“Sand, Surf and Radios...”

Thank You

Here we are, mid-summer and SEA-PAC 2022 already seems like a distant memory.

The SEA-PAC Committee would like to thank all of you who made it out to Seaside in early June. Although it was a rainy weekend (it is the Oregon coast after all) it couldn't dampen the excitement and enthusiasm felt by the Committee, volunteers, vendors, exhibitors and attendees.

Here are few dates to remember for SEA-PAC 2023:

- Online Registration will open February 15th
- SEA-PAC Pin Design entries are due by March 1st
- SEA-PAC 2023 will be June 2-4 in Seaside, Oregon

These and other important dates will be forthcoming in future SEA-PAC Waves Newsletters and email blast starting in September.

Be sure to check out the “Photo Album” tab on the SEA-PAC website for lots of photos from SEA-PAC 2022: <https://www.seapac.org>

2022 Workshop and Seminars

We heartily thank those who shared their knowledge and passion with others during SEA-PAC 2022. Some of the presentations are available on the Seminars and Workshops pages respectively at www.seapac.org. We are checking with other presenters to see if they are willing to post their presentation, and as we receive more those will become available for your further education.

2023 Workshops

We started discussions about the Friday workshops for next year and welcome your input on what we offer. Among the ideas discussed are:

- A workshop oriented towards emergency communications. Details are still fuzzy, so ideas would be most welcome.
- Build an HF antenna that improves over the G5RV antenna. We would tentatively schedule two sessions (one morning, one afternoon) with different folks since it would take about 2.5 hours to construct. Estimated cost for the proposed workshop (including antenna components) would be about \$100.
- Full day set of antenna presentations for DX, contesting, and probably VHF operating.
- Electronics instruction much like the workshop in 2022. We would need 1-2 folks savvy with electronics to help others learn.

Other ideas are welcome as we start to design the workshops for 2023. If you would be willing to help with the antenna building workshop, we need the help to make that workshop a success. Additionally, if you have presentation ideas that fit into the other three concepts, please speak up. Send your ideas to workshops@seapac.org.

2023 Seminars

We hope to have 35 sessions Saturday and ten or more on Sunday. While we have not started to build the seminar program for 2023, we welcome presentation proposals or topics you would like to



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see covered. We cannot always find someone to talk on every subject, but we try. Send your ideas to seminars@seapac.org. Popular topics to consider include:

- How do antennas work
- VHF simplex operations
- How to start with ham radio
- Basic propagation
- What bands to use for various objectives
- How to confirm contacts (QSL)
- Operating portable (SOTA, POTA, Field Day, etc.)
- Paper chasing
- Logging options
- How to use N1MM and other contest software
- How to start with FT8 and similar modes
- Resurrecting old radios
- Spectrum analyzer use
- Ham radio and communications history
- Experiences operating during an emergency
- Radio on the trail

Upcoming PNW Ham Events

If you didn't find that "THINGAMAJIG" or "Whatchamacallit" at the SEA-PAC Flea Market, here are some upcoming opportunities including Conventions and Hamfests:

- **August 5-7. 65th Pacific NW DX Convention.** Spokane, WA.
- **August 21. Puget Sound Antique Radio Association Swapmeet.** Shoreline, WA
- **August 28. 2022 Vancouver Island Ham Happenings.** Crofton, BC.
- **September 17. Winston Tail Gate Swapmeet.** Winston, OR.
- **September 24. Spokane Hamfair.** University High School in the Spokane Valley. (This is an ARRL sanctioned event)
- **September 25. West Coast Amateur Radio Association Swapmeet 2022.** Victoria, BC.
- **October 1. High Desert Amateur Radio Group 1st Annual High Desert Ham Fest,**

Redmond, Oregon. Deschutes County Fairgrounds. (This is an ARRL sanctioned event)

- **October 7-8. Pacific Northwest VHF Society Conference.** Salem Oregon. (This is an ARRL sanctioned event)
- **October 8. Kitsap County ARC Hamfest.** Bremerton, WA.
- **October 15. Swaptoberfest.** Rickreall, OR.

Event and contact info is available from the Source: PNW Hamfair webpage at <http://www.n7cfo.com/amradio/hf/hf.htm>

Plan on Volunteering

As you start day-dreaming about SEA-PAC 2023, consider volunteering before, during or after the convention.

We have many volunteer opportunities, some are simple and involve short time commitments while others are a bit longer and more involved. It's up to you, but your efforts will materially contribute to the success of SEA-PAC.

Exhibitor and Flea Market load-in and load-out would be before and after the convention, while Security would be during the convention. Hospitality, Prizes, Registration, Seminars, Workshops and VE Testing are other areas that could use a helping hand.

To get the process started, send an email to our Volunteer Coordinator at:

volunteers@seapac.org

Thank You

**See You in Seaside
at SEA-PAC 2023
June 2, 3 & 4**





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Officers and Board Members

- President (& Newsletter Editor) [Glen Kilpatrick KJ7KLC](#)
503-776-0877
- Vice President { TBD }
- Secretary & Treasurer [Jeramey Johnston KF7PMC](#)
- Membership & Net Coordinator [Lee Bond N7KC](#) 206-729-0416
- COB [Sheldon Koehler N7XEI](#)
360-670-4799
- 2nd Year [Bob Sampson K6MBY](#)
360-582-9116 (h)
360-477-0776 (c)
- 1st Year (& Inventory Manager) Thomas Clark N7DWU
719-238-8576
- Trustee [Clif Keely AA6FE](#)

Nets, Frequencies, &c

- CCARC Net every Thursday at 7:00 pm on Striped Peak Repeater 146.760 minus with tone 100 Hz
- Clallam ARES Net Tuesdays at 7:00 pm on Striped Peak Repeater 146.760 minus with tone 100 Hz
- "The Watering Hole" SSB Net daily at 5:30pm Port Angeles 28.450 (USB)
- Olympic Peninsula DMR Sunday afternoon 4:30 pm Talk Group 31531 on K6MBY DMR or WF7W DMR or KC7EQO DMR or your local hotspot
- WF7W Port Angeles 145.310 minus tone 100 Hz
- KC7EQO Blyn Lookout 442.100 plus tone 100 Hz
- K6MBY/W6MPD 444.900 plus K6MBY (Sequim) tone 131.8 Hz or W6MPD (PA) tone 107.2 Hz

New Members

- "Lorem ipsum..."

Items for sale

- "Lorem ipsum..."

Items wanted

- "Lorem ipsum..."

Announcements

- "Lorem ipsum..."



{ [Phoenix Mutual Life Insurance "Ship" Building, Hartford CT, CC-3.0](#) }