Tom's Beach Tips

I have been metal detecting since about 8th grade (mid 1970s) and started with a used White's 66TR (circa late 1960's all-metal TR technology). Started hunting for beach erosion in 1980. After some serious storms in 1982/83, that I only incidentally "stumbled" on to a few good days and zones (but not really knowing what the heck I was doing), I set my mind to figuring out just when and where this stuff happens. Currently hunting with Minelab Explorer (for beach and land) and Tesoro Silver Sabre (for certain land sites). Live in Salinas and am self-employed with a street sweeper company.

Many years ago, I made a "Tom's beach tips" for a 2-part post on the old Kinzli forum. It was taken from years of hard-knocks experience, with many good friends, knocking ourselves silly trying to figure out when and where to go, as it pertains to winter storm beach erosion.

Since that time, I see that some of the weather/surf links are changed. And other links I've found in the years since, I wanted to add to the article. Then some changes, additions, clarifications, etc...

Here's the new version of the article. Enjoy. Moderators if you can move to the link section after a few days, and nix the old one. Thanks!

WINTER BEACH EROSION HUNTING

These tips are drawn from the author's 30 yrs. experience on Monterey Bay beaches. Things vary for other beaches on our CA coastline. Each beach can have its own set of idiosyncrasies. This article is mostly biased towards NW facing central CA beaches, since those are what I live closest to. Keep that in mind when reading this. We have very few S and SW facing beaches in our part of the state, but those that we do have will have much different "rules". They resemble more of the "Baywatch" southern CA type beaches. The larger Alaskan spawned storms/swells are obviously coming from the N or NW. Thus S and SW facing beaches are "shadowed" and not in a line with this direction. When reading this therefore, take into account that every ocean beach around the globe has its own idiosyncrasies, heights/measurements to watch for, etc....

The Four important factors to consider, when looking to find the correct beach, at the correct time are: *Swells, Direction, Onshore Winds, & Tides*. A weather scanner is available at Longs, Payless, Radio Shack, etc... for about $20 to $40. It has a circulating loop broadcast that is updated every so often. Listen for the Monterey Bay buoy report (or buoy in your area). For central CA NW facing beaches, swells15 ft. or more is usually the point where erosion starts. But it will be lower, if onshore winds are strong and in the same direction as the swell. Other beaches will not need as much swell, if they're facing a normally calmer direction, where they've acclimated to lesser levels of surf/swell over the years. Contrarily, some N to NW beaches, that face more active windows of the ocean, require larger than 15 ft. NW surf to erode them, as opposed to a normally calmer beach. Because each beach tends to acclimate to their normal level of surf. S and SW facing CA beaches, for instance, receive their south swells from storms that have started all the way at the equator. Those swells make the long travel all the way up to the United States. By the time they arrive here, they're not going to be as big as the N - NW Alaskan swells which we are closer to. But by the same token, the S and SW facing beach sand are simply acclimated to lesser annual buffeting, to *begin* with. So S and SW facing beaches need less swell/wind/wave factors to get erosion started, than N- NW beaches here do. Also, lower swells can still erode, if it is working on what started on a previous day's erosion.

"Swells" are organized lines that come from storms far out to sea. Swells can actually arrive on the coast, with NO local adverse weather. So don't assume rain or local wind is the stormy conditions required for erosion. Big swells can arrive on Sunny days with no local rain, wind, etc....

"Waves" are produced by local winds and are not as important; though they may be connected to the swells (wind picks up on the already created incoming swells, and whips them up even more). "Swells" carry more energy than "waves". Also swells have a longer duration (up to 25 seconds between sets, for instance). This allows the sand that picked up off the beach, to settle off-shore during those lulls. As opposed to constantly thrashing waves of local wind chop, where the sand is perpetually suspended in the churning water, never dropping, and simply "going in and out", accomplishing little. But I have seen where local wind alone, if severe enough on-shore, will indeed cause erosion, even if swells are not present. This would have to be some very serious local wind though, for long periods. Not just regular kite-flying winds, but the kind of stuff that brings down trees, etc...

Direction: The scanner also reports the swell direction. "West," for instance, means "coming FROM the west. So that would impact west facing beaches the most - like Watsonville, Moss landing, Marina, etc.... "Northwest" would come FROM the NW and aim towards lower Monterey Bay beaches like Seaside. South or Southwest will aim towards Santa Cruz, Carmel, etc... Take a map of the Monterey Bay coastline, and draw lines through compass coordinates. That will show you the impact of the various directions. 180 degrees would be straight from the south; 270 degrees would be straight from the west, and so on. Bear in mind that Points, like the curving coast above Santa Cruz, and Pt. Pinos to the south, serve to protect those areas from surf. So Santa Cruz, for instance, though it appears on the map to benefit from westerly swells, actually needs an S or SW swell, because of the deflection nature of the coastline to the west of Santa Cruz (Lighthouse area). Seaside, likewise, seems to be in the direct line of fire from a westerly direction, but Pt. Pinos deflects waves, to keep lower Monterey bay calm. Therefore a N or NW swell is needed there. Think of it like billiard balls: if the aim of a billiard ball even SLIGHTLY grazes another billiard ball on its way to a pocket, it is deflected (no matter how slight the graze). So too is the compass lines you draw on a map to see if a direction from off-shore reaches particular beaches. Onshore Winds can also take high swells and assist them onto beaches that the swell direction alone would otherwise not take it. If severe enough (20-40+ knots), they can even take a modest swell (11-13 ft) and make it every bit as eroding as a larger swell, if the swell and wind direction aim the same way. Likewise, offshore winds (blowing against the swell) can minimize that impact.

Tides: It is not the *low* (minus) tides that benefit beach storm erosion....it's the *high* tides. All the above swell/wave/wind/direction ingredients need to coincide with a high (preferably 5.5 or higher) tide. When that happens, the surf can cut into the normally high & dry sand and pull it out. Wait about 2 or 3 hrs. After the high tide, and work the tide out. In some situations, the targets will get deeper as the tide pulls out, so you may want to actually be in the ebbing/receding surf while the erosion is happening. That can be dangerous though, depending on conditions. Most of the time, on our beaches, the spread of targets is as good at low tide, as it was during the time it was dropping. But there have been conditions where the only targets appearing were during the actual erosion. Familiarity with each beach will be the only teacher here.

When you've picked a beach that seems to have all the ingredients & conditions listed above, look for the following formations: Cuts, scallops, slopes, and low spots.

"Cuts" That's where the surf has made a mini cliff-like formation into the beach. A line where suddenly the sand drops to a lower level. Check below this, down to the surf. Unless the sand it cut into was sterile (fill sand from

last spring's buildup that had no in-coming targets), the goodies will be left in a sluice box fashion somewhere between the cut & the water's edge. Once you find targets, circle around them looking for deposit patterns. If it's just a random target, move on till you find concentrated targets. Remember, winter beach erosion hunting is looking for pockets, not individual random targets.

Scallops: So named because the shape looks like an inverse bowl, or inverted scallop shell. Check to each side of the scallop. Whichever way the surf was side-washing & moving out of the scallop, will be where the targets are. Sometimes they're in the center of the scallop, but normally will be to one side.

Slope: This is where the sand takes an abnormally steep drop-off, steeper than the normal angle of the beach. If there are going to be targets in this formation, they're usually in a line, at some parallel against the ocean. At other times, they will be at this line & below, but not above the line. Once again, when you find a target, circle around and determine if it's part of a spread or pattern.

Low Spots: When you walk down to the water's edge at low tide, look up and down the beach. If you see a spot where the water seems to have come in a little further and the sand has a damper look than the surrounding sand, that's a "low spot". Check in the middle and to the sides of that.

Entire beach lowered: Sometimes though, the entire beach has had uniform, almost indiscernible, erosion. This is where no particular formation is evident, however the entire beach is effectively a "low spot". This can happen at Santa Cruz (our south facing beach in my part of CA) where erosion is imperceptible from previous days, yet the *whole* wet beach zone is lower that previous days. To know this, a person could gauge from the pier pilings, for instance, to see if the sand level is dropping over-all (at least at the pier end of the beach, in that case). Once again familiarity with the normal look of a beach will help in determining when to head down from the parking lot.

OTHER NOTES:

1) If one beach isn't producing, head to another. Sometimes one particular beach will be producing, while another one, just a mere mile away, with seemingly the same ingredients, will be lame.

2) Light weight targets like aluminum is a bad sign. A good erosion process will wash out all the light stuff. If you get aluminum, chances are, you have to move on. If you get nails & lead sinkers, etc... consider that "good junk". Because heavy targets concentrate together, thus coins/rings may be in the same mix. Here are a few web sites to aid in determining exact direction, impact, & advanced forecasts. Some are forward-looking forecasts. Others are frozen data stat's showing what's going on right now. And others are backwards-looking history (from previous hours), so you can look, hours after a high tide (and to previous days) to see if conditions were coinciding, past-tense. These are for central CA, but surfing through links here, you can find the applicable mariner sites for your area.

http://cdip.ucsd.edu/?nav=recent&sub=forecast

http://www.ndbc.noaa.gov/station_page.phtml?$station=46042 (on this one, the swells and direction section are mid-way down the page)

http://cdip.ucsd.edu/models/monterey.gif

http://www.stormsurf.com/page2/forecast/shortcast/ncal.html

http://magicseaweed.com/Moss-Landing-Surf-Report/259/
(this one is centered at Moss Landing, but you can click on "local overview" at the top to get other points around CA. Also various other good links, models, etc... Try the "detail" tab, for instance, the colored charts, etc...)

http://www.cityofsantacruz.com/index.aspx?page=649
(tide charts for Monterey bay. Note the beach web-cam. A person could use that to gauge if swells are breaking. You can find beach cams from all over CA. If they point towards the sand, you can actually see the sand conditions too in some cases. Some cameras appear to be pay-per-view, others are free. Just have to surf the net search engines to find them)

MORE NOTES

1) Sometimes all the ingredients for erosion will be so severe that they can "overpower" the beach. For example, a 6.5 high tide, w/20 ft. swells and on-shore gale winds. When that happens, instead of hitting & eroding at a given point on the dry sand, the water will wash up into the dry dunes and make lagoons and a mess. When that happens, check back in a few days. Sometimes Mother Nature will steal sand from other areas of the beach, to rebuild the beach at her desired angle. That sand can come off sterile (clean) areas, and in the process, temporarily reveal deep stratas. The times I've seen it do this, were days of continued moderate to stormy seas, and days of subsequent high (5.5 or higher) seas. Along this same line, I've even seen where cuts were formed, and we worked out the targets. When the action seemed to stop, we presumed that the beach would then fill in. But if the super high (6.4, etc....) tides come later in the month, sometimes it reactivates old erosion, even in the absence of swells. This is because Mother Nature is re-contouring her slopes, when it hits the impediment of the old cut.

2) When you get to the beach, after the scanner or websites merits a look, look to see if the surf is a) clean & blue, or b) brown & dirty. Brown & dirty indicates sand is being pulled off-shore. That is good....as it means sand has been pulled off in the previous hours. But clean glassy blue surf indicates that nothing's been eroding. Another good indication is hard-packed wet beach sand. I.e.: Wet sand so firm that you can almost ride a bike on it :) But sand that is soft to the step (where your foot makes a depression on the wet) is a bad sign. It means sand has been coming back in, instead of eroding out.

3) If you find cuts, scallops, slopes, and low spots, and they don't produce, here's some possible explanations:
a) you're looking at old erosion, where sterile sand has already come back at the foot of a previous cut or formation. Unless the surf stays at the same levels or better, the sand comes back in, despite how the formation may continue to look for a few days.
b) Others may have harvested it already. Sometimes, a formation may maintain targets for days, but if the load of targets were pillaged already, the next tide/surf will have to be as good or better to bring more targets into range. If not, you've simply been beat to the zone by others.

4) In the discussion of "cuts", don't be fooled by rain type gully runoff cuts. A culvert or creek that cuts a channel, every rainy season, to the beach, forms a sort of gully that ... to the un-trained eye may appear to be a

cut. But that's not the kind of cut this article is talking about. The cuts that are perpendicular to the water (and not simply where water outflows to the ocean) are the "cuts" referred to here.