

Though it has only been three-and-a-half years since he broke into the majors, Clay Buchholz has already been through remarkable highs and seemingly ruinous lows. In just his second full season, Buchholz blew the doors off the competition in Portland and Pawtucket and made it all the way to Boston. His major league debut was hotly anticipated because of that performance and his raw stuff—especially a plus-plus change-up and curve. Even so, nobody expected his second start, on September 4, 2007 against the Baltimore Orioles, to produce a no-hitter. Immediately there were calls to include him on the post-season roster, though the Red Sox declined to do so due to his workload and age. All in all, in the space of 14 months Buchholz went from Low-A ball to rousing success in the majors.

This instant success did not last, turning into a rollercoaster ride, including a disastrous 2–9 record in 2008 that led to speculation he had folded under the pressure of pitching in the big leagues. Buchholz was sent back to Pawtucket and returned to the majors in mid-2009 with a solid performance, including the team’s best playoff start against the Angels. 2010 was another high on the rollercoaster, as Buchholz ended the year 17–7 with a 2.33 ERA, just short of Felix Hernandez’s league-leading 2.27 mark.

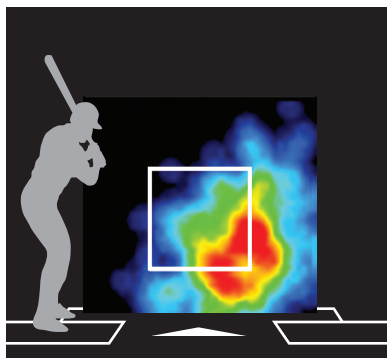
Along the way, Buchholz has continued to alter his approach to pitching. He has changed his mechanics, lost his curve, reinvented his slider, and discovered and mastered a new fastball. PITCHf/x, a ball-tracking technology developed by MLBAM and Sportvision, provides data on each pitch that gives us a clear picture of the changes in Buchholz’s repertoire—how his

pitches move, where he throws them, and how he deals with left-handed batters. This article recounts the evolution of each of Buchholz’s four pitches—the fastball, change-up, slider, and curve—and evaluates his potential for further development in 2011 and beyond.

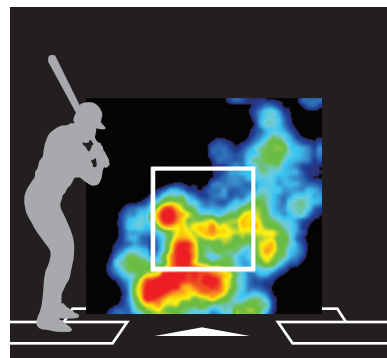
The heat maps below show the most frequent locations of Buchholz’s various pitches from the 2010 season from the *pitcher’s* point of view. Against lefties, Buchholz stayed away with the fastball and change-up, but threw the slider inside, jamming the hitter in at the wrists. Against righties, Buchholz was more willing to throw fastballs out over the plate. He also threw the change-up over the plate but low, and kept the slider away. Buchholz used the curveball to attack the zone against righties; against left-handed batters, he was more likely to use the curve to waste a pitch below the knees or in at the ankles.

FASTBALL

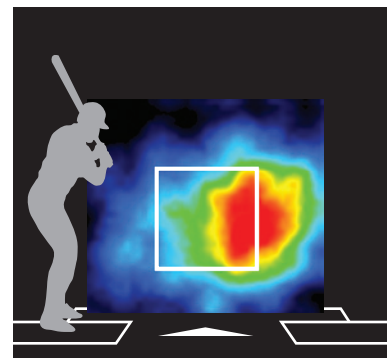
Pitch movement—which makes a curveball curve or a slider slide—results from the direction of the spin on the baseball. Although not as obvious as off-speed pitches, fastballs also move quite a bit due to the spin the pitcher imparts on the ball. When throwing a typical fastball, the ball will roll backwards off the fingertips, which means that a fastball thrown from the “12 o’clock” release point will have no lateral movement imparted by spin, only vertical movement which causes an illusory “jump.” In fact, fastballs do not rise, they simply sink less than they would from the force of gravity alone,



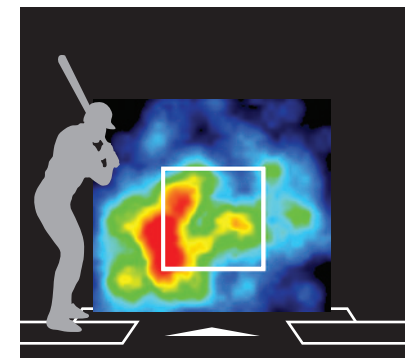
Left handed change-up



Left handed curve



Left handed fastball



Left handed slider