



hoopR :: CHEAT SHEET

Men's basketball data in R: NBA, NBA G-League and men's college basketball. Tidy play-by-play, box scores, schedules and rosters from ESPN, a full stats.nba.com wrapper, KenPom / Torvik / CollegeBasketballData scrapers, Basketball-Reference, Fox and RealGM, plus season-level loaders from the SportsDataverse data releases. Women's sibling: [wehoop](#); Python mirror: [sportsdataverse.nba](#) / [.mbb](#) in [sportsdataverse-py](#). Page 1 of 4: install, surfaces, loaders, credentials, helpers.

R >= 4.1.0 · [httr2](#) · [data.table](#)
[hoopR.sportsdataverse.org](#)

GET STARTED

```
install.packages("hoopR") # CRAN
pak::pak("sportsdataverse/hoopR") # dev (GitHub)
remotes::install_github("sportsdataverse/hoopR")
library(hoopR)
```

~583 exports. Every function returns a tibble / data.frame (or a named list of tibbles for multi-table endpoints). Prefix tells you the source; page tells you where to look.

SURFACES BY PREFIX

Prefix	Source	Page
load_nba_* load_mbb_*	season parquet/rds releases (zero scraping)	2 · 3
load_nba_stats_* load_ncaa_mbb_*		
espn_nba_* espn_mbb_*	ESPN Site / Core APIs, live	2 · 3
nba_*	stats.nba.com Stats API (~160 endpoints)	4
nbagl_*	G-League (Stats API, league 20)	3
kp_*	KenPom (subscription login)	2
cbdd_*	CollegeBasketballData API (key)	2
torvik_*	Bart Torvik T-Rank	2
ncaa_mbb_*	NCAA.com NET + teams	2
fox_nba_* fox_mbb_*	Fox Sports (Bifrost)	2 · 3
bref_*	Basketball-Reference	3
realgm_*	RealGM (needs chromote + Chrome)	3
spotrac_ hoopshype_ nbadraft_ rotowire_	salaries · mock draft · injuries	3
*_crosswalk	ESPN ⇄ NBA Stats / KenPom / Torvik / Fox ids	2 · 3

DATA LOADERS (FAST PATH)

Full seasons from the sportsdataverse/sportsdataverse-data GitHub releases (ESPN-derived, tidy, ready to join). Seasons are the end year (2024 = 2023-24).

```
pbp <- load_nba_pbp(seasons = 2022:2024)
tb <- load_nba_team_box(seasons = most_recent_nba_season())
pb <- load_mbb_player_box(seasons = 2024)
sch <- load_mbb_schedule(seasons = 2020:2024)
# stream straight into a DB table
load_nba_pbp(2024, dbConnection = con, tablename = "nba_pbp")
```

Dataset	load_nba_*	load_mbb_*
play-by-play	pbp	pbp
box scores	team_box player_box	team_box player_box
schedules	schedule	schedule
standings	standings	standings
rosters	rosters game_rosters	rosters game_rosters
season stats	player_stats team_stats	player_stats team_stats
people	player_core officials draft	player_core officials
crosswalks	team_schedule player_crosswalk	same three
shots / value	shots player_impact	shots ratings player_value

3.1 adds load_nba_stats_* — 20 stats.nba.com-derived release datasets (pbp possessions lineups shots rosters boxscores game_logs leaguedash standings officials coaches draft) + update_nba_stats_db() — and load_ncaa_mbb_* — 15 stats.ncaa.org datasets incl. rapm / rapm_within_team.

Local play-by-play database

```
update_nba_db(dbdir = ".", dbname = "hoopR_db",
              tblname = "hoopR_nba_pbp")
update_mbb_db() # RSQLite
/ DBI (Suggests)
con <- DBI::dbConnect(RSQLite::SQLite(), "hoopR_db")
```

LIVE ESPN + STATS API

```
# ESPN: game_id from espn_*_scoreboard / load_*_schedule
espn_nba_scoreboard(season = 20230423) # YYYYMMDD
espn_nba_pbp(game_id = 401071880)
espn_mbb_game_all(game_id = 401479672) # list: pbp+boxes
# stats.nba.com: 10-digit game ids, "2023-24" seasons
nba_pbp(game_id = "0022200021", on_court = TRUE)
nba_leaguedashplayerstats(season = year_to_season(2023))
```

ESPN wrappers take game_id, team_id, athlete_id, season / year. Stats API wrappers mirror the endpoint's query params (snake_case) and return a **named list** of result sets.

CREDENTIALS & OPTIONS

```
# KenPom (active subscription) ?kp_user_pw
Sys.setenv(KP_USER = "you@example.com", KP_PW = "...")
has_kp_user_and_pw() # TRUE
before any kp_*(*)
# CollegeBasketballData ?register_cbdd
Sys.setenv(CBBD_API_KEY = "XXXX-YOUR-KEY-XXXX")
has_cbdd_key(); cbdd_key()
# or persist both in ~/.Renviro
usethis::edit_r_environ()
# stats.nba.com / ESPN through a proxy (session-wide)
options(hoopR.proxy = "http://user:pw@host:port")
options(hoopR.fox_data_key = "...") # Fox, optional
```

Stats API requests go through request_with_proxy(), which sets the required x-nba-stats-* / Referer headers; hoopR.proxy, http_proxy env or an explicit proxy= arg are honoured. progressively() + progressr give progress bars on multi-season loads.

HELPERS

most_recent_nba_season()	current NBA season end year
most_recent_mbb_season()	current college season end year
year_to_season(2023)	"2023-24" for Stats API
csv_from_url(...)	fast csv reader behind loaders
progressively(f, p)	wrap f with a progressor
login()	KenPom session (reads KP_USER / KP_PW)
hoopR::request_with_proxy()	httr2 GET w/ NBA headers + proxy (internal)
hoopR::rds_from_url() :: check_status()	internal readers / status guard
teams_links	bundled 357-row MBB team id/name map
nba_player_dict() nba_team_dict()	Stats-API id dictionaries
nba_player_headshot_url() nba_team_logo_url()	CDN media URLs

OVERVIEW TOPICS (?NAME)

?hoopR_loaders · ?espn_basketball · ?nba_stats · ?kp · ?register_cbdd · ?espn_basketball_player_core · pkgdown reference groups follow the same split.

WIDER SPORTSDATAVERSE

wehoop	WNBA + women's college, same API shape
bigballR	stats.ncaa.org MBB lineups / on-off
cfbbastR · baseballR · fastRhockey	sister sport packages
sportsdataverse-py	sportsdataverse.nba (nba_stats_*, espn_nba_*, load_nba_*) · sportsdataverse.mbb (espn_mbb_*, ncaa_mbb_*)
nba_api	Python stats.nba.com reference
data repos	sportsdataverse-data (loaders) · hoopR-nba-data · hoopR-mbb-data · hoopR-nba-stats-data



LOADERS + ESPN · ESPN_MBB_*

SEASON LOADERS

```
library(hoopR)
pbp <- load_mbb_pbp(seasons = 2022:2024)
tb <- load_mbb_team_box(seasons = 2024)
pb <- load_mbb_player_box(seasons = 2024)
sch <- load_mbb_schedule(seasons = 2006:2024)
load_mbb_standings(); load_mbb_rosters()
load_mbb_player_stats(); load_mbb_team_stats()
load_mbb_ratings(); load_mbb_shots();
load_mbb_player_value()
load_ncaa_mbb_(pbp,possessions,lineups,shots,rapm,
  team_box,player_box,rosters,schedule,...)()
# stats.ncaa.org
update_mbb_db(dbdir = ".", tblname =
  "hoopR_mbb_pbp")
```

Releases: `espn_mens_college_basketball_*` tags on `sportsdataverse-data`; MBB pbp runs 2006+.

GAMES (LIVE ESPN)

```
espn_mbb_scoreboard(season = "20221117") #
day slate
espn_mbb_pbp(game_id = 401479672)
espn_mbb_team_box(401479672);
espn_mbb_player_box(401479672)
espn_mbb_game_all(401479672) # list(Plays,
Team, Player)
espn_mbb_wp(401256760) # ESPN win prob
per play
espn_mbb_betting(401256760);
espn_mbb_game_rosters(401256760)
```

Core-API per-game extras (event id): `espn_mbb_game_odds`
`_game_predictor` `_game_probabilities`
`_game_propbets` `_game_officials` `_game_broadcasts`
`_game_situation` `_game_play` `_game_play_personnel`
`_game_team_statistics` `_game_team_leaders`
`_game_team_linescores` `_game_team_score`
`_game_team_roster` `_game_powerindex`.

TEAMS, PLAYERS, LEAGUE

```
espn_mbb_teams(); espn_mbb_conferences();
espn_mbb_rankings()
espn_mbb_standings(2021)
espn_mbb_team_stats(team_id = 150, year =
2020)
espn_mbb_player_stats(athlete_id = 4593919,
year = 2021)
espn_mbb_team_roster(team_id = 150, season =
2024)
espn_mbb_team_schedule(team_id = 150, season =
2024)
espn_mbb_player_gamelog(athlete_id, season =
2024)
```

Also: `espn_mbb_team_current_roster` `_team_record`
`_team_injuries` `_team_leaders` `_team_news`
`_team_season_statistics` `_player_overview`
`_player_splits` `_player_career_stats`
`_player_eventlog` `_player_info` `_athletes_index`
`_leaders` `_season_leaders` `_injuries` `_news`
`_future_powerindex` (BPI) `_tournaments`

KENPOM · KP_*

```
Sys.setenv(KP_USER = "you@x.com",
  KP_PW = "****") # ?kp_user_pw
kp_pomeroy_ratings(min_year = 2020, max_year =
2024)
kp_efficiency(2020, 2024);
kp_fourfactors(2020, 2024)
kp_team_schedule(team = "Florida St.", year =
2022)
kp_team_players(team = "Duke", year = 2024)
kp_playerstats(metric = "eFG", year = 2024)
kp_box(game_id, year); kp_winprob(game_id,
year)
```

Fam ily	Functions
Rati ngs	kp_pomeroy_ratings kp_pomeroy_archive_ratings kp_program_ratings kp_trends kp_hca kp_kpoy
Tea m stat s	kp_efficiency kp_fourfactors kp_teamstats kp_pointdist kp_height kp_foul_trouble kp_playerstats
Tea m pag es	kp_team_schedule kp_team_players kp_team_player_stats kp_team_history kp_team_lineups kp_team_depth_chart kp_gameplan kp_opptracker kp_minutes_matrix kp_coach_history
Ga mes	kp_box kp_winprob kp_fanmatch(date) kp_game_attrs(year, attr)
Con f/ mis c	kp_conf(year, conf) kp_confhistory kp_confstats kp_arenas kp_officials kp_referee kp_player_career
Aut h	login() has_kp_user_and_pw() kp_user_email() kp_password()

Team names must match KenPom spelling (`teams_links` maps ESPN ids to KenPom / NCAA names).

BART TORVIK · TORVIK_*

```
torvik_ratings(year = 2024) # T-Rank
table
torvik_team_factors(2024);
torvik_player_stats(2024)
torvik_game_schedule(2024);
torvik_game_stats(2024)
torvik_ncaa_results(min_year = 2015, max_year
= 2024,
  type = "team")
```

COLLEGE BASKETBALL DATA · CBBD_*

```
Sys.setenv(CBBD_API_KEY = "XXXX") # ?
register_cbdd
cbdd_games(season = 2024, team = "Duke")
cbdd_plays_game(game_id, shooting_plays_only =
FALSE)
cbdd_lines(season = 2024, conference = "ACC")
cbdd_ratings_adjusted(season = 2024)
cbdd_stats_player_season(season = 2024, team =
"Duke")
```

Famil y	Functions
Game s	cbdd_games cbdd_games_teams cbdd_games_players cbdd_games_media cbdd_scoreboard
Plays	cbdd_plays_game cbdd_plays_date cbdd_plays_team cbdd_plays_player cbdd_plays_tournament cbdd_play_types
Lineu ps/ subs	cbdd_lineups_game cbdd_lineups_team cbdd_substitutions_game cbdd_substitutions_team cbdd_substitutions_player
Stats	cbdd_stats_team_season cbdd_stats_team_shooting_season cbdd_stats_team_leaderboard cbdd_stats_player_season cbdd_stats_player_shooting_season
Ratin gs/ polls	cbdd_ratings_adjusted cbdd_ratings_srs cbdd_ratings_elo cbdd_rankings
Lines	cbdd_lines cbdd_lines_providers
Team s/ venue s	cbdd_teams cbdd_teams_roster cbdd_conferences cbdd_conferences_history cbdd_venues
Recru iting/ draft	cbdd_recruiting_players cbdd_recruiting_teams cbdd_recruiting_portal cbdd_draft_picks cbdd_draft_teams cbdd_draft_positions
Key	cbdd_key() has_cbdd_key() check_cbdd_key()

Most take `season`, `team`, `conference`,
`start_date_range` / `end_date_range`, `season_type`
filters.

NCAA & FOX

```
ncaa_mbb_NET_rankings() #
current NET
ncaa_mbb_teams(year = 2024, division = 1)
fox_mbb_pbp(game_id);
fox_mbb_boxscore(game_id)
fox_mbb_odds(game_id); fox_mbb_teams();
fox_mbb_teams_all()
fox_mbb_team_roster(team_id);
fox_mbb_team_stats(team_id)
fox_mbb_team_gamelog(team_id);
fox_mbb_standings(team_id)
fox_mbb_league_leaders()
```

Fox ids differ from ESPN ids — bridge with the crosswalks below.

CROSSWALKS (KEYED ON ESPN_TEAM_ID)

```
mbb_team_crosswalk(season = 2024) #
ESPN·KenPom·Torvik·Fox
mbb_schedule_crosswalk(season = 2024)
mbb_player_crosswalk(season = 2024)
load_mbb_team_crosswalk(seasons = 2024) #
cached release
load_mbb_schedule_crosswalk();
load_mbb_player_crosswalk()
```

TYPICAL PIPELINE

```
library(dplyr)
pbp <- load_mbb_pbp(2024)
shots <- pbp |>
  filter(shooting_play, !is.na(coordinate_x))
|>
  count(team_id, score_value)
kp <- kp_pomeroy_ratings(2024, 2024)
xw <- load_mbb_team_crosswalk(2024)
tb <- load_mbb_team_box(2024) |>
  left_join(xw, by = c("team_id" =
"espn_team_id"))
```

Column names above (`shooting_play`, `coordinate_x`,
`score_value`) follow the ESPN pbp schema documented in
`?load_mbb_pbp`.

ELSEWHERE

Per-game ESPN helpers used by the data repo builders:
`helper_espn_mbb_pbp` `_team_box` `_player_box` . Python
parity: `sportsdataverse.mbb.espn_mbb_pbp`,
`load_mbb_pbp`, `ncaa_mbb_*` (bigballR port).



LOADERS + ESPN · ESPN_NBA_*

SEASON LOADERS (2002+)

```
library(hoopR)
bbp <- load_nba_bbp(seasons = 2022:2024)
tb <- load_nba_team_box(2024)
pb <- load_nba_player_box(2024)
sch <- load_nba_schedule(2002:2024)
load_nba_standings(); load_nba_rosters()
load_nba_player_stats(); load_nba_team_stats()
load_nba_draft(); load_nba_player_core()
update_nba_db(dbdir = ".", tblname =
"hoopR_nba_bbp")
```

Releases: `espn_nba_*` tags on [sportsdataverse-data](#).

GAMES (LIVE ESPN)

```
espn_nba_scoreboard(season = 20230423) #
YYYYMMDD
espn_nba_bbp(game_id = 401071880)
espn_nba_team_box(401071880);
espn_nba_player_box(401071880)
espn_nba_game_all(401283399) # list(Plays,
Team, Player)
espn_nba_wp(401283399);
espn_nba_betting(401283399)
espn_nba_game_rosters(401283399)
```

Core-API per-event extras: `espn_nba_game_odds`
`_game_predictor` `_game_probabilities`
`_game_propbets` `_game_officials` `_game_broadcasts`
`_game_situation` `_game_play` `_game_play_personnel`
`_game_team_statistics` `_game_team_leaders`
`_game_team_linescores` `_game_team_records`
`_game_powerindex`.

TEAMS, PLAYERS, LEAGUE

```
espn_nba_teams(); espn_nba_standings(year =
2021)
espn_nba_team_stats(team_id = 13, year = 2020)
espn_nba_player_stats(athlete_id = 1966, year
= 2022)
espn_nba_team_roster(13)
espn_nba_team_schedule(13, season = 2024)
espn_nba_team_depthchart(team_id = 13)
espn_nba_draft(season = 2024)
espn_nba_transactions(season = 2024)
espn_nba_freeagents(); espn_nba_injuries();
espn_nba_futures()
espn_nba_player_contracts(athlete_id = 1966)
espn_nba_powerindex(season = 2024) #
BPI
```

Also: `espn_nba_athletes_index` `_player_overview`
`_player_gamelog` `_player_splits`
`_player_career_stats` `_player_awards`
`_player_contract` `_team_record` `_team_injuries`
`_team_leaders` `_team_news` `_season_draft`
`_draft_athletes` `_draft_rounds` `_coaches`
`_franchises` `_venues` `_calendar` `_leaders` `_news`.

G-LEAGUE · NBAGL_*

```
nbagl_schedule(season = year_to_season(2023))
# league 20
nbagl_standings(season = "2023-24")
nbagl_players(); nbagl_bbp(game_id, on_court =
TRUE)
nbagl_live_bbp(game_id);
nbagl_live_boxscore(game_id)
```

Same Stats-API backend as `nba_*` (page 4); most `nba_*` wrappers also accept `league_id = "20"`.

FOX SPORTS · FOX_NBA_*

```
fox_nba_bbp(game_id);
fox_nba_boxscore(game_id)
fox_nba_odds(game_id); fox_nba_teams()
fox_nba_team_roster(team_id);
fox_nba_team_stats(team_id)
fox_nba_team_gamelog(team_id);
fox_nba_standings(team_id)
fox_nba_league_leaders()
```

CROSSWALKS (KEYED ON ESPN_TEAM_ID)

```
nba_team_crosswalk(season = 2024) # ESPN·NBA
Stats·Fox
nba_schedule_crosswalk(2024);
nba_player_crosswalk(2024)
load_nba_team_crosswalk(2024) # cached
release
load_nba_schedule_crosswalk();
load_nba_player_crosswalk()
```

INJURIES, SALARIES, MOCK DRAFTS

```
rotowire_injuries(); bref_injuries() #
current reports
spotrac_team_cap(season = 2025) # cap
sheets
hoopshype_salaries() #
player salaries
nbadraft_mock_draft(year = 2026) #
NBADraft.net
```

BASKETBALL-REFERENCE · BREF_*

```
bref_players_stats(season = 2025, table =
"per_game")
bref_teams_stats(season = 2025, table =
"per_game")
bref_player_game_log(player_id = "jamesle01",
season = 2025)
bref_team_roster(team = "LAL", season = 2025)
bref_standings(2025); bref_draft(2025);
bref_awards(2025)
bref_player_bios(letter = "a")
```

`table` takes the page's table id (`per_game`, `totals`, `advanced`, ...). Polite scraping: cache results, do not loop aggressively.

REALGM · REALGM_* (chromote + Chrome)

```
realgm_players(); realgm_teams()
realgm_coaches(); realgm_gms()
realgm_player_stats(season = 2025, stat_type =
"Averages",
season_type =
"Regular_Season")
realgm_team_stats(); realgm_standings()
realgm_transactions(); realgm_salary_cap()
realgm_rookie_scale()
realgm_draft(year = 2025);
realgm_draft_prospects()
realgm_early_entry();
realgm_future_free_agents()
realgm_players_abroad();
realgm_individual_games()
realgm_individual_seasons()
```

RealGM sits behind a Cloudflare challenge; the headless-Chrome session is opened lazily on first call.

PER-GAME HELPERS (DATA-REPO BUILDERS)

`helper_espn_nba_bbp` `helper_espn_nba_team_box`
`helper_espn_nba_player_box` (and the `_mbb_*` trio) wrap the raw ESPN summary into the loader schemas — what `hoopR-nba-data` / `hoopR-mbb-data` run nightly.

ANALYTICS UTILITIES (PURE, VECTORISED)

```
nba_true_shooting_pct(pts, fga, fta)
nba_effective_fg_pct(fgm, fg3m, fga);
nba_ft_rate(fga, fgm)
nba_possessions(fga, fta, oreb, tov);
nba_pace(poss, minutes)
nba_offensive_rating(pts, poss)
nba_net_rating(off_rating, def_rating)
nba_usage_rate(fga, fta, tov, minutes,
team_fga, team_fta, team_tov,
team_minutes)
nba_four_factors(fgm, fg3m, fga, fta, ftm,
oreb, tov, opp_dreb)
nba_game_score(pts, fgm, fga, fta, ftm, oreb,
dreb,
stl, ast, blk, pf, tov)
box |> nba_add_advanced_metrics() # adds
all of them
nba_per_minutes(df, cols);
nba_per_possessions(df, cols)
```

Also `nba_defensive_rating` `nba_assist_pct`
`nba_assist_to_turnover` `nba_turnover_pct`
`nba_oreb_pct`. League-agnostic: works on ESPN or Stats-API box frames.

POSSESSIONS, RAPM, SHOT ZONES

```
poss <- nba_session_lineups(game_id =
"0022200001")
# off_player_1..5, def_player_1..5, points per
possession
rapm <- nba_rapm(possessions = poss) #
ridge, o/d/total
nba_shot_zones(game_id = "0022200001") # FGA
by zone
nba_tracking_aggregate(seasons = c("2022-23",
"2023-24"),
pt_measure_type = "Drives", per_mode =
"Totals")
```

RAPM needs a full season of possessions (5-8k) to be meaningful; bind many `nba_session_lineups()` frames first.

RESULT-SET REDUCERS & TIDY WRAPPERS

```
sets <- nba_playercareerstats(player_id =
"2544") # list
nba_bind_sets(sets, tag_column = "set_name")
# row-bind
nba_join_sets(sets, join_key = "PLAYER_ID") #
widen
nba_nest_sets(sets, keep_cols = "PLAYER_ID")
# nest
nba_tidy_boxscore(game_id = "0022200021")
nba_tidy_player_profile(player_id = "2544")
nba_tidy_franchise_history()
```

Media: `nba_player_headshot_url(player_id, size = "1040x760")` · `nba_team_logo_url(team_id, variant = "primary")`.



CONVENTIONS

CALLING PATTERN

```
library(hoopR)
sets <- nba_leaguedashplayerstats(
  season = year_to_season(2023), # "2023-24"
  season_type = "Regular Season", per_mode =
    "PerGame", league_id = "00") # 00 NBA ·
20 G-League
names(sets) # result-
set names
df <- sets$LeagueDashPlayerStats # one
tibble per set
nba_bind_sets(sets) # or
join_/nest_sets
```

Args mirror the endpoint's query string in snake_case; defaults come from the site. Game ids are 10-char strings ("0022200021"); player/team ids are character. Every wrapper returns a **named list** of result sets (V3 boxscores/pbp return nested-JSON-derived frames).

Headers + proxy: all calls go through request_with_proxy() ; set options(hoopR.proxy = ...) or pass proxy = when stats.nba.com blocks your IP (cloud / datacenter ranges often hang). Go slow: Sys.sleep() between calls.

PLAY-BY-PLAY & LIVE

nba_pbp(game_id, on_court = TRUE, version = "v3")	V2/V3 pbp+on-court lineups
nba_pbps(game_ids, nest_data = FALSE)	multi-game pbp
nba_playbyplayv3 nba_data_pbp	raw V3 · data.nba.com feed
nba_live_pbp nba_live_boxscore	CDN live feeds
nba_winprobabilitypbp nba_gamrotation	WP overlay · rotations
nba_todays_scoreboard nba_scoreboard _scoreboardv2 _scoreboardv3	slates
nba_schedule nba_scheduleleaguev2int	season schedule
nba_leaguegamefinder nba_leaguegameLog	game finder / log

SHOT CHARTS · SYNERGY · TRACKING

nba_shotchartdetail nba_shotchartleaguewide nba_shotchartlineupdetail nba_synergyplaytypes nba_leaguedashptstats nba_leaguedashptdefend nba_leaguedashptteamdefend nba_leaguedashplayerptshot nba_leaguedashteamptshot nba_leaguedashoppptshot nba_shot_zones nba_tracking_aggregate (page 3).

BOX SCORES

V2 (result sets)	V3 (nested)
nba_boxscoretraditionalv2	nba_boxscoretraditionalv3
nba_boxscoreadvancedv2	nba_boxscoreadvancedv3
nba_boxscorefourfactorsv2	nba_boxscorefourfactorsv3
nba_boxscoremiscv2	nba_boxscoremiscv3
nba_boxscorescoringv2	nba_boxscorescoringv3
nba_boxscoreusagev2	nba_boxscoreusagev3
nba_boxscoreplaytrackv2	nba_boxscoreplayertrackv3
nba_boxscorematchups	nba_boxscorematchupsv3
nba_boxscoresummaryv2	nba_boxscoresummaryv3
nba_boxscoredefensivev2	nba_boxscorehustlev2
nba_hustlestatsboxscore	nba_boxscoresimilarityscore nba_glalumbboxscoresimilarityscore

nba_tidy_boxscore(game_id) = traditional V3 reduced to one player frame.

LEAGUE DASHBOARDS

Players	Teams
nba_leaguedashplayers tats	nba_leaguedashteamstats
nba_leaguedashplayerclutch	nba_leaguedashteamclutch
nba_leaguedashplayershotlocations	nba_leaguedashteamshotlocations
nba_leaguedashplayerbiostats	nba_leaguedashlineups
nba_leaguehustlestatsplayer _playerleaders	nba_leaguehustlestatsteam _teamleaders
nba_leagueplayerondetails	nba_leaguelineupviz
nba_leagueseasonmatchups	nba_leaguestandings _standingsv3
nba_matchupsrollup	nba_iststandings

LEADERS & HOMEPAGE

nba_leagueleaders nba_alltimeleaders nba_homepageleaders nba_homepagev2 nba_leaderstyles nba_assistleaders nba_assisttracker nba_dunkscoreleaders nba_gravityleaders nba_defensehub nba_playoffpicture nba_commonplayoffseries nba_spartanstyle nba_infographicfanduelplayer .

PLAYERS

```
nba_commonallplayers(season = "2023-24") #
id lookup
nba_playerindex(); nba_player_dict()
nba_commonplayerinfo(player_id = "2544")
nba_playercareerstats(player_id = "2544",
per_mode = "Totals")
nba_playergameLog(player_id = "2544", season =
"2023-24")
nba_playerprofilev2(player_id = "2544")
```

Dashboards (nba_playerdashboardby*)

clutch gamesplits generalsplits lastngames opponent shootingsplits teamperformance yearoveryear

Tracking (nba_playerdashpt*)

pass reb shotdefend shots

More

nba_playergameLogs nba_playergamestreakfinder nba_playernextngames nba_playervsplayer nba_playercompare nba_playerawards nba_playerestimatedmetrics nba_playerfantasyprofile nba_playerfantasyprofilebargraph nba_playercareerbycollege nba_playercareerbycollegerollup nba_playerheadshot nba_cumestatsplayer nba_cumestatsplayergames

nba_tidy_player_profile(player_id) reduces the profile sets to one frame.

TEAMS

nba_teams(); nba_team_dict() nba_teaminfocommon(team_id = "1610612747") nba_commonteamroster(team_id, season = "2023-24") nba_teamgameLog(team_id, season = "2023-24") nba_teamyearbyyearstats(team_id)

Dashboards (nba_teamdashboardby*)

clutch gamesplits generalsplits lastngames opponent shootingsplits teamperformance yearoveryear

Tracking / lineups

nba_teamdashptpass nba_teamdashptreb nba_teamdashptshots nba_teamdashlineups

More

nba_teamdetails nba_teamestimatedmetrics nba_teamgameLogs nba_teamgamestreakfinder nba_teamhistoricalleaders nba_teamplayerdashboard nba_teamplayeronoffdetails nba_teamplayeronoffsummary nba_teamvsplayer nba_teamandplayersvsplayers nba_commonteamyears nba_cumestatsteam nba_cumestatsteamgames

DRAFT & COMBINE

nba_drafthistory nba_draftboard nba_draftcombinestats nba_draftcombineplayeranthro nba_draftcombinedrillresults nba_draftcombinespotshooting nba_draftcombinenonstationaryshooting.

FRANCHISES

nba_franchisehistory nba_franchiseplayers nba_franchiseleaders nba_franchiseleaderswrnk · nba_tidy_franchise_history() = active + defunct rows in one frame.

VIDEO

nba_videodetails nba_videodetailsasset nba_videoevents nba_videoeventsasset nba_videostatus . Release loaders for this surface: load_nba_stats_* (page 1).

COMMON FILTERS

Arg	Typical values
season	"2023-24" — use year_to_season(2023)
season_type	"Regular Season" "Playoffs" "Pre Season" "PlayIn"
per_mode	"Totals" "PerGame" "Per100Possessions" "Per36"
measure_type	"Base" "Advanced" "Misc" "Four Factors" "Scoring" "Opponent" "Usage" "Defense"
league_id	"00" NBA · "10" WNBA · "20" G-League
player_or_team	"P" / "T" (synergy, game finder)
date_from	"MM/DD/YYYY" or ""
date_to	
last_n_games	0 = all month
opponent_team_id	
period	
start_period	V3 boxscore / pbp slicing
end_period	

PIPELINE SKETCH

```
library(dplyr); library(purrr)
ids <- nba_schedule(season = "2023-24")$game_id
pbp <- nba_pbps(game_ids = ids[1:20])
poss <- map(ids[1:20], nba_possession_lineups)
|> bind_rows()
nba_rapm(poss) |> arrange(desc(rapm))
```

Real RAPM needs a whole season — see page 3. nba_schedule() column names follow the Stats API schedule feed.



hoopR :: CHEAT SHEET

Men's basketball data in R: NBA, NBA G-League and men's college basketball. Tidy play-by-play, box scores, schedules and rosters from ESPN, a full `stats.nba.com` wrapper, KenPom / Torvik / CollegeBasketballData scrapers, Basketball-Reference, Fox and RealGM, plus season-level loaders from the SportsDataverse data releases. Women's sibling: **wehoop**; Python mirror: `sportsdataverse.nba` / `.mbb` in **sportsdataverse-py**. Page 1 of 4: install, surfaces, loaders, credentials, helpers.

v3.1.0

R >= 4.1.0 · `httr2` · `data.table`
`hoopR.sportsdataverse.org`

GET STARTED

```
install.packages("hoopR") # CRAN
pak::pak("sportsdataverse/hoopR") # dev
# GitHub
remotes::install_github("sportsdataverse/hoopR")
library(hoopR)
```

~583 exports. Every function returns a tibble / data.frame (or a named list of tibbles for multi-table endpoints). Prefix tells you the source; page tells you where to look.

SURFACES BY PREFIX

Prefix	Source	Page
<code>load_nba_*</code> <code>load_mbb_*</code> <code>load_nba_stats_*</code> <code>load_ncaa_mbb_*</code>	season parquet/rds releases (zero scraping)	2 · 3
<code>espn_nba_*</code> <code>espn_mbb_*</code>	ESPN Site / Core APIs, live	2 · 3
<code>nba_*</code>	stats.nba.com Stats API (~160 endpoints)	4
<code>nbagl_*</code>	G-League (Stats API, league 20)	3
<code>kp_*</code>	KenPom (subscription login)	2
<code>cbbdd_*</code>	CollegeBasketballData API (key)	2
<code>torvik_*</code>	Bart Torvik T-Rank	2
<code>ncaa_mbb_*</code>	NCAA.com NET+ teams	2
<code>fox_nba_*</code> <code>fox_mbb_*</code>	Fox Sports (Bifrost)	2 · 3
<code>bref_*</code>	Basketball-Reference	3
<code>realgm_*</code>	RealGM (needs chromote + Chrome)	3
<code>spotrac_</code> <code>hoopshype_</code> <code>nbadraft_</code> <code>rotowire_</code>	salaries · mock draft · injuries	3
<code>*_crosswalk</code>	ESPN ⇄ NBA Stats / KenPom / Torvik / Fox ids	2 · 3

DATA LOADERS (FAST PATH)

Full seasons from the `sportsdataverse/sportsdataverse-data` GitHub releases (ESPN-derived, tidy, ready to join). Seasons are the **end year** (2024 = 2023-24).

```
pbp <- load_nba_pbp(seasons = 2022:2024)
tb <- load_nba_team_box(seasons =
  most_recent_nba_season())
pb <- load_mbb_player_box(seasons = 2024)
sch <- load_mbb_schedule(seasons = 2020:2024)
# stream straight into a DB table
load_nba_pbp(2024, dbConnection = con,
  tablename = "nba_pbp")
```

Dataset	load_nba_*	load_mbb_*
play-by-play	pbp	pbp
box scores	team_box player_box	team_box player_box
schedules	schedule	schedule
standings	standings	standings
rosters	rosters game_rosters	rosters game_rosters
season stats	player_stats team_stats	player_stats team_stats
people	player_core officials draft	player_core officials
crosswalks	team_schedule_ player_crosswalk	same three
shots / value	shots player_impact	shots ratings player_value

3.1 adds `load_nba_stats_*` — 20 stats.nba.com-derived release datasets (pbp possessions lineups shots rosters boxscores game_logs leaguedash standings officials coaches draft) + `update_nba_stats_db()` — and `load_ncaa_mbb_*` — 15 stats.ncaa.org datasets incl. rapm / rapm_within_team.

Local play-by-play database

```
update_nba_db(dbdir = ".", dbname = "hoopR_db",
  tablename = "hoopR_nba_pbp")
update_mbb_db() # RSQLite / DBI (Suggests)
con <- DBI::dbConnect(RSQLite::SQLite(),
  "hoopR_db")
```

LIVE ESPN + STATS API

```
# ESPN: game_id from espn_*_scoreboard /
load_*_schedule
espn_nba_scoreboard(season = 20230423) #
YYYYMMDD
espn_nba_pbp(game_id = 401071880)
espn_mbb_game_all(game_id = 401479672) # list:
pbp+boxes
# stats.nba.com: 10-digit game ids, "2023-24"
seasons
nba_pbp(game_id = "0022200021", on_court =
  TRUE)
load_nba_pbp(2024, dbConnection = con,
  year_to_season(2023))
```

ESPN wrappers take `game_id`, `team_id`, `athlete_id`, `season / year`. Stats API wrappers mirror the endpoint's query params (snake_case) and return a **named list** of result sets.

CREDENTIALS & OPTIONS

```
# KenPom (active subscription) ?kp_user_pw
Sys.setenv(KP_USER = "you@example.com", KP_PW = "...")
has_kp_user_and_pw() # TRUE before
any kp_*()
# CollegeBasketballData ?register_cbbd
Sys.setenv(CBBID_API_KEY = "XXXX-YOUR-KEY-XXXX")
has_cbbd_key(); cbbd_key()
# or persist both in ~/.Renvi
usethis::edit_r_environ()
# stats.nba.com / ESPN through a proxy
(session-wide)
options(hoopR.proxy =
  "http://user:pw@host:port")
options(hoopR.fox_data_key = "...") # Fox,
optional
```

Stats API requests go through `request_with_proxy()`, which sets the required `x-nba-stats-*` / Referer headers; `hoopR.proxy`, `http_proxy` env or an explicit `proxy=` arg are honoured. `progressively()` + `progressr` give progress bars on multi-season loads.

HELPERS

<code>most_recent_nba_season()</code>	current NBA season end year
<code>most_recent_mbb_season()</code>	current college season end year
<code>year_to_season(2023)</code>	"2023–24" for Stats API
<code>csv_from_url(...)</code>	fast csv reader behind loaders
<code>progressively(f, p)</code>	wrap <code>f</code> with a progressor
<code>login()</code>	KenPom session (reads KP_USER / KP_PW)
<code>hoopR::request_with_proxy()</code>	httr2 GET w/ NBA headers + proxy (internal)
<code>hoopR::rds_from_url()</code> <code>:::check_status()</code>	internal readers / status guard
<code>teams_links</code>	bundled 357-row MBB team id/name map
<code>nba_player_dict()</code> <code>nba_team_dict()</code>	Stats-API id dictionaries
<code>nba_player_headshot_url()</code> <code>nba_team_logo_url()</code>	CDN media URLs

OVERVIEW TOPICS (?NAME)

?`hoopR_loaders` · ?`espn_basketball` · ?`nba_stats` · ?`kp` · ?`register_cbbd` · ?`espn_basketball_player_core`. pkgdown reference groups follow the same split.

WIDER SPORTSDATAVERSE

wehoop	WNBA + women's college, same API shape
bigballR	stats.ncaa.org MBB lineups / on-off
cfbfastR · baseballR · fastRhockey	sister sport packages
sportsdataverse-py	<code>sportsdataverse.nba</code> (<code>nba_stats_*</code> , <code>espn_nba_*</code> , <code>load_nba_*</code>) · <code>sportsdataverse.mbb</code> (<code>espn_mbb_*</code> , <code>ncaa_mbb_*</code>)
nba_api	Python stats.nba.com reference
data repos	<code>sportsdataverse-data</code> (loaders) · <code>hoopR-nba-data</code> · <code>hoopR-mbb-data</code> · <code>hoopR-nba-stats-data</code>



LOADERS + ESPN · ESPN_MBB_*

SEASON LOADERS

```
library(hoopR)
pbp <- load_mbb_pbp(seasons = 2022:2024)
tb <- load_mbb_team_box(seasons = 2024)
pb <- load_mbb_player_box(seasons = 2024)
sch <- load_mbb_schedule(seasons = 2006:2024)
load_mbb_standings(); load_mbb_rosters()
load_mbb_player_stats(); load_mbb_team_stats()
load_mbb_ratings(); load_mbb_shots();
load_mbb_player_value()
load_ncaa_mbb_{pbp,possession,linenums,shots,rapm,
  team_box,player_box,rosters,schedule,...}()
# stats.ncaa.org
update_mbb_db(dbdir = ".", tblname =
"hoopR_mbb_pbp")
```

Releases: [espn_mens_college_basketball_*](#) tags on [sportsdataverse-data](#); MBB pbp runs 2006+.

GAMES (LIVE ESPN)

```
espn_mbb_scoreboard(season = "20221117") #
day slate
espn_mbb_pbp(game_id = 401479672)
espn_mbb_team_box(401479672);
espn_mbb_player_box(401479672)
espn_mbb_game_all(401479672) # list(Plays,
Team, Player)
espn_mbb_wp(401256760) # ESPN win prob
per play
espn_mbb_betting(401256760);
espn_mbb_game_rosters(401256760)
```

Core-API per-game extras (event id): [espn_mbb_game_odds](#)
[_game_predictor](#) [_game_probabilities](#)
[_game_propbets](#) [_game_officials](#) [_game_broadcasts](#)
[_game_situation](#) [_game_play](#) [_game_play_personnel](#)
[_game_team_statistics](#) [_game_team_leaders](#)
[_game_team_linescores](#) [_game_team_score](#)
[_game_team_roster](#) [_game_powerindex](#).

TEAMS, PLAYERS, LEAGUE

```
espn_mbb_teams(); espn_mbb_conferences();
espn_mbb_rankings()
espn_mbb_standings(2021)
espn_mbb_team_stats(team_id = 150, year = 2020)
espn_mbb_player_stats(athlete_id = 4593919,
year = 2021)
espn_mbb_team_roster(team_id = 150, season =
2024)
espn_mbb_team_schedule(team_id = 150, season =
2024)
espn_mbb_player_gamelog(athlete_id, season =
2024)
```

Also: [espn_mbb_team_current_roster](#) [_team_record](#)
[_team_injuries](#) [_team_leaders](#) [_team_news](#)
[_team_season_statistics](#) [_player_overview](#)
[_player_splits](#) [_player_career_stats](#)
[_player_eventlog](#) [_player_info](#) [_athletes_index](#)
[_leaders](#) [_season_leaders](#) [_injuries](#) [_news](#)
[_futures](#) [_powerindex \(BPI\)](#) [_tournaments](#)
[_week_rankings](#) [_season_groups](#) [_coaches](#) [_venues](#)
[_calendar](#).

KENPOM · KP_*

```
Sys.setenv(KP_USER = "you@x.com",
KP_PW = "****") # ?kp_user_pw
kp_pomeroy_ratings(min_year = 2020, max_year =
2024)
kp_efficiency(2020, 2024); kp_fourfactors(2020,
2024)
kp_team_schedule(team = "Florida St.", year =
2022)
kp_team_players(team = "Duke", year = 2024)
kp_playerstats(metric = "eFG", year = 2024)
kp_box(game_id, year); kp_winprob(game_id,
year)
```

Fam ily	Functions
Rati ngs	kp_pomeroy_ratings kp_pomeroy_archive_ratings kp_program_ratings kp_trends kp_hca kp_kpoy
Tea m stat s	kp_efficiency kp_fourfactors kp_teamstats kp_pointdist kp_height kp_foul_trouble kp_playerstats
Tea m pag es	kp_team_schedule kp_team_players kp_team_player_stats kp_team_history kp_team_lineups kp_team_depth_chart kp_gameplan kp_opptracker kp_minutes_matrix kp_coach_history
Ga mes	kp_box kp_winprob kp_fanmatch(date) kp_game_attr(year, attr)
Con f/ mis c	kp_conf(year, conf) kp_confhistory kp_confstats kp_arenas kp_officials kp_referee kp_player_career
Aut h	login() has_kp_user_and_pw() kp_user_email() kp_password()

Team names must match KenPom spelling ([teams_links](#) maps ESPN ids to KenPom / NCAA names).

BART TORVIK · TORVIK_*

```
torvik_ratings(year = 2024) # T-Rank
table
torvik_team_factors(2024);
torvik_player_stats(2024)
torvik_game_schedule(2024);
torvik_game_stats(2024)
torvik_ncaa_results(min_year = 2015, max_year =
2024,
type = "team")
```

COLLEGE BASKETBALL DATA · CBBD_*

```
Sys.setenv(CBBD_API_KEY = "XXXX") # ?
register_cbdd
cbdd_games(season = 2024, team = "Duke")
cbdd_plays_game(game_id, shooting_plays_only =
FALSE)
cbdd_lines(season = 2024, conference = "ACC")
cbdd_ratings_adjusted(season = 2024)
cbdd_stats_player_season(season = 2024, team =
"Duke")
```

Famil y	Functions
Game s	cbdd_games cbdd_games_teams cbdd_games_players cbdd_games_media cbdd_scoreboard
Plays	cbdd_plays_game cbdd_plays_date cbdd_plays_team cbdd_plays_player cbdd_plays_tournament cbdd_play_types
Lineu ps/ subs	cbdd_lineups_game cbdd_lineups_team cbdd_substitutions_game cbdd_substitutions_team cbdd_substitutions_player
Stats	cbdd_stats_team_season cbdd_stats_team_shooting_season cbdd_stats_team_leaderboard cbdd_stats_player_season cbdd_stats_player_shooting_season
Ratin gs/ polls	cbdd_ratings_adjusted cbdd_ratings_srs cbdd_ratings_elo cbdd_rankings
Lines	cbdd_lines cbdd_lines_providers
Team s/ venue s	cbdd_teams cbdd_teams_roster cbdd_conferences cbdd_conferences_history cbdd_venues
Recrui ting/ draft	cbdd_recruiting_players cbdd_recruiting_teams cbdd_recruiting_portal cbdd_draft_picks cbdd_draft_teams cbdd_draft_positions
Key	cbdd_key() has_cbdd_key() check_cbdd_key()

Most take [season](#), [team](#), [conference](#), [start_date_range](#) / [end_date_range](#), [season_type](#) filters.

NCAA & FOX

```
ncaa_mbb_NET_rankings() #
current NET
ncaa_mbb_teams(year = 2024, division = 1)
fox_mbb_pbp(game_id); fox_mbb_boxscore(game_id)
fox_mbb_odds(game_id); fox_mbb_teams();
fox_mbb_teams_all()
fox_mbb_team_roster(team_id);
fox_mbb_team_stats(team_id)
fox_mbb_team_gamelog(team_id);
fox_mbb_standings(team_id)
fox_mbb_league_leaders()
```

Fox ids differ from ESPN ids — bridge with the crosswalks below.

CROSSWALKS (KEYED ON ESPN_TEAM_ID)

```
mbb_team_crosswalk(season = 2024) #
ESPN·KenPom·Torvik·Fox
mbb_schedule_crosswalk(season = 2024)
mbb_player_crosswalk(season = 2024)
load_mbb_team_crosswalk(seasons = 2024) #
cached release
load_mbb_schedule_crosswalk();
load_mbb_player_crosswalk()
```

TYPICAL PIPELINE

```
library(dplyr)
pbp <- load_mbb_pbp(2024)
shots <- pbp |>
  filter(shooting_play, !is.na(coordinate_x))
|>
  count(team_id, score_value)
kp <- kp_pomeroy_ratings(2024, 2024)
xw <- load_mbb_team_crosswalk(2024)
tb <- load_mbb_team_box(2024) |>
  left_join(xw, by = c("team_id" =
"espn_team_id"))
```

Column names above ([shooting_play](#), [coordinate_x](#), [score_value](#)) follow the ESPN pbp schema documented in [?load_mbb_pbp](#).

ELSEWHERE

Per-game ESPN helpers used by the data repo builders:
[helper_espn_mbb_pbp](#) [_team_box](#) [_player_box](#).Python
parity: [sportsdataverse.mbb.espn_mbb_pbp](#),
[load_mbb_pbp](#), [ncaa_mbb_*](#) ([bigballR](#) port).



LOADERS + ESPN · ESPN_NBA_*

SEASON LOADERS (2002+)

```
library(hoopR)
pbp <- load_nba_pbp(seasons = 2022:2024)
tb <- load_nba_team_box(2024)
pb <- load_nba_player_box(2024)
sch <- load_nba_schedule(2002:2024)
load_nba_standings(); load_nba_rosters()
load_nba_player_stats(); load_nba_team_stats()
load_nba_draft(); load_nba_player_core()
update_nba_db(ddir = ".", tblname =
"hoopR_nba_pbp")
```

Releases: `espn_nba_*` tags on `sportsdataverse-data`.

GAMES (LIVE ESPN)

```
espn_nba_scoreboard(season = 20230423) #
YYYYMMDD
espn_nba_pbp(game_id = 401071880)
espn_nba_team_box(401071880);
espn_nba_player_box(401071880)
espn_nba_game_all(401283399) # list(Plays,
Team, Player)
espn_nba_wp(401283399);
espn_nba_betting(401283399)
espn_nba_game_rosters(401283399)
```

Core-API per-event extras: `espn_nba_game_odds`

```
_game_predictor _game_probabilities
_game_propbets _game_officials _game_broadcasts
_game_situation _game_play _game_play_personnel
_game_team_statistics _game_team_leaders
_game_team_linescores _game_team_records
_game_powerindex.
```

TEAMS, PLAYERS, LEAGUE

```
espn_nba_teams(); espn_nba_standings(year =
2021)
espn_nba_team_stats(team_id = 13, year = 2020)
espn_nba_player_stats(athlete_id = 1966, year =
2022)
espn_nba_team_roster(13)
espn_nba_team_schedule(13, season = 2024)
espn_nba_team_depthchart(team_id = 13)
espn_nba_draft(season = 2024)
espn_nba_transactions(season = 2024)
espn_nba_freeagents(); espn_nba_injuries();
espn_nba_futures()
espn_nba_player_contracts(athlete_id = 1966)
espn_nba_powerindex(season = 2024) #
BPI
```

Also: `espn_nba_athletes_index` `_player_overview`
`_player_gamelog` `_player_splits`
`_player_career_stats` `_player_awards`
`_player_contract` `_team_record` `_team_injuries`
`_team_leaders` `_team_news` `_season_draft`
`_draft_athletes` `_draft_rounds` `_coaches`
`_franchises` `_venues` `_calendar` `_leaders` `_news`.

G-LEAGUE · NBAGL_*

```
nbagl_schedule(season = year_to_season(2023))
# league 20
nbagl_standings(season = "2023-24")
nbagl_players(); nbagl_pbp(game_id, on_court =
TRUE)
nbagl_live_pbp(game_id);
nbagl_live_boxscore(game_id)
```

Same Stats-API backend as `nba_*` (page 4); most `nba_*` wrappers also accept `league_id = "20"`.

FOX SPORTS · FOX_NBA_*

```
fox_nba_pbp(game_id); fox_nba_boxscore(game_id)
fox_nba_odds(game_id); fox_nba_teams()
fox_nba_team_roster(team_id);
fox_nba_team_stats(team_id)
fox_nba_team_gamelog(team_id);
fox_nba_standings(team_id)
fox_nba_league_leaders()
```

CROSSWALKS (KEYED ON ESPN_TEAM_ID)

```
nba_team_crosswalk(season = 2024) # ESPN·NBA
Stats·Fox
nba_schedule_crosswalk(2024);
nba_player_crosswalk(2024)
load_nba_team_crosswalk(2024) # cached
release
load_nba_schedule_crosswalk();
load_nba_player_crosswalk()
```

INJURIES, SALARIES, MOCK DRAFTS

```
rotowire_injuries(); bref_injuries() #
current reports
spotrac_team_cap(season = 2025) # cap
sheets
hoopshype_salaries() # player
salaries
nbadraft_mock_draft(year = 2026) #
NBADraft.net
```

BASKETBALL-REFERENCE · BREF_*

```
bref_players_stats(season = 2025, table =
"per_game")
bref_teams_stats(season = 2025, table =
"per_game")
bref_player_game_log(player_id = "jamesle01",
season = 2025)
bref_team_roster(team = "LAL", season = 2025)
bref_standings(2025); bref_draft(2025);
bref_awards(2025)
bref_player_bios(letter = "a")
```

`table` takes the page's table id (`per_game`, `totals`, `advanced`, ...). Polite scraping: cache results, do not loop aggressively.

REALGM · REALGM_* (chromote + Chrome)

```
realgm_players(); realgm_teams()
realgm_coaches(); realgm_gms()
realgm_player_stats(season = 2025, stat_type =
"Averages",
season_type =
"Regular_Season")
realgm_team_stats(); realgm_standings()
realgm_transactions(); realgm_salary_cap()
realgm_rookie_scale()
realgm_draft(year = 2025);
realgm_draft_prospects()
realgm_early_entry();
realgm_future_free_agents()
realgm_players_abroad();
realgm_individual_games()
realgm_individual_seasons()
```

RealGM sits behind a Cloudflare challenge; the headless-Chrome session is opened lazily on first call.

PER-GAME HELPERS (DATA-REPO BUILDERS)

`helper_espn_nba_pbp` `helper_espn_nba_team_box`
`helper_espn_nba_player_box` (and the `_mbb_trio`) wrap the raw ESPN summary into the loader schemas — what `hoopR-nba-data` / `hoopR-mbb-data` run nightly.

ANALYTICS UTILITIES (PURE, VECTORISED)

```
nba_true_shooting_pct(pts, fga, fta)
nba_effective_fg_pct(fgm, fg3m, fga);
nba_ft_rate(fta, fga)
nba_possessions(fga, fta, oreb, tov);
nba_pace(poss, minutes)
nba_offensive_rating(pts, poss)
nba_net_rating(off_rating, def_rating)
nba_usage_rate(fga, fta, tov, minutes,
team_fga, team_fta, team_tov,
team_minutes)
nba_four_factors(fgm, fg3m, fga, fta, ftm,
oreb, tov, opp_dreb)
nba_game_score(pts, fgm, fga, fta, ftm, oreb,
dreb,
stl, ast, blk, pf, tov)
box |> nba_add_advanced_metrics() # adds
all of them
nba_per_minutes(df, cols);
nba_per_possessions(df, cols)
```

Also `nba_defensive_rating` `nba_assist_pct` `nba_assist_to_turnover` `nba_turnover_pct` `nba_oreb_pct`. League-agnostic: works on ESPN or Stats-API box frames.

POSSESSIONS, RAPM, SHOT ZONES

```
poss <- nba_possession_lineups(game_id =
"0022200001")
# off_player_1..5, def_player_1..5, points per
possession
rapm <- nba_rapm(possessions = poss) # ridge,
o/d/total
nba_shot_zones(game_id = "0022200001") # FGA by
zone
nba_tracking_aggregate(seasons = c("2022-23",
"2023-24"),
pt_measure_type = "Drives", per_mode =
"Totals")
```

RAPM needs a full season of possessions (5-8k) to be meaningful; bind many `nba_possession_lineups()` frames first.

RESULT-SET REDUCERS & TIDY WRAPPERS

```
sets <- nba_playercareerstats(player_id =
"2544") # list
nba_bind_sets(sets, tag_column = "set_name") #
row-bind
nba_join_sets(sets, join_key = "PLAYER_ID") #
widen
nba_nest_sets(sets, keep_cols = "PLAYER_ID") #
nest
nba_tidy_boxscore(game_id = "0022200021")
nba_tidy_player_profile(player_id = "2544")
nba_tidy_franchise_history()
```

Media: `nba_player_headshot_url(player_id, size = "1040x760")` · `nba_team_logo_url(team_id, variant = "primary")`.



CONVENTIONS

CALLING PATTERN

```
library(hoopR)
sets <- nba_leaguedashplayerstats(
  season = year_to_season(2023), # "2023-24"
  season_type = "Regular Season", per_mode =
    "PerGame",
  league_id = "00") # 00 NBA ·
20 G-League
names(sets) # result-set
names
df <- sets$LeagueDashPlayerStats # one tibble
per set
nba_bind_sets(sets) # or
join_/nest_sets
```

Args mirror the endpoint's query string in snake_case; defaults come from the site. Game ids are 10-char strings ("0022200021"); player/team ids are character. Every wrapper returns a **named list** of result sets (V3 boxscores/pbp return nested-JSON-derived frames).

Headers + proxy: all calls go through request_with_proxy(); set options(hoopR.proxy = ...) or pass proxy = when stats.nba.com blocks your IP (cloud / datacenter ranges often hang). Go slow: Sys.sleep() between calls.

PLAY-BY-PLAY & LIVE

nba_pbp(game_id, on_court = TRUE, version = "v3")	V2/V3 pbp+on-court lineups
nba_pbps(game_ids, nest_data = FALSE)	multi-game pbp
nba_playbyplayv3 nba_data_pbp	raw V3 · data.nba.com feed
nba_live_pbp nba_live_boxscore	CDN live feeds
nba_winprobabilitypbp nba_gamrotation	WP overlay · rotations
nba_todays_scoreboard nba_scoreboard _scoreboardv2 _scoreboardv3	slates
nba_schedule nba_scheduleleaguev2int	season schedule
nba_leaguegamefinder nba_leaguegameLog	game finder / log

SHOT CHARTS · SYNERGY · TRACKING

nba_shotchartdetail nba_shotchartleaguewide nba_shotchartlineupdetail nba_synergyplaytypes nba_leaguedashptstats nba_leaguedashptdefend nba_leaguedashptteamdefend nba_leaguedashplayerptshot nba_leaguedashteamptshot nba_leaguedashoppptshot nba_shot_zones nba_tracking_aggregate (page 3).

BOX SCORES

V2 (result sets)	V3 (nested)
nba_boxscoretrad itionalv2	nba_boxscoretraditionalv3
nba_boxscoreadva ncedv2	nba_boxscoreadvancedv3
nba_boxscorefour factorsv2	nba_boxscorefourfactorsv3
nba_boxscoremisc v2	nba_boxscoremiscv3
nba_boxscorescor ingv2	nba_boxscorescoringv3
nba_boxscoreusag ev2	nba_boxscoreusagev3
nba_boxscoreplay ertrackv2	nba_boxscoreplayertrackv3
nba_boxscorematc hups	nba_boxscorematchupsv3
nba_boxscoresumm aryv2	nba_boxscoresummaryv3
nba_boxscoredefe nsive _defensivev2	nba_boxscorehustlev2
nba_hustlestatsb oxscore	nba_boxscoresimilarityscore nba_glalumbboxscoresimilaritys core

nba_tidy_boxscore(game_id) = traditional V3 reduced to one player frame.

LEAGUE DASHBOARDS

Players	Teams
nba_leaguedashplayers tats	nba_leaguedashteamstats
nba_leaguedashplayerc lutch	nba_leaguedashteamclutch
nba_leaguedashplayers hotlocations	nba_leaguedashteamshotlo cations
nba_leaguedashplayerb iostats	nba_leaguedashlineups
nba_leaguehustlestats player _playerleaders	nba_leaguehustlestatstea m _teamleaders
nba_leagueplayerondet ails	nba_leaguelineupviz
nba_leagueseasonmatch ups	nba_leaguestandings _standingsv3
nba_matchupsrollup	nba_iststandings

LEADERS & HOMEPAGE

nba_leagueleaders nba_alltimeleadersgrids nba_homepageleaders nba_homepagev2 nba_leaderstyles nba_assistleaders nba_assisttracker nba_dunkscoreleaders nba_gravityleaders nba_defensehub nba_playoffpicture nba_commonplayoffseries nba_ranking nba_infographicanduelplayer.

PLAYERS

```
nba_commonallplayers(season = "2023-24") # id
lookup
nba_playerindex(); nba_player_dict()
nba_commonplayerinfo(player_id = "2544")
nba_playercareerstats(player_id = "2544",
per_mode = "Totals")
nba_playergamelog(player_id = "2544", season =
"2023-24")
nba_playerprofilev2(player_id = "2544")
```

Dashboards (nba_playerdashboardby*)

clutch gamesplits generalsplits lastngames opponent shootingsplits teamperformance yearoveryear

Tracking (nba_playerdashpt*)

pass reb shotdefend shots

More

nba_playergamelogs nba_playergamestreakfinder nba_playernextngames nba_playervsplayer nba_playercompare nba_playerawards nba_playerestimatedmetrics nba_playerfantasyprofile nba_playerfantasyprofilebargraph nba_playercareerbycollege nba_playercareerbycollegerollup nba_playerheadshot nba_cumestatsplayer nba_cumestatsplayergames

nba_tidy_player_profile(player_id) reduces the profile sets to one frame.

TEAMS

```
nba_teams(); nba_team_dict()
nba_teaminfocommon(team_id = "1610612747")
nba_commonteamroster(team_id, season = "2023-
24")
nba_teamgameLog(team_id, season = "2023-24")
nba_teamyearbyyearstats(team_id)
```

Dashboards (nba_teamdashboardby*)

clutch gamesplits generalsplits lastngames opponent shootingsplits teamperformance yearoveryear

Tracking / lineups

nba_teamdashptpass nba_teamdashptreb nba_teamdashptshots nba_teamdashlineups

More

nba_teamdetails nba_teamestimatedmetrics nba_teamgameLogs nba_teamgamestreakfinder nba_teamhistoricalleaders nba_teamplayerdashboard nba_teamplayeronoffdetails nba_teamplayeronoffsummary nba_teamvsplayer nba_teamandplayersvsplayers nba_commonteamyears nba_cumestatsteam nba_cumestatsteamgames

DRAFT & COMBINE

nba_drafthistory nba_draftboard nba_draftcombinestats nba_draftcombineplayeranthro nba_draftcombinedrillresults nba_draftcombinespotshooting nba_draftcombinenonstationaryshooting.

FRANCHISES

nba_franchisehistory nba_franchiseplayers nba_franchiseleaders nba_franchiseleaderswrnk · nba_tidy_franchise_history() = active + defunct rows in one frame.

VIDEO

nba_videodetails nba_videodetailsasset nba_videoevents nba_videoeventsasset nba_videostatus . Release loaders for this surface: load_nba_stats_* (page 1).

COMMON FILTERS

Arg	Typical values
season	"2023-24" — use year_to_season(2023)
season_type	"Regular Season" "Playoffs" "Pre Season" "PlayIn"
per_mode	"Totals" "PerGame" "Per100Possessions" "Per36"
measure_type	"Base" "Advanced" "Misc" "Four Factors" "Scoring" "Opponent" "Usage" "Defense"
league_id	"00" NBA · "10" WNBA · "20" G-League
player_or_team	"P" / "T" (synergy, game finder)
date_from date_to	"MM/DD/YYYY" or ""
last_n_games month opponent_team_id period	0 = all
start_period end_period	V3 boxscore / pbp slicing

PIPELINE SKETCH

```
library(dplyr); library(purrr)
ids <- nba_schedule(season = "2023-24")$game_id
pbp <- nba_pbps(game_ids = ids[1:20])
poss <- map(ids[1:20], nba_possession_lineups)
|> bind_rows()
nba_rapm(poss) |> arrange(desc(rapm))
```

Real RAPM needs a whole season — see page 3. nba_schedule() column names follow the Stats API schedule feed.