**Appendix S2** Location, elevation, collecting methods, and data sources of studied lakes

| Area | | Lake | latitude | longitude | Elevation (m) | Collecting methods | Data sources |
| --- | --- | --- | --- | --- | --- | --- | --- |
| East plain | Dianshan Lake | | N31°04'~31°12' | E120°53'~121°01' | 2.5 | 1 | Xu, 2011; Zhang et al., 2010 |
| Chenghu Lake | | N31°10'~31°14' | E120°48'~121°52' | 2.7 | 1，3 | Yang et al., 2001 |
| Taihu Lake | | N30°56'~31°34' | E119°54'~120°36' | 3.1 | 1 | Cai et al., 2010; Xu et al., 2015; Zhang et al., 2014 |
| Gehu Lake | | N31°29'~31°42' | E119°44'~119°53' | 3.2 | 1 | Chen et al., 2016; Liu et al., 2005; Wang et al., 2012; Xiong et al., 2016 |
| Chaohu Lake | | N31°25'~31°43' | E117°16'~117°56' | 8.4 | 1，4 | Ding, 2014; Zhao & Liu, 2012; Unpublished data |
| Mata Lake | | N37°03'~37°06' | E118°02'~118°09' | 8.5 | 1 | Su & Wang, 1998 |
| Shijiu Lake | | N31°23'~31°33' | E118°46'~118°56' | 9.3 | 1，3 | Pan, 2009 |
| Nanyi Lake | | N31°03'~31°10' | E118°50'~119°02' | 9.4 | 1 | Chen et al., 2008 |
| Caizi Lake | | N30°43'~30°58' | E117°01'~117°09' | 11.0 | 1 | Xu et al., 2011 |
| Baiyangdian Lake | | N38°43'~39°02' | E115°48'~116°07' | 11.7 | 1，3 | Xie et al., 2010; Zhang et al., 2013 |
| Hongze Lake | | N33°06'~33°40' | E118°10'~118°52' | 12.4 | 1 | Yan et al., 2007; Yuan et al., 1994; Zhang et al., 2012 |
| Nushan lake | | N32°50'~33°02' | E117°58'~118°14' | 13.6 | 1 | Zu et al., 1998 |
| Bohu Lake | | N30°04'~30°15' | E116°19'~116°33' | 15.0 | 1 | Zu et al., 2012; Unpublished data |
| Huang Lake | | N29°56'~30°08' | E116°14'~116°33' | 15.0 | 1 | Xu, 2001; Unpublished data |
| Longgan Lake | | N29°52'~30°05' | E115°19'~116°17' | 15.0 | 1 | Xu, 2001；Unpublished data |
| Junshan Lake | | N28°24'~28°38' | E116°15'~116°28' | 18.0 | 1，3，4 | Hu, 2014; Pan, 2007; Zhang et al., 2015 |
| Tangxun Lake | | N30°23'~30°29' | E114°19'~114°29' | 18.8 | 1 | Xu, 2001 |
| Wabu Lake | | N32°23'~32°33' | E116°48'~117°01' | 19.0 | 1 | Pan et al., 2016 |
| Donghu Lake | | N30°31'~30°36' | E114°21'~114°28' | 19.8 | 1 | Wang, 2009 |
| Baoanhu Lake | | N30°12'~30°18' | E114°39'~114°46' | 20.0 | 1 | Wang, 2009; Wu, 1989; Xie et al., 2007 |
| Poyang Lake | | N28°24'~29°46' | E115°49'~116°46' | 21.7 | 1，3 | Hu, 2014; Ouyang et al., 2009; Pan, 2009; Wang & Xie, 1999 |
| Honghu Lake | | N29°38'~29°59' | E113°11'~113°28' | 25.0 | 1，4 | Hao et al., 1995; Li & Lv, 1985; Wu et al., 2015 |
| Dongting Lake | | N28°44'~29°35' | E111°53'~113°05' | 33.0 | 1 | Dai et al., 2000; Meng, 2016; Pan, 2009; Wang et al., 2016 |
| Nansi Lake | | N34°27'~35°20' | E116°34'~117°21' | 34.4 | 1，3 | Dong et al., 2013; Shu et al., 2014; Zhai & Fu, 2013 |
| Dongping Lake | | N35°43'~36°07' | E116°02'~116°18' | 41.0 | 1 | Dong et al., 2015; Xie, 2014 |
| Inner Mongolia-Xinjiang Plateau | Ulungur Lake | | N47°02'~47°25' | E87°02'~87°35' | 479.0 | 1 | Lan et al., 2010; Zhao et al., 2011 |
| Jili Lake | | N46°51'~47°00' | E87°20'~87°32' | 483.0 | 1 | Lan et al., 2010; Tang et al., 2009 |
| Hulun Lake | | N48°30'~49°20' | E116°58'~117°48' | 545.0 | 1 | Wang et al., 2011 |
| Daihai Lake | | N40°28'~40°37' | E112°33'~112°47' | 987.9 | 1，2，4 | Lan et al., 2010; Xie & Zhou, 2002 |
| Wuliangsuhai Lake | | N40°47'~41°03' | E108°43'~108°57' | 1019.0 | 1，2，3，4 | Lan et al., 2010; Wu et al., 2008; Xie & Zhou, 2002 |
| Bosten Lake | | N41°49'~42°08' | E86°41'~87°27' | 1048.0 | 1，2 | Lan et al., 2010; Xie et al., 2014 |
| Chaiwobao Lake | | N43°28'~43°32' | E87°52'~87°56' | 1094.0 | 1，2 | Lan et al., 2010; Xu et al., 1985 |
| Hongjian-Nur Lake | | N39°04'~39°08' | E109°50'~109°56' | 1230.0 | 1，2 | Lan et al., 2010; Qiao, 2014; Xie & Zhou, 2002 |
| Kanas Lake | | N48°42'~48°53' | E86°59'~87°09' | 1370.0 | 1，2 | Lan et al., 2010 |
| Sailimu Lake | | N44°30'~44°42' | E81°05'~81°15' | 2072.0 | 1，2 | Lan et al., 2010; Yang et al., 2000 |
| Yunnan-Guizhou Plateau | Yilong Lake | | N23°38'~23°42' | E102°30'~102°38' | 1412.0 | 1，2，3 | Lai, 2013; Wang, 1988 |
| Chenghai Lake | | N26°27'~26°38' | E100°38'~100°41' | 1503.0 | 1，2，3 | Wang, 1988; Unpublished data |
| Qionghai Lake | | N27°47'~27°52' | E102°16'~102°21' | 1509.0 | 1 | Unpublished data |
| Fuxian Lake | | N24°21'~24°38' | E102°49'~102°57' | 1721.0 | 1，2，3 | Wang, 1988; Xiong et al., 2008; Unpublished data |
| Xingyun Lake | | N24°17'~24°23' | E102°45'~102°48' | 1722.0 | 1，2，3 | Cui & Wang, 2008; Wang, 1988 |
| Yangzong Lake | | N24°51'~24°58' | E102°58'~103°01' | 1771.0 | 1，2，3 | Cui & Wang, 2008; Lai, 2013; Wang, 1988 |
| Qilu Lake | | N24°08'~24°13' | E102°43'~102°49' | 1797.0 | 1，2，3 | Lai, 2013; Wang, 1988 |
| Dianchi Lake | | N24°40'~25°02' | E102°36'~102°47' | 1886.0 | 1，2，3 | Wang, 1985, 1988; Wang et al., 2002; Wang et al., 2007; Wang, 2011 |
| Erhai Lake | | N25°36'~25°58' | E100°06'~100°18' | 1973.0 | 1，2，3 | Du et al., 2012; Wang, 1988; Wang, 2011; Zhang et al. 2011; Zhang, 2012 |
| Caohai Lake | | N26°49'~26°53' | E104°12'~104°18' | 2171.0 | 1，2 | Chen et al., 2015; Deng, 1997 |
| Lugu Lake | | N27°41'~27°45' | E100°45'~100°50' | 2691.0 | 1，2，3 | Wang, 1988; Unpublished data |
| Tibetan Plateau | Qinghai Lake | | N36°32'~37°15' | E99°36'~100°47' | 3194.0 | 1 | Meng et al., 2014 |
| Pangong Co | | N33°26'~33°58' | E78°25'~79°56' | 4245.0 | 2 | This research |
| Ngoring Lake | | N34°45'~35°05' | E97°31'~97°55' | 4268.0 | 1，2 | Qin et al., 1986 |
| Gyarig Lake | | N34°48'~35°01' | E97°02'~97°30' | 4292.0 | 1，2 | Qin et al., 1986 |
| Biereze Co | | N32°24'~32°27' | E82°52'~82°58' | 4395.0 | 2 | This research |
| Dong Co | | N32°07'~32°13' | E84°39'~84°48' | 4396.0 | 2 | This research |
| Nieer Co | | N32°14'~32°18' | E82°10'~82°14' | 4399.0 | 2 | This research |
| Zhaxi Co | | N32°09'~32°14' | E85°03'~85°09' | 4421.0 | 2 | This research |
| Chen Co | | N28°53'~28°59' | E90°28'~90°35' | 4438.0 | 1，2 | This research |
| Darab Co | | N32°26'~32°32' | E83°11'~83°14' | 4438.0 | 2 | This research |
| Kongmu Co | | N28°59'~29°02' | E90°23'~90°31' | 4441.0 | 1，2 | This research |
| Yamdrok Yumco | | N28°46'~29°11' | E90°21'~91°05' | 4441.0 | 1，2 | This research |
| Tuksitugar Co | | N31°49'~31°59' | E87°25'~87°39' | 4459.0 | 1，2 | This research |
| Bajiu Co | | N28°44'~28°51' | E90°48'~90°52' | 4506.0 | 1，2 | This research |
| Pongok Co | | N31°40'~31°47' | E89°26'~89°39' | 4515.0 | 1，2 | This research |
| Cuo e | | N31°24'~31°32' | E91°28'~91°33' | 4515.0 | 1，2 | This research |
| Pam Co | | N31°24'~31°38' | E90°54'~91°02' | 4522.0 | 1，2 | This research |
| Tangra Yum Co | | N30°45'~31°22' | E86°23'~86°49' | 4528.0 | 2 | This research |
| Siling Co | | N31°34'~31°57' | E88°33'~89°21' | 4530.0 | 1，2 | This research |
| Dung Co | | N31°35'~31°48' | E91°05'~91°13' | 4544.0 | 1，2 | This research |
| Chargut Co | | N31°47'~31°52' | E88°08'~88°22' | 4547.0 | 1，2 | This research |
| Uruni Co | | N31°37'~31°48' | E87°50'~88°11' | 4548.0 | 1，2 | This research |
| Bam Co | | N31°08'~31°22' | E90°31'~90°39' | 4555.0 | 1，2 | This research |
| Nagtsang Co | | N31°25'~31°42' | E88°32'~88°50' | 4561.0 | 1，2 | This research |
| Zige Tang Co | | N32°00'~32°09' | E90°44'~90°57' | 4561.0 | 1，2 | This research |
| La'ang Co | | N30°40'~30°51' | E81°06'~81°19' | 4572.0 | 2 | This research |
| Peigu Co | | N28°46'~29°02' | E85°30'~85°42' | 4580.0 | 2 | This research |
| Mapam Yumco | | N30°34'~30°47' | E81°22'~81°27' | 4586.0 | 2 | This research |
| Amdo Tsonak Co | | N31°55'~32°08' | E91°25'~91°33' | 4588.0 | 1，2 | This research |
| Gemang Co | | N31°33'~31°36' | E87°12'~87°21' | 4602.0 | 1，2 | This research |
| Trigu Co | | N28°36'~28°45' | E91°38'~91°42' | 4611.0 | 2 | This research |
| Zhangnai Co | | N31°29'~31°34' | E87°21'~87°26' | 4614.0 | 1，2 | This research |
| Zhari Nam Co | | N30°44'~31°05' | E85°20'~85°54' | 4617.0 | 1，2 | This research |
| Dagwa Co | | N31°11'~31°18' | E84°53'~85°03' | 4626.0 | 2 | This research |
| Gomang Co | | N31°08'~31°18' | E89°08'~89°15' | 4629.0 | 1，2 | This research |
| Dibu Co | | N30°45'~30°51' | E84°43'~84°51' | 4638.0 | 2 | This research |
| Chikui Co | | N31°20'~31°25' | E87°49'~87°51' | 4645.0 | 1，2 | This research |
| Garen Co | | N30°43'~30°49' | E84°53'~85°01' | 4650.0 | 2 | This research |
| Gyaring Co | | N30°57'~31°19' | E88°03'~88°34' | 4650.0 | 1，2 | This research |
| Mokiu Co | | N31°00'~31°08' | E88°48'~89°05' | 4683.0 | 1，2 | This research |
| Ngangtse Co | | N30°54'~31°09' | E86°59'~87°20' | 4683.0 | 1，2 | This research |
| Nam Co | | N30°30'~30°56' | E90°16'~91°03' | 4718.0 | 2 | This research |
| Kunggyu Co | | N30°35'~30°41' | E82°02'~82°13' | 4786.0 | 2 | This research |
| Pumo Yumco | | N28°30'~28°38' | E90°13'~90°33' | 5010.0 | 1，2 | This research |
| Mainland of India | Kadinamkulam Lake | | N8°35'~8°38' | E76°52'~76°52' | 5.0 | 2 | Latha & Thanga, 2010 |
| Rabindra Sarovar | | N22°25'~22°40' | E88°20'~88°35' | 6.0 | 1 | Roy & Nandi, 2008 |
| Santragachi jheel Lake | | N22°58'~22°58' | E88°27'~88°27' | 6.0 | 2，3，4 | Patra et al., 2012 |
| Surha Lake | | N25°49'~25°51' | E84°09'~84°11' | 58.0 | 3，4 | Sharma & Agrawal, 2012 |
| Kishore Sagar Lake | | N24°25'~24°25' | E76°37'~76°37' | 320.0 | 1 | Sarang & Sharma |
| Ambazari Lake | | N21°07'~21°07' | E79°02'~79°02' | 350.0 | 1 | Lonkar & Kedar, 2014; Lonkar et al., 2015 |
| Upper Lake | | N23°10'~23°20' | E77°15'~77°25' | 505.0 | 1，2，4 | Bhat et al., 2015; Dar et al., 2015; Vyas & Bhat, 2010 |
| Kishanpura Lake | | N22°39'~22°40' | E75°39'~75°40' | 586.0 | 2 | Sharma et al., 2010 |
| Loktak lake | | N24°25'~24°42' | E93°46'~93°55' | 769.0 | 2，4 | Devi et al., 2013; Singh et al., 2014; Takhelmayum & Gupta, 2011, 2015 |
| Hygam Lake | | N34°13'~34°16' | E74°30'~74°32' | 1577.0 | 1 | Yousuf et al., 2013 |
| Wular Lake | | N34°16'~34°20' | E74°33'~74°44' | 1580.0 | 1 | Rafia et al., 2015 |
| Dal Lake | | N34°05'~34°06' | E74°08'~74°09' | 1584.0 | 1 | Malik & Mudasir, 1970; Mushtaq et al., 2013 |
| Hokera Lake | | N34°04'~34°06' | E74°40'~74°44' | 1584.0 | 1 | Yousuf et al., 2013 |
| Mirik Lake | | N26°53'~26°53' | E88°10'~88°11' | 1601.0 | 1 | Roy & Nandi, 2008 |

Note: In the collecting methods column, 1 represents Peterson grab, 2 represents D-frame dip net or Surber net, 3 represents drag-type net or calm rake,and 4 represents hand picking