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2010 年四川省雅江县地质灾害调查数据集

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摘要： 为查明四川省甘孜藏族自治州地质灾害的发育特征及成灾机理，中国地质调查局成都地质调查中心于 2010 年在四川省甘孜州雅江县开展了以县域为单元的 1∶5 万地质灾害详细调查项目。项目以遥感、地面调查、测绘、勘查为主要工作手段，查明了该区域内地质灾害及其隐患的发育特征、分布规律及形成的地质环境条件。为了更好地利用这些数据，采用了规范的数据处理方法和质量控制体系，对调查的地质灾害数据进行整理和质量控制，该调查数据集提供了 2010 年雅江县行政范围内的 327 组地质灾害数据，调查精度达到 1∶5 万级别，有效地反映了区内地质灾害的发育特征与分布规律，可为该区域内工程地质研究、减灾防灾和制定区域防灾规划提供基础地质灾害依据。

关键词： 雅江县；地质灾害；调查数据；甘孜藏族自治州
数据服务系统网址： http://dcc.cgs.gov.cn

1　引言

雅江县位于四川省西北部，雅砻江中游，甘孜藏族自治州的腹心地带 (图 1)，是四川省林牧业重要基地，中国建立的西部生态屏障的重要组成部分 (雅江县志，2009)。地理坐标：东经 100°19′55″~101°20′20″，北纬 29°03′30″~30°30′44″，区域面积 7681.5 km^2。东临康定，南接木里，西连理塘，北与新龙、道孚接壤。由于受地质条件复杂、地震活动频繁、山区局部降雨强烈以及人类工程活动扰动等自然因素和人为因素的共同影响，区内崩塌、滑坡、泥石流等突发性地质灾害发生频繁 (郑万模等，1997 ；倪化勇等，2012 ；倪化勇等，2015)，危害严重，曾发生滑坡堵塞雅砻江 (黄润秋等，2008)、泥石流吞没村社等重大地质灾害事件。地质灾害严重威胁着当地群众的生命和财产安全，并制约着社会经济的发展。为查明该区域内地质灾害发育机理，提高区域减灾抗灾能力，中国地质调查局成都地质调查中心于 2010 年在甘孜地区雅江县开展了以县域为单元的 1∶5 万地质灾害详细调查工作，调查工作利用遥感解译、地面调查、工程测绘、勘查等多种手段相结合，查明了区域内地质灾害及其隐患的发育特征、分布规律及形成的地质环境条件。这些地质灾害调查数据采用了规范的数据处理方法和质量控制体系，真实可信，可为该区域内地质灾害及工程地质机理探索、工程建设选址选线、减灾防灾和制定区域防灾规划提供基础地质依据，起到应有作用。

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2010 年雅江县地质灾害调查数据集元数据简表见表 1，包括数据集的名称、数据采集时间、地理区域、数据量、数据格式、数据出版地址、数据库（集）组成等。

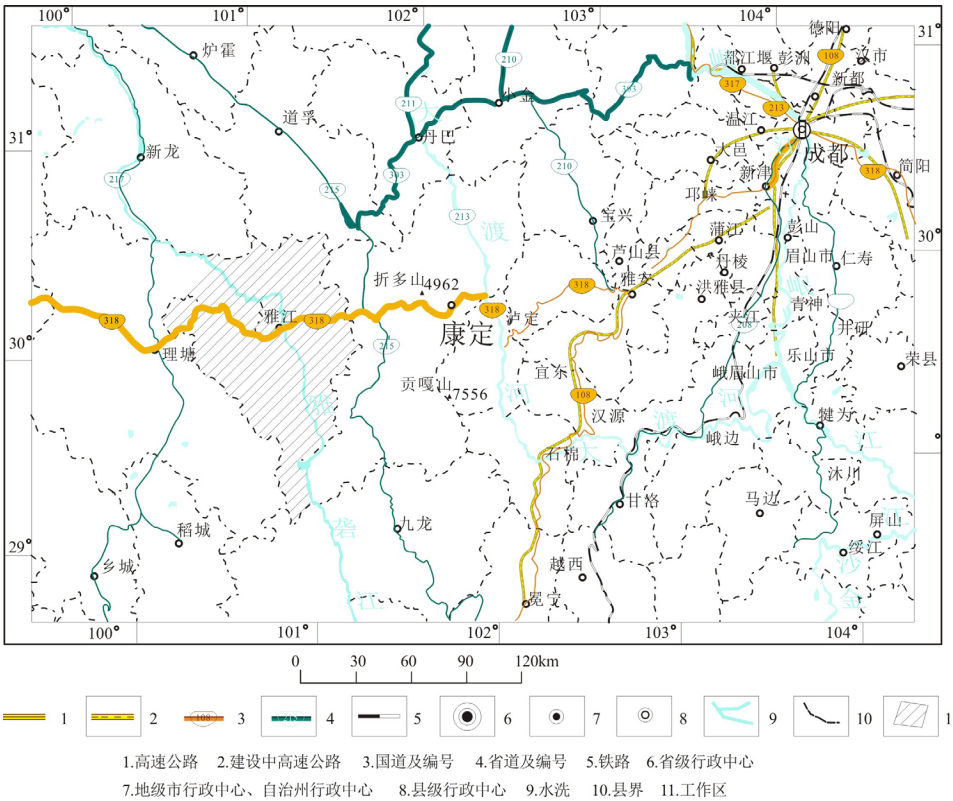

图 1 雅江县交通位置图

表 1 数据库（集）元数据简表

条目	描述
数据库（集）名称	2010 年四川省雅江县地质灾害调查数据集
数据作者	王德伟，倪化勇，陈绪钰，唐业旗
语种	中文
数据时间范围	2010 年
地理区域	地理范围包括东经 100°19′55″~101°20′20″，北纬 29°03′30″~30°30′44″，四川省甘孜藏族自治州雅江县
数据量	103 kB
数据格式	.xlsx
数据服务系统网址	http://dcc.cgs.gov.cn
基金项目	中国地质调查局项目（1212010114020，1212010740309）
数据库（集）组成	数据集共包括 4 个数据文件，它们分别为：雅江县滑坡数据 . xlsx，雅江县崩塌数据 . xlsx，雅江县泥石流数据 . xlsx，雅江县不稳定斜坡数据 . xlsx，其中： 1. 雅江县滑坡数据 . xlsx 是文本数据，数据量 20.9 kB； 2. 雅江县崩塌数据 . xlsx 是文本数据，数据量 16.8 kB； 3. 雅江县泥石流数据 . xlsx 是文本数据，数据量 36.2 kB； 4. 雅江县不稳定斜坡数据 . xlsx 是文本数据，数据量 29.7 kB

2 数据采集和处理方法

2.1 数据来源

2010 年雅江县地质灾害调查数据均来源于“甘孜地区雅江县地质灾害详细调查”项目的野外调查过程，主要为地质灾害点调查数据，由于数据量巨大，野外调查组历经 5 个月时间，方完成全部调查任务。调查是在充分收集消化以往工作资料的基础上，以遥感解译、地面调查、工程地质测绘为主要手段，对重大地质灾害体辅以必要的钻探、物探、山地工程等手段进行勘查，查明地质灾害形成的地质环境条件、发育特征和分布规律，工作流程见图 2。

野外调查采用点、线、面相结合的专业调查为主。点：根据遥感解译、县（市）地质灾害调查资料、群众报险线索、县乡要求等，对已有灾点或隐患点逐一进行现场调查，对于城镇、主要公共基础设施、主要居民点进行现场调查。线：沿着主干河流及其支流低地和交通线路进行追踪调查。面：采用网格控制调查，对地质条件进行修测，了解灾害形成演化的地形地貌、岩（土）体结构等地质背景条件。

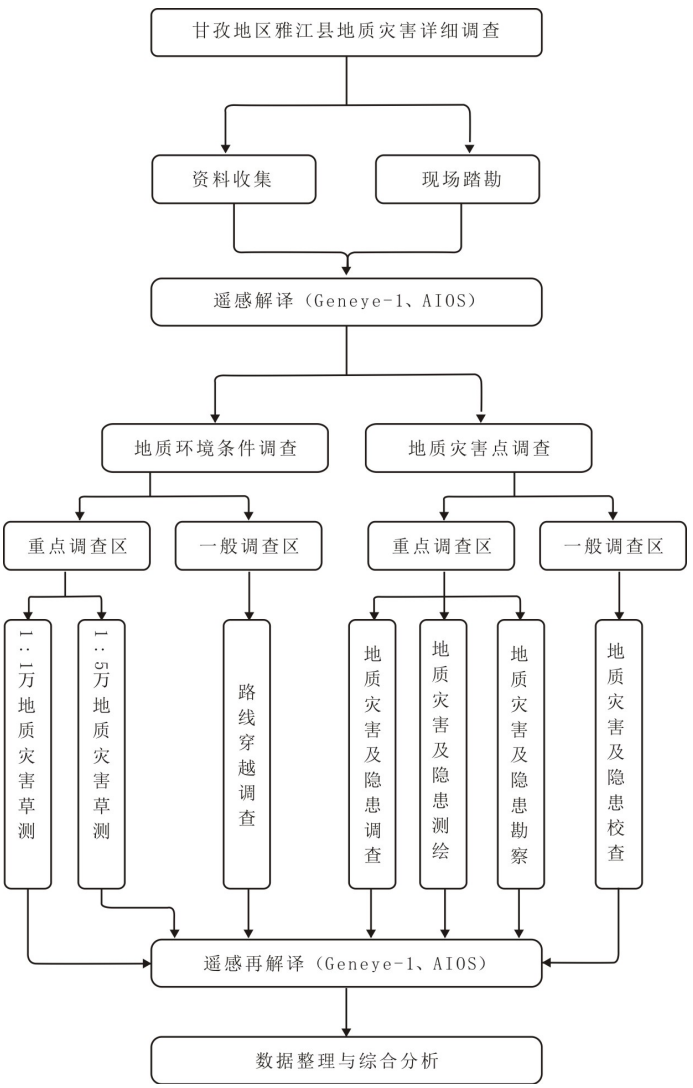

图 2 工作流程图

2.2 数据处理

2010 年雅江县地质灾害调查数据获取经过了数据点定位、数据采集、数据检验、入库等系列流程（图 3）。首先，通过群众报灾或遥感解译，确定数据点即地质灾害或其隐患点的具体位置。然后，调查小组赶至地质灾害发生地，利用手持 GPS、红外线测距仪、地质罗盘、RTK 等设备，结合调查访问，对地质灾害位置（包含经纬度、隶属行政范围以及微地貌、相对位置等信息）、规模（包含长宽高、坡度、坡向、规模等级等参数）、地质环境条件（包含地层岩性、地层产状、构造部位、控制因素等参数）等数据进行测量。经过自检、互检、抽检等多道检查工序后，按照统一的格式存入数据库中。

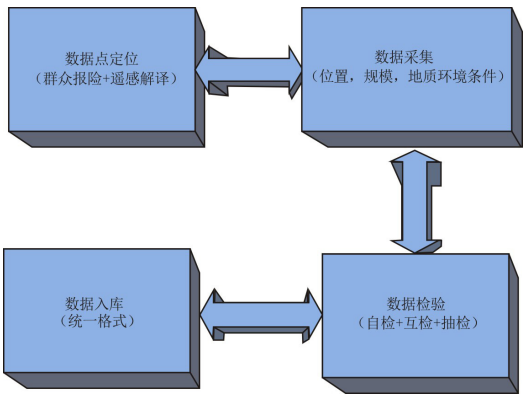

图 3 数据获取流程图

3 数据样本描述

2010 年四川省甘孜地区雅江县地质灾害调查数据集，为 Excel 表格型数据，共包含 4 个 Excel 数据文件，分别为“雅江县滑坡数据 . xlsx”、“雅江县崩塌数据 . xlsx”、“雅江县泥石流数据 . xlsx”、“雅江县不稳定斜坡数据 . xlsx”。其中“雅江县滑坡数据 . xlsx”数据文件为雅江县境内截至 2010 年 12 月发育的 51 处滑坡灾害点的特征调查数据，每处滑坡点包含名称、野外编号、滑坡年代、滑坡时间年、滑坡时间月、滑坡时间日、滑坡类型、滑坡性质、冠、趾、经度、纬度、乡、村、组、地层时代、地层岩性、构造部位、地震烈度、地层倾向、地层倾角、微地貌、相对河流位置、斜坡结构类型、控滑结构面类型、控滑结构面倾向、控滑结构面倾角、滑坡长度、滑坡宽度、滑坡厚度、滑坡坡度、滑坡坡向、滑坡面积、滑坡体积、滑坡平面形态、滑坡剖面形态、规模等级等 36 个数据项，个别滑坡的构造部位、地层倾向、地层倾角、控滑结构面倾向、控滑结构面倾角等数据项因无法实地调查原因存在缺失情况；“雅江县崩塌数据 . xlsx”数据文件为雅江县境内截至 2010 年 12 月发育的 36 处崩塌灾害点的特征调查数据，每处崩塌点包含名称、野外编号、斜坡类型、崩塌类型、乡、村、坡顶标高、坡脚标高、经度、纬度、地层时代、地层岩性、地层倾向、地层倾角、构造部位、地震烈度、微地貌、相对河流位置、土地利用、坡高、坡宽、坡长、厚度、规模、规模等级、坡度、坡向、岩体结构类型、岩体厚度、岩体裂隙组数、岩体块度、斜坡结构类型等 32 个数据项，个别崩塌的构造部位、地层倾向、地层倾角、岩体厚度、岩体裂隙组数、岩体块度等数据项因无法实地调查原因存在缺失情况；“雅江县泥石流数据 . xlsx”数据文件为雅江县境内截至 2010 年 12 月发育的 158 处泥石流灾害点的特征调查数据，每处泥石流点包含名称、野外编号、经度、纬度、乡、村、水系名称、主河名称、相对主河位置、沟口至主河道距、流动方向、水动力类型、泥砂补给途径、补给区位置、沟口扇形地完整性、沟口扇形地变幅、沟口扇形地发展趋势、沟口扇形地扇长、沟口扇形地扇宽、沟口扇形地扩散角、沟口扇形地挤压大河、地质构造、地震烈度、滑坡活动程度、滑坡规模、人工

弃体活动程度、人工弃体规模、自然堆积活动程度、自然堆积规模等 29 个数据项，个别泥石流存在村组位置信息缺失；“雅江县不稳定斜坡数据 . xlsx” 数据文件为雅江县境内截止 2010 年 12 月发育的 82 处不稳定斜坡灾害点的特征调查数据，每处不稳定斜坡点包含名称、野外编号、斜坡类型、斜坡变形趋势、乡、村、坡顶标高、坡脚标高、经度、纬度、地层时代、地层岩性、地层倾向、地层倾角、构造部位、微地貌、相对河流位置、土地利用、最大坡高、最大坡长、最大坡宽、最大厚度、平均坡度、总体坡向、预测体积、预测规模等级、坡面形态、岩体结构类型、岩体厚度、岩体裂隙组数、岩体块度、斜坡结构类型、变形迹象名称、变形迹象部位、变形迹象特征、变形迹象初现时间年、变形迹象初现时间月、变形迹象初现时间日等 38 个数据项，个别不稳定斜坡的村、地层时代、地层倾向、地层倾角、相对河流位置、土地利用、岩体结构类型、岩体厚度、岩体裂隙组数、岩体块度、斜坡结构类型、变形迹象初现时间年、变形迹象初现时间月、变形迹象初现时间日等数据项因无法调查原因存在缺失情况。

由于文本格式的数据并不能直观展现数据集内各参数的变化，所以以乡镇（图 4）、坡度（图 5）数据为例，通过绘制各参数的柱状图、曲线图对数据样本进行展示。

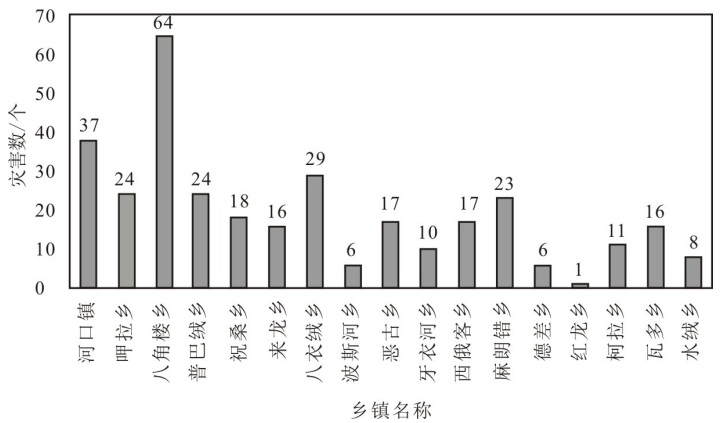

图 4　灾害乡镇分布图

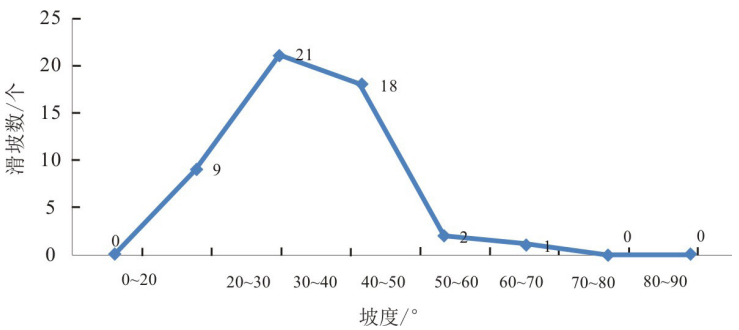

图 5　滑坡与坡度关系图

4　数据质量控制和评估

针对原始调查数据，数据质量控制过程主要包含调查数据的检查以及数据整理入库两个方面。项目在开展过程中建立了完善的质量控制体系。调查阶段，主要针对数据的准确性和完整性进行了严格控制，如遥感解译选取多期次数据进行对比判断，地质灾害点野外验证率达 100%，地质灾害点调查记录自检与互检率 100%，抽检率达到 45%。通

过上述措施，保障了调查数据的真实准确。数据整理入库阶段，通过专人入库、自查互检、专家审核等手段，确保了数据的质量。

5 结论

（1）2010 年雅江县地质灾害调查数据集以 2010 年开展的“甘孜地区（雅江县）地质灾害调查”项目为数据来源，包含了 2011 年 1 月前四川省甘孜藏族自治州雅江县境内发育的 327 组地质灾害调查数据，数据调查精度为 1∶50000。

（2）地质灾害调查数据集以灾害类型为划分依据，分别按滑坡、崩塌、泥石流以及不稳定斜坡等 4 种类型，对调查数据进行了归纳，其中滑坡数据 51 组、崩塌数据 36 组、泥石流数据 158 组、不稳定斜坡数据 82 组。每组数据包含了灾害名称、分布位置、灾害体规模及发育地质环境条件等相关调查数据。

（3）数据集在调查与数据入库阶段建立了完善的质量控制体系，确保了数据真实、准确，该地质灾害调查数据集可有效反映 2011 年之前雅江县境内地质灾害发育特征与分布规律，可为该区域内工程地质研究、减灾防灾和制定区域防灾规划提供基础地质灾害依据。

致谢：本数据的获取得到雅江县国土资源局等相关单位的大力支持和帮助，在此表示衷心感谢。

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Dataset Citation: Wang Dewei, Ni Huayong, Chen Xu, Tang Yeqi. 2017. Dataset of geological hazards survey in Yajiang County, Sichuan Province in 2010[DB]. Global Geology Data, DOI: 10.23650/data.D.2017.NGA130335.Z1.1.1

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Dataset of Geological Hazards Survey in Yajiang County, Sichuan Province in 2010

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Abstract: A detailed survey of geological disasters at the scales of 1:50000 in Yajiang city was conducted by Chengdu Center of China Geological Survey in 2010, with the intention of finding out the development characteristics and mechanisms of geological disasters in the Tibetan Autonomous Prefecture of Garze. The characteristics, distribution and geological conditions of the geological disasters in the region were identified by remote sensing, survey, engineering mapping and exploration. In order to further utilise these data, we processed them with standard data processing methods and a quality control system. The survey dataset could provide a geological basis for engineering geological research, disaster prevention and disaster reduction, as well as the development of regional disaster prevention planning.

Keywords: Yajiang city; geological disaster; investigation data; Tibetan Autonomous Prefecture of Garze

Data service system URL: http://dcc.cgs.gov

1 Introduction

Yajiang County is located in the northwest of Sichuan Province, in the mid region of the Yalong River, and in the heartland of the Tibetan Autonomous Prefecture of Garze (Fig. 1). It is an important foundation of the forestry and animal husbandry of Sichuan Province, and an important component part of the western ecological barrier established in China (Yajiang County Annals, 2009). Its geographical coordinates are as follows: east longitude 100°19′55″−101°20′20″, north latitude 29°03′30″−30°30′44″, and its area is 7,681.5 km^2. It adjoins Kangding eastwards, connects Muli southwards, links Litang westwards, and borders Xinlong and Daofu northwards. Owing to the joint effects of such natural and artificial factors as complex geological conditions, active seismicity, locally intense rainfall in mountainous zones, and disturbance from human engineering activities, abrupt geological hazards (e.g., avalanche, landslide, and debris flow) occur frequently in the area (Zheng Wanmo et al., 1997; Ni et al., 2012; Ni et al., 2015), bringing about serious harm: major geological hazard events, e.g., obstruction of the Yalong River by landslide (Huang et al., 2008), and the engulfing of villages by debris flows. Geological hazards seriously threaten the safety of local peoples' lives and property, and restrict social and economic development. In order to ascertain the developmental mechanisms of geological hazards in this area, and so improve the regional capacity for hazard reduction

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and resistance, Chengdu Geological Survey Center, Chinese Geological Survey, conducted a 1:50,000 scale detailed investigation of geological hazards with the county area as a unit in Yajiang County, Garze Prefecture in 2010. In this investigation, the developmental characteristics and distribution laws of the geological hazards and their hidden dangers, as well as the geological environmental conditions for formation of the geological hazards and their hidden dangers, were ascertained using multiple means, including remote sensing interpretation, ground survey, engineering geological survey, and exploration. As normalized data processing methods and a quality control system were employed, these data of investigation of geological hazards are true and reliable, and can provide a geological basis for, and play corresponding roles in, exploring the geological hazards and engineering geological mechanisms in this area, aiding in the selection of the location and route in engineering construction, reducing and preventing hazards, and preparing regional hazard prevention planning.

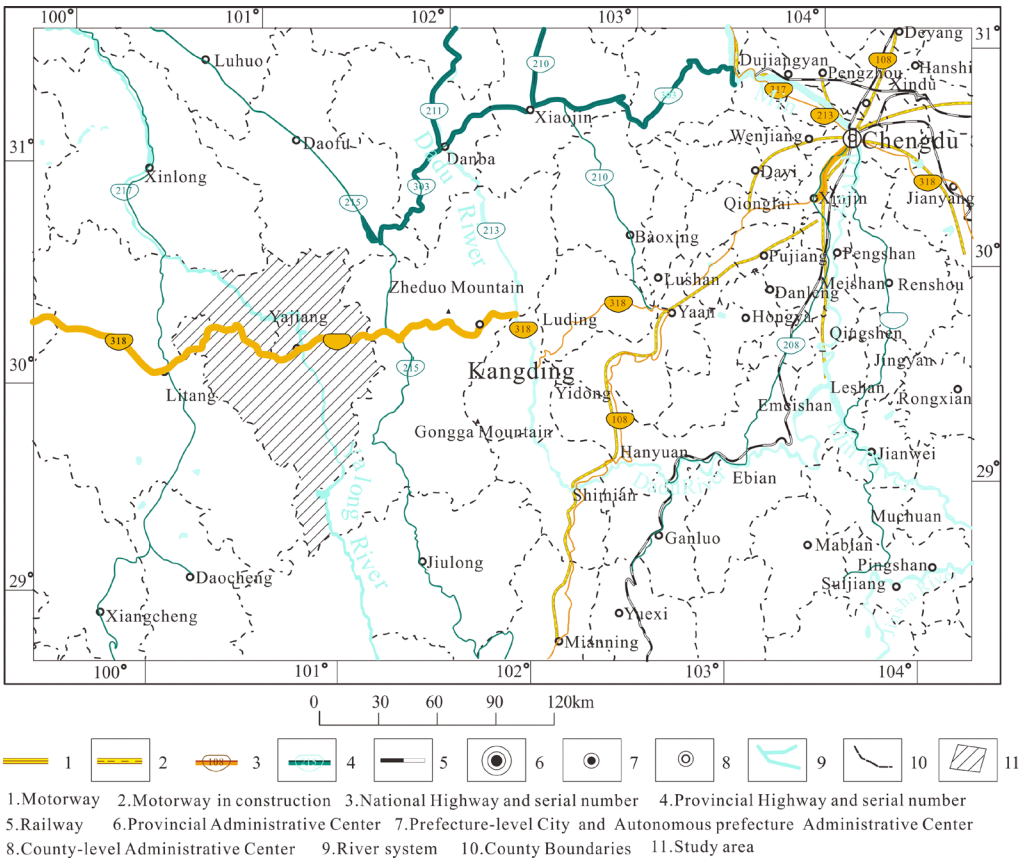

Fig.1 The location map of Yajiang city

The brief table of metadata of the dataset of investigation of geological hazards in Yajiang County in 2010 is shown in Table 1, including dataset name, data acquisition date, geographic area, data size, data format, and database (set) composition.

Table 1 Metadata table of dataset(s)

Items	Description
Database (dataset) name	Dataset of Geological Hazards Survey in Yajiang County, Sichuan Province in 2010
Database authors	Wang Dewei, Ni Huayong, Chen Xuyu, Tang Yeqi
Language	Chinese
Data acquisition time	2010
Geographic area	East longitude100°19′55″−101°20′20″, North latitude29°03′30″−30°30′44″, Ganzi Tibetan Autonomous Prefecture Yajiang County, Sichuan Province
Data size	103 kB
Data format	.xlsx
Data service system URL	http://dcc.cgs.gov.cn
Foundation items	Supported by China Geological Survey Program (No: 1212010114020, 1212010740309)
Database (set) composition	The dataset comprises 4 data files in total, which are Data of landslides in Yajiang County.xlsx, Data of avalanches in Yajiang County.xlsx, Data of debris flows in Yajiang County.xlsx, and Data of unstable slopes in Yajiang County.xlsx, respectively, 1. Data of landslides in Yajiang County.xlsx is text data, with data size of 20.9 kB; 2. Data of avalanches in Yajiang County.xlsx is text data, with data size of 16.8 kB; 3. Data of debris flows in Yajiang County.xlsx is text data, with data size of 36.2 kB; 4. Data of unstable slopes in Yajiang County.xlsx is text data, with data size of 29.7 kB

2 Data acquisition and processing methods

2.1 Data source

All data of investigation of geological hazards in Yajiang County in 2010 were from the field investigation process of the 'Detailed investigation of geological hazards in Yajiang County, Garze Prefecture' project, and were mainly data of investigation of geological hazard points; as the data size was huge, it took 5 months for the field investigation team to complete all investigation tasks. During the investigation, exploration was conducted using remote sensing interpretation, ground survey, and engineering geological survey as the primary methods, with the necessary drilling, geophysical exploration, and mountain engineering, etc. as auxiliary means for major geological hazard masses, on the basis of fully collecting and assimilating previous work data, and the geological environmental conditions for formation of geological hazards and the developmental characteristics and distribution laws of the geological hazards were ascertained. The work flow is shown in Fig. 2.

The field investigation activities were dominated by combined point, line and surface professional investigation activities. Point: field investigation was conducted for existing hazard points or hidden danger points one-by-one according to the remote sensing

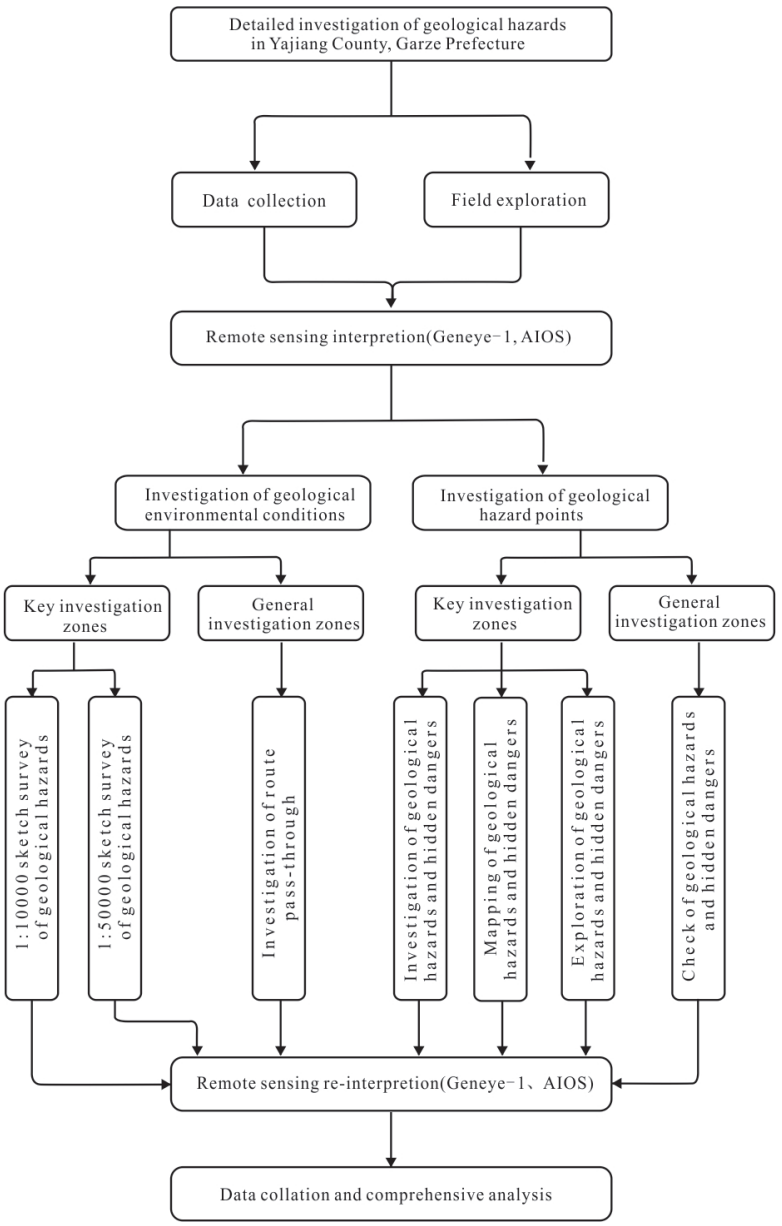

Fig.2 The working flowchart of geological disaster investigation in Yajiang city

interpretation, data of investigation of geological hazards in the county (city), danger reporting evidence by the people, and the requirements by county and townships, etc., and field investigation was conducted for towns, primary public infrastructures, and major settlements. Line: Tracing investigation was conducted along the depressions near main rivers and their tributaries and along traffic routes. Surface: Grid control investigation was used, for a revision survey of geological conditions, to understand geological background conditions for hazard formation and evolution such as topography, geomorphology, and the structure of rock (soil) masses.

2.2 Data processing

The acquisition of the data of investigation of geological hazards in Yajiang County in 2010 underwent a series of processes, including data point locating, data collection, data

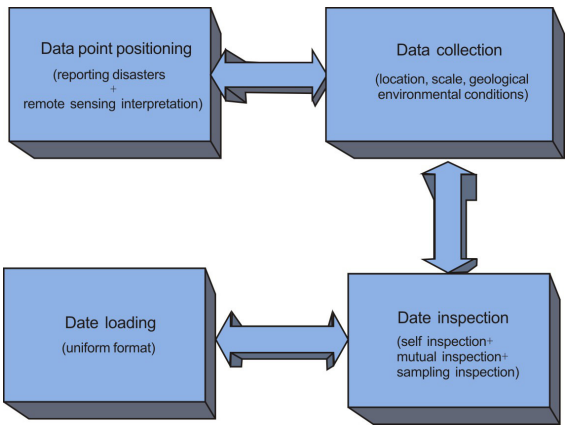

Fig.3 The flowchart of data acquisition

inspection, and database input (Fig. 3). Firstly, the specific location of each data point, i.e., geological hazard point or its hidden danger point, was determined through hazard reporting by the people, or remote sensing interpretation. Then, the investigation team went to the geological hazard occurrence location, and measured data such as the location (including information on longitude and latitude, administrative affiliation, microgeomorphology, and relative location, etc.) and scale (including parameters such as length, width, height, slope gradient, slope aspect, and scale grade) of and the geological environmental conditions (including such parameters as formation lithology, attitude of strata, tectonic position, and control factor) for the geological hazard, with such devices as handheld GPS, infrared rangefinder, geological compass, and RTK, together with an investigative visit. After undergoing multiple inspection processes, including self-inspection, mutual inspection, and sampling inspection, the data were stored in the database in a uniform format.

3 Description of data samples

The dataset of investigation of geological hazards in Yajiang County, Garze Prefecture, Sichuan Province in 2010 exists in the form of 4 Excel sheet-type data files in total, which are 'Data of landslides in Yajiang County.xlsx', 'Data of avalanches in Yajiang County.xlsx', 'Data of debris flows in Yajiang County.xlsx', and 'Data of unstable slopes in Yajiang County.xlsx'. The data file 'Data of landslides in Yajiang County.xlsx' contains the data of investigation of the characteristics of 51 landslide hazard points developed within the border of Yajiang County until December 2010, and there are 36 data items for each landslide point, including name, field number, landslide decade, landslide year, landslide month, landslide day, landslide type, landslide nature, crown, toe, longitude, latitude, township, village, group, age of strata, formation lithology, tectonic position, seismic scale, strata dip direction, strata dip angle, microgeomorphology, location relative to river, slope structure type, slide-controlling structural surface type, slide-controlling structural surface dip direction, slide-controlling structural surface dip angle, landslide length, landslide width, landslide thickness, landslide slope gradient, landslide slope aspect, landslide area, landslide volume, landslide plan morphology, landslide profile morphology, and scale grade; for several landslides, the data of such data items as tectonic position, strata dip direction, strata dip angle, slide-controlling structural surface dip direction, and slide-controlling structural surface dip angle are missing due to a failure to conduct field investigation. The data file 'Data of avalanches in Yajiang County.xlsx' contains the data of investigation of the characteristics of 36 avalanche hazard points developed within the border of Yajiang County till December 2010, and there are 32 data items for each avalanche point, including name, field number, slope type, avalanche type,

township, village, slope crest elevation, slope toe elevation, longitude, latitude, strata age, formation lithology, strata dip direction, strata dip angle, tectonic position, seismic scale, microgeomorphology, location relative to river, land use, slope height, slope width, slope length, thickness, scale, scale grade, slope gradient, slope aspect, rock mass structure type, rock mass thickness, number of systems of fissures in rock mass, rock mass 'lumpiness', and slope structure type; for several avalanches, the data of such data items as tectonic position, strata dip direction, strata dip angle, rock mass thickness, number of systems of fissures in rock mass, and rock mass 'lumpiness' are missing due to a failure to conduct field investigation. The data file 'Data of debris flows in Yajiang County.xlsx' contains the data of investigation of the characteristics of 158 debris flow hazard points, developed within the border of Yajiang County up to December 2010, and there are 29 data items for each debris flow point, including name, field number, longitude, latitude, township, village, water system name, main river name, location relative to main river, distance from the head of gully to main river course, flow direction, hydrodynamic force type, mud and sand supply ways, location of supply zone, integrity of alluvial fan at the head of gully, amplitude of variation of alluvial fan at the head of gully, development trend of alluvial fan at the head of gully, length of alluvial fan at the head of gully, width of alluvial fan at the head of gully, spread angle of alluvial fan at the head of gully, river squeezing by alluvial fan at the head of gully, geological structure, seismic scale, active level of landslide, landslide scale, active level of abandoned object, scale of abandoned object, active level of natural accumulation, and scale of natural accumulation; for several debris flows, the information on village and group is lacking. The data file 'Data of unstable slopes in Yajiang County.xlsx' contains the data of investigation of the characteristics of 82 unstable slope hazard points developed within the border of Yajiang County until December 2010, and there are 38 data items for each unstable slope point, including name, field number, slope type, slope deformation trend, township, village, slope top elevation, slope toe elevation, longitude, latitude, strata age, formation lithology, strata dip direction, strata dip angle, tectonic position, microgeomorphology, location relative to river, land use, maximum slope height, maximum slope length, maximum slope width, maximum thickness, average slope gradient, overall slope aspect, predicted volume, predicted scale grade, slope surface morphology, rock mass structure type, rock mass thickness, number of systems of fissures in rock mass, rock mass 'lumpiness', slope structure type, deformation evidence name, position of deformation evidence, characteristics of deformation evidence, first occurrence year of deformation evidence, first occurrence month of deformation evidence, and first occurrence day of deformation evidence; for several unstable slopes, the data of such data items as village, strata age, strata dip direction, strata dip angle, location relative to river, land use, rock mass structure type, rock mass thickness, number of systems of fissures in rock mass, rock mass 'lumpiness', slope structure type, first occurrence year of deformation evidence, first occurrence month of deformation evidence, and first occurrence day of deformation evidence are absent, due to a failure to conduct investigation.

As data in text format cannot intuitively show the variations in various parameters in the dataset, the data samples are shown by drawing geological columns and curve diagrams for various parameters, with township or town (Fig. 4), and slope gradient (Fig. 5), as examples.

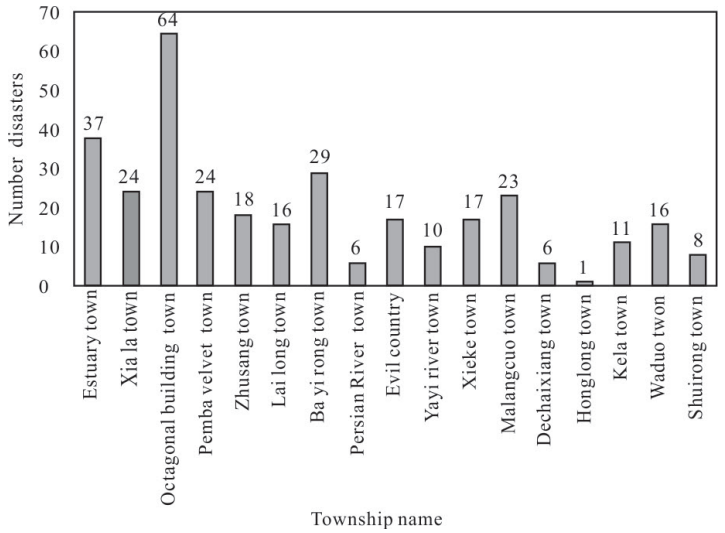

Fig.4 Distribution map of disaster in different townships

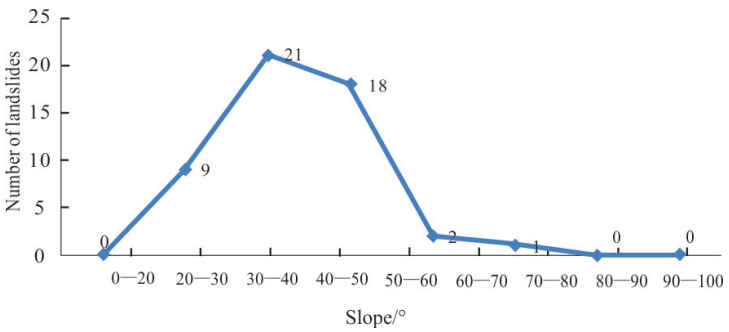

Fig.5 Relationship between landslide and slope in Yajiang city

4 Data quality control and evaluation

For the raw investigation data, the data quality control process consisted of two aspects, namely investigation data inspection, and data collation and database input. A complete quality control system was established during implementation of the project. At the investigation stage, strict control was carried out, mainly to ensure the accuracy and integrity of the data. For example, data obtained multiple times were selected for comparison and judgment through remote sensing interpretation, the field verification rate of the geological hazard points reached 100%, the self inspection and mutual inspection rates of the investigation records of the geological hazard points were 100% and the sampling inspection rate reached 45%. With the above measures, the investigation data were ensured to be true and accurate. At the stage of data collation and input, the data quality was ensured through such means as data being added to the database by dedicated personnel, self-inspection and mutual inspection, and audit by experts.

5 Conclusions

(1) With the 'Investigation of geological hazards in Garze Prefecture (Yajiang County)' project implemented in 2010 as a data resource, the dataset of investigation of geological hazards in Yajiang County in 2010 contains the data of investigation of 327 geological hazards developed within the border of Yajiang County, Garze Tibetan Autonomous

Prefecture, Sichuan Province prior to January 2011, and the data investigation accuracy scale is 1:50,000.

(2) The investigation data in the dataset of investigation of geological hazards were extracted based on four hazard types, that is, landslide, avalanche, debris flow, and unstable slopes, including 51 groups of data of landslides, 36 groups of data of avalanches, 158 groups of data of debris flows, and 82 groups of data of unstable slopes. The data of each group contain relevant investigation data, such as hazard name, distribution location, hazard body scale, and geological environmental conditions required for development.

(3) There is a complete quality control system at the stages of investigation and data addition to the database established for the dataset, ensuring that the data are true and accurate. This dataset of investigation of geological hazards can effectively reflect the developmental characteristics and distribution laws of the geological hazards within the border of Yajiang County before 2011, and can provide a basis for geological hazard study in engineering geology, hazard reduction and prevention, and preparation of regional hazard prevention planning in this area.

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